

Final Report

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Occupational Health for All: From Research to Practice

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Abstract

Abstract: The meeting, 30th International Congress on Occupational Health for All: From Research to Practice was held March 18-23, 2012 in Cancun, Mexico This Congress is the triennial meeting of the International Commission on Occupational Health, the only international body of scholars and practitioners in the field. Worldwide, workplace fatalities, injuries, and illnesses remain at unacceptably high levels and involve enormous and unnecessary health burden, suffering, and substantial economic loss. The ILO reports there are two million work-related deaths globally and the trend seems to be rising. In addition, each year there are some 268 million non-fatal workplace accidents in which the victims miss at least three days of work as a result, as well as 160 million new cases of work-related illness. The most common workplace illnesses are cancers from exposure to hazardous substances, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases and communicable diseases caused by exposure to pathogens. In many industrialized countries, where the number of deaths from work-related accidents has been falling, deaths from occupational disease, notably asbestosis, is on the rise. In the U.S, NIOSH reported in 2008 that private industry employers reported 4.2 million work injuries and 363,000 cases of occupational illness, and on average 16 American workers die each day from injuries on the job. Occupational injuries and deaths have cost approximately \$123 billion in wages and lost productivity, administrative expenses, health care and other costs. This does not include the cost of occupational disease.

The specific aims were to:

1. Provide an opportunity for the international gathering of occupational safety and health scientists and practitioners for education and training in occupational health and safety.
2. Share knowledge about: current and emerging issues related to safety and health at work, advances in the science in occupational safety and health, translation of research to practice, and best practices in occupational health and safety that support implementation of the evidence-based science.
3. Support opportunities for occupational safety and health professionals from underserved and underrepresented areas to acquire knowledge and information about the science, education and training, and practical aspects concerned with health and safety at work.

More than 200 symposia sessions were held in addition to 40 keynote and semi-plenary sessions reflective of the National Occupational Research Agenda. A total of 1,745 participants attended the Congress with 415 scholarships awarded.

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Final Report

30th International Congress on Occupational Health: Occupational Health for All: From Research to Practice

March 18-23, 2012

Cancun, Mexico

Section 1

Significant Key Findings

1. Provide an opportunity for the international gathering of occupational safety and health scientists and practitioners for education and training in occupational health and safety.

Then Congress was attended by 1,745 delegates from 85 countries. More than 200 sessions with approximately 1600 presentations given related to research, education and practice with more than 550 posters sessions.

2. Share knowledge about current and emerging issues related to safety and health at work, advances in the science in occupational safety and health, translation of research to practice, and best practices in occupational health and safety that support implementation of the evidence-based science.

In addition to planned special scientific sessions, more than 100 abstract selected oral sessions were provided on various topics. All papers selected were peer reviewed. A listing of sessions is found in Section 2.

3. Support opportunities for occupational safety and health professionals from underserved and underrepresented areas to acquire knowledge and information about the science, education and training, and practical aspects concerned with health and safety at work.

Both full and partial scholarships were awarded to delegates from underserved countries for travel and lodging costs. In addition, registration fees (approximately \$750 per resident) were waived. This afforded 415 delegates to attend.

Translation of Findings

As this was a scientific meeting, research outcomes are not the intent. However, this conference support is consistent with the mission of the NIOSH Global Collaborations Program to contribute to the reduction of occupational diseases, injuries, and fatalities among all workers employed globally through cultivating international partnerships and sharing pertinent information. This is stated in the mission and consistent with NIOSH Goal #3: Enhance global occupational safety and health through international collaborations:

- Take a leadership role in developing a global network of occupational health centers.
- Investigate alternative approaches to reducing occupational illness and injury and provide technical assistance to put solutions in place.
- Build global professional capacity to address occupational hazards through training, information sharing, and research experience

Through approximately 1,600 presentations, Congress participants can take information acquired and learned and apply it in their home countries to reduce the work-related illness and injury burden, improve practice, and work to change policy and legislation to make potential changes happen.

Impact

Traditionally occupational health research tends to lag behind the developments of work life. Challenges set by new technologies and new developments in the globalizing world of work are enormous. We need to create opportunities to link research and practice in order to provide a better response to the demands of work life for development of safe and healthy working conditions. In developing countries and several sectors of economies in the industrialized and transitory countries, traditional health and safety hazards still dominate; however, new hazards and challenges are also emerging. Risks related to nanotechnologies, new biological hazards including global pandemics, and new social hazards, for example, new types of employment and growing mobility of working population, present new challenges that need to be actively and proactively researched, then findings shared. Increased competence of occupational health and research experts is also needed to support multidisciplinary and multi-professional collaboration and for collaboration with all the relevant stakeholders, including an examination of the impact on the content of training curricula for all expert categories active in occupational health. Better utilization of available knowledge can be facilitated by more active advocacy, and information and awareness-raising by the occupational health and safety training and research communities to improve best practices and services. Collaboration with the key groups active in occupational health research, policy, and practice is needed to strengthen involvement at local, national, institutional, regional and global levels. The ICOH Congresses provide an excellent forum for information sharing and interactive networking as evidenced by this active participation of delegates.

The International Commission on Occupational Health (ICOH) is an international non-governmental professional society whose aims are to foster the scientific progress, knowledge, and development of occupational health and safety in all its aspects. It was founded in 1906 in Milan as the Permanent Commission on Occupational Health. Today, ICOH is the world's leading international scientific society in the field of occupational health and safety with a membership of approximately 2,000 professionals from nearly 100 countries. The ICOH is recognized by the United Nations as a non-governmental organization (NGO) and has close working relationships with the World Health Organization (WHO) and International Labour Organization (ILO).

The most visible activities of ICOH are the triennial World Congresses on Occupational Health, which are usually attended by some 2,000 to 3,000 participants. The 1993 Congress was held in Nice (France), the 1996 Congress in Stockholm (Sweden), the 2000 Congress in Singapore and the 2003 Congress in Iguassu Falls (Brazil). The 2006 Centennial Congress, celebrating 100 years of ICOH, held in Milan, Italy had over 3,000 participants. In 2009, the Congress was held in South Africa. ICOH has 35 Scientific Committees, which have regular symposia, produce scientific monographs, and help review the abstracts submitted to the International Congresses.

Section 2

Background

The 1906 "Universal Exhibition" – the world's fair celebrating the achievements of human ingenuity in science, technology and arts – was organized in Milan, Italy. That exhibition was marked by a special event: the official opening of the Simplon tunnel linking Milan to Switzerland and France, an astonishing success of the work of man, which however took a heavy toll in terms of number of deaths, injuries and

diseases among the workers. A group of physicians and scientists, concerned with these consequences, decided to convene an international meeting on occupational health and safety devoted to three main issues: work-related physiology, pathology and hygiene; prevention of work-related diseases; and social assistance. 300 delegates attended the Congress which was closed on 13 June 1906 with the creation of the International Permanent Commission on Occupational Health, currently known as the International Commission on Occupational Health, ICOH. The aim of the Commission was to promote research on occupational diseases worldwide and disseminate the available knowledge to the entire scientific community, to physicians, employers and workers. To achieve these goals it was further decided to regularly hold a scientific congress every three years which has been accomplished.

During these more than 100 years, significant improvements in working conditions have been achieved, and certainly occupational health professionals have contributed thereto. At present however, the occupational health community continues to tackle new or sustained problems:

- Changes in the world economy, the process of globalization, new technologies, different types of employment and work contracts constantly affect health and safety at work.
- Small and medium-sized enterprises and the self-employed do not often have the necessary financial and technical resources to adequately assess risks and ensure appropriate protection.
- Developing countries and countries in transition lack access to those services that would be required to assess and control occupational hazards.
- Increases in infectious diseases seen worldwide (e.g., H1N1).
- Increased stress and demographic changes such as an aging workforce affects both the work and health of the population.

Worldwide workplace fatalities, injuries, and illnesses remain at unacceptably high levels and involve enormous and unnecessary health burden, suffering, and substantial economic loss. According to the latest International Labour Organization (ILO) estimates (2010), there are almost two million work-related deaths worldwide and the trend seems to be rising. In its latest estimates, the ILO found that in addition to job-related deaths, each year there are some 268 million non-fatal workplace accidents in which the victims miss at least 3 days of work as a result, as well as 160 million new cases of work-related illness. The ILO has previously estimated that workplace accidents and illness are responsible for the loss of some 4% of the world's GDP in compensation and absence from work.

Broken down by region, the figures indicate that workplace accidents have leveled off in many industrialized and newly-industrialized countries, while some countries now undergoing rapid development in Asia and Latin America are experiencing increases. For example, the ILO analysis showed that while the number of fatal and non-fatal workplace accidents held steady or declined in most regions, in China the estimated number of fatal accidents rose from 73,500 in 1998 to 90,500 in 2001, while accidents causing three or more days absence from work increased from 56 million to 69 million. Meanwhile, in Latin America, a rise in the total number of persons employed and growth in the construction sector, particularly in Brazil and Mexico, appear to have led to an annual increase in fatal accidents from 29,500 to 39,500 over the same time period.

The most common workplace illnesses are cancers from exposure to hazardous substances, musculoskeletal diseases, respiratory diseases, hearing loss, circulatory diseases and communicable diseases caused by exposure to pathogens. In many industrialized countries, where the number of

deaths from work-related accidents has been falling, deaths from occupational disease, notably asbestosis, continues to rise. Globally, asbestos alone is responsible for 100,000 occupational deaths per year. Meanwhile, in the agricultural sector, which employs half the world's workforce and is predominant in most underdeveloped countries, the use of pesticides causes some 70,000 poisoning deaths each year, and at least seven million cases of acute and long-term non-fatal illnesses (WHO, 2005c).

The workplace environment profoundly affects health; simply by going to work each day, we may face hazards that threaten our health and safety. Risking one's life or health should never be considered merely part of the job. In the United States, workers are working more hours than ever before. Workplace hazards continue to inflict a tremendous toll in both human and economic costs. An average of 16 American workers die each day from injuries on the job (in 2007, there were 5,488 fatal work injuries). Moreover, even the most conservative estimates find that about 137 additional workers die each day from workplace diseases. These occupational injuries and diseases create needless human suffering, a tremendous burden upon health care resources, and an enormous drain on U.S. productivity (NIOSH, 2011).

The WHO (WHO, 2014) estimate that there are fewer than 15% of workers who have access to a basic standard of occupational health services. The right to health and safety at work is a part of basic human rights. Most of the world's population (58%) spend one-third of their adult life at work contributing actively to the development and well-being of themselves, their families, and of society. Work may have both a positive and an adverse effect on the health of the worker. In the most favorable circumstances work provides the income and material outputs for meeting the necessities of life and also has a positive impact on social, psychological, and physical health and well-being. At the same time, a high level of occupational health and safety contributes to the achievement of material and economic objectives and provides high quality and performance in working life. In spite of this, conditions at work and in the work environment for many occupations and in many countries still involve a distinct and even severe hazard to health that reduces the well-being, working capacity, and even the life span of working individuals (WHO, 2009).

The officially registered working population constitutes 60-70% of the adult male and 30-60% of the adult female population of the world. When work at home and informal work are taken into consideration the percentage is even higher. In unfavorable cases the levels and intensities of hazardous exposures may be 10 or even 1000 times greater at work than elsewhere. Workers in the highest risk industries such as mining, forestry, construction and agriculture are often at an unreasonably high risk and one-fifth to one-third may suffer occupational injury or disease annually, leading in extreme cases to high prevalence of work disability and even to premature death (WHO, 2005). Less dramatic but well defined occupational health problems also prevail in service and office occupations where psychological stressors and ergonomic problems often increase the workload, cause job dissatisfaction, and affect health and productivity.

The ICOH 2009 Congress emphasized its dedication to workers populations as having A Right to Work – An Asset to Society. The use of evidence-based science and best practices to eliminate unnecessary, preventable occupational diseases and injuries, promote the development of work ability, and improve productivity is essential. The influence of the Congress remains unmatched as this is the only international body that holds a regular meeting for occupational health professionals emphasizing collaboration, education and training, and advancing the science in occupational health and safety in many disciplines. Colleagues from many different countries created a scientific and social program to meet the needs and the expectations of occupational safety and health scientists and professionals all

over the world and specific aims of this project. Topics covered were reflective of the NORA priorities and supported the mission of NIOSH.

Specific Aims, Methodology, and Results

1. Provide an opportunity for the international gathering of occupational safety and health scientists and practitioners for education and training in occupational health and safety.

Several committees were established to plan and implement the Congress including the International Scientific Committee (ISC) and the National Scientific Advisory Committee. Nearly 1,800 participants attended the Congress representing about 85 countries. Registration for the Congress permitted participants to attend keynote sessions, and sessions by topic of interest, business meetings, poster sessions, and social events. There were about 1,600 research communications delivered of which about 450 were oral (abstract) sessions. Poster sessions included another 550 presentations and about 600 were from dedicated symposia sessions. Business meetings were held for 34 Scientific Committees which were well attended by Congress delegates to discuss scientific and policy issues and network related the work of the Scientific Committees. The planning of this meeting included many disciplines representing the 34 ICOH Scientific Committees (e.g., medical, nursing, industrial hygiene; safety, epidemiology, ergonomics, toxicology), and partnering groups inclusive of women, minorities, and people with disabilities. Women and minorities were well represented on and serve in leadership roles as elected Chair or Secretary of many of the SCs (e.g., women = 24 or 38%), were on the Congress Executive Committee and ISC, and both ICOH Vice Presidents are women. Persons with disabilities were strongly encouraged to participate; however, their disability may be unknown as a matter of privacy. Tables 1 and 2 identify committees/participants involved in the meeting planning.

ICOH 2012 Congress Organizing Committee Members:

Table 1:

<u>Executive Committee</u>	<u>Tasks</u>
Jorge A. Morales-Camino, MD, MS ICOH Honorary Congress 2012 President	1. Develop scientific program agenda with input from scientific committees.
Dr. Bonnie Rogers Congress Scientific Chair	2. Secure Keynote and Semi-Plenary speakers.
Elia Enríquez-Viveros, MD Chair, National Organizers	3. Develop and distribute scientific program materials.
	4. Determine scholarship eligibility.
	5. Receive and assign abstracts for review and selection.
	6. Provide for all onsite conference oversight and logistical aspects.
	7. Provide financial oversight related to conference.
	8. Advise on Congress assignments for specific tasks to ICOH members and SCs.
	9. Advise on organization of joint sessions of ICOH SCs and the Sister NGOs and other partners.

Table 2:

<u>International Scientific Committee¹</u>	<u>Chairs of the Scientific Committees¹</u>		<u>National Organizing and Scientific Committees²</u>
Dr. Bonnie Rogers, ICOH VP and Chair	Mr. Keith Scott	Mrs. Louwna Joubert Pretorius	Roberto Perales-Alonso, MD
Ms. Suvi Lehtinen, ICOH VP	Prof. Mario Di Gioacchino	Dr. Thirumalai Rajgopal	Pablo Pérez-Quintanilla, MD
Dr. Sergio Iavicoli, ICOH Secretary Gen.	Prof. Masaharu Kumashiro	Dr. Knut Ringen	Eduardo Becerra-López, MD
Prof. Mary Ross, ICOH Board Member (BM)	Prof. Akizumi Tsutsumi	Dr. Helena Taskinen	Fernando Téllez-Gómez, MS
Dr. Marilyn Fingerhut, ICOH BM	Dr. Yvonne M. Toft	Prof. Yukinori Kusaka	Patricia Álvarez-Larios, MD
Dr. Seong Kyu Kang, ICOH BM	Prof. Dana Loomis	Prof. Maila Hietanen	Arturo Acuña-Treviño, MD
Prof. Norito Kawakami, ICOH BM	Dr. Carel T.J. Hulshof	Prof. Jens Peter Bonde	Alejandra Zuleta-Monsivais, MD
Prof. Antonio Mutti, ICOH BM	Dr. Michele Augusto Riva	Prof. Claudio Colosio	Carlos Espejo-Guasco, MD, MS
Dr. John Harrison, ICOH BM	Prof. Giacomo Muzi	Prof. Giovanni Costa	Ramiro Rodríguez Moncayo, MD
Dr. Claudio Taboadela, ICOH BM	Prof. Peter Lees	Prof. Toru Itani	David Rodríguez-Marín, MS
Prof. Harri Vainio, ICOH BM	Prof. Laura Punnett	Prof. Ken C. Parsons	Rosario Gumiel, MD
Prof. Frank Van Dijk, ICOH BM	Dr. Roberto G. Lucchini	Prof. Lars Barregard	Víctor Calderón-Salinas, MD, PhD
Dr. Peter Westerholm, ICOH BM	Prof. Pietro Sartorelli	Prof. Jukka Vuori	Víctor Hugo Borja-Aburto, MD, PhD
Prof. P.K. Abetunga, CCOHS	Prof. Maurizio Manno	Dr. Mats Hagberg	Arturo Juárez-García, MS, PhD
Prof. Paul-Emile Boileau, IRSST	Dr. Annalee Yassi	Dr. Dino Pisaniello	Manuel Pando-Moreno, MS, PhD
Ms. Claudina Nogueira, NIOSH S. Africa	Dr. Shyam Pingle	Prof. Norito Kawakami	Horacio Tovalín-Ahumada, MS, PhD
Dr. Seiji Machida, ILO		Prof. Kaisa Kauppinen	María Maldonado-Vega, MS, PhD
Dr. Danilo Cottica, IOHA		Prof. Glenn S. Pransky	Arnulfo Albores, MS, PhD
Prof Andrew Imada, IEA			Aída Fajardo-Montiel, MS, PhD
Dr. Eric Wang, IEA			Rodolfo Nava-Hernández, MD, MS
Dr Ivan Dimov Ivanov, WHO			
Tasks of the Committees:			
1. Develop the Congress Declaration. ^{1,2}		7. Provide a broad forum for communication between the National Organizers of ICOH Congress 2012 and the ICOH Board and Scientific Committees and NGOs. ^{1,2}	
2. Advise on plenary sessions/events for ICOH 2012. ^{1,2}		8. Advise on the scientific program for ICOH Congress 2012. ^{1,2}	
3. Discuss venue options and networking and social event. ²		9. Promote of the Congress nationally/internationally. ^{1,2}	
4. Review and approve broad scientific program agenda. ²		10. Participate in review and selection of abstracts. ^{1,2}	
5. Identify financial support opportunities. ^{1,2}			
6. Recommend Keynote and Semi-Plenary speakers ^{1,2}			

ICOH institutional support was provided by about \$150,000 USD. A financial fundraising committee was established to secure any needed additional resources. Conference fees were very minimal to encourage participation especially from persons from developing countries and registrations were waived for all who received scholarships.

Registration and Logistics: Technical and onsite logistical organization was with Cancun International Convention Center which was excellent in space, A-V capacity, shuttle service, and eatery locations. Congress registration was \$750 USD and students \$400 USD (developed countries); \$550 USD and students \$350 USD (developing countries). Accommodations were offered at several hotels with reasonable rates and childcare at each hotel by reservation. The National Organizing Committee members were responsible for pre and onsite registrations, distribution of Congress materials, social program booking, and travel planning (hotel, tours, and airline).

Marketing and Publications: Announcement brochures were distributed to targeted audiences worldwide at Scientific Committee and several other international meetings as well as on the ICOH website. ICOH National Secretaries (appointed by the President in approximately 95 countries) and 68 SC Officers (Chairpersons and Secretaries) provided continuous dissemination of information in their own countries. Advertising was placed in ICOH newsletters and those of other occupational health and safety associations, including WHO Collaborating Centers around the world (n=70), and ILO and its regions. Local advertising in Mexico was done by the National Organizing Committee members and electronic mailings to participants of previous ICOH Congresses. The Congress information was also placed on the UNC Occ- Envir Medicine listserv with a membership of about 4,000 people worldwide in 75 countries as well as through US professional societies in occupational safety and health (e.g., AAOHN, ACOEM, AOEC).

2. Share knowledge about current and emerging issues related to safety and health at work, advances in the science in occupational safety and health and the translation of research to practice, and best practices in occupational health and safety.

Conference delegates participated in this knowledge-based translation conference to help close the gap between knowledge and action. The conference format for each of the 5 days featured 2 plenary sessions (n=10), 6 semi-plenary sessions (n=30), and 40-50 special and oral sessions (n=200-250) as well as poster sessions. There were several optional pre-conference education sessions held developed by the organizer. These were sessions prepared for ½ to 1 day by a specific group such as WHO, ILO, or a Scientific Committee who wished to have a specific targeted program (e.g. bloodborne pathogens).

Keynote and Semi-Plenary speakers (Table 3) were nominated by members of the International Scientific Committee, Scientific Committees, and National Organizing/Scientific Committees. More than 100 nominations were received. Speakers were selected by ICOH based on international reputation and expertise, geographic distribution, and women/minorities inclusivity. Women and minorities represented 35% of these speakers. Topics reflected NORA/NIOSH Cross-Sector priorities.

Table 3: Plenary Keynote / Semi-Plenary Lecturers

Name	Title/Topics
Dr Claude Ostiguy	Risk Management of Nanoparticles in the Workplace
Tony McMichael, PhD	OH Aspects of Climate Change
Dr. José Ángel Córdova	Occupational Health in Mexico
Maria Neira MD, MPH	Delivery of OH to All workers
Jos Verbeek	How to Summarize and Synthesize Evidence from the Research on Occupational Health
Godfrey B. Tangwa, PhD	Fundamental Moral Values, Cultural Diversity and Ethics Regulation within the Health Professions
Dr. John Howard	History of Occupational and Environmental Medicine
Seiji Machida	Contribution of Global Standards and Policies to Decent Work
Mirta Roses Periago, MD	Occupational Health in the Americas
Norito Kawakami, MD	Improving Psychosocial Factors at Work
Francesca Larese Filon	Skin Absorption of Metal Nanoparticles: A New Possible Risk in the Nanotechnology Industry
Maria Teresa Landi	Gene, Environment, and Skin Cancer
Karen Messing	Ergonomic Studies and Gender Treatment in Epidemiological Investigations
Prof. Fabriziomaria Gobba	Solar Radiation: An Underestimated Occupational Risk. Summary of Epidemiological Studies on UV Health Effects
Dr. Benoit Nemery	What is the Role of Acute and Chronic Exposure to Irritants on the Development of Asthma
Mariano Cebrian García	Assessment of Health Risks in Populations Exposed to Environmental Contaminants
Marc Schenker, MD, MPH	Migration and Occupational Health. "Migrant Workers: Where the Hazardous Jobs Are"
Valentina Forastieri	Addiction Prevention, Violence, Stress and Chronic Disease at Work
Prof Jussi Vahtera	Socioeconomic Factors, Work and Chronic Diseases
Prof. Arnulfo Albores	Contribution of Molecular Biology and Toxicology to Occupational Health
Stephane Pimbert, INRS	From Research to Practice: The Role of a Prevention organization
Shyam Pingle	Occupational Health In Developing Countries
Carel Hulshof	Back pain in Professional Drivers- from Practice to Research
Dr Paul Demers	Occupational Cancer Research
Maria Betzabe Vega	Male reproductive Toxicology
Sergio Iavicoli	Session Editorial Panel
Ken Takahashi	International Approaches to Asbestos
Ignatius Yu	Participatory Approaches to Sustainable Workplace OSH Improvements
Mr. Min-Ki No	Strategic Plan for Injury Prevention and Improving Working Condition in Korea
Dr. Michael Nasterlack	Shiftwork and Health: Working Graveyard Shifts - The Next Step to the Graveyard?
Keith Scott	Delivering Effective Accident Prevention Strategies: The Role of Leadership
Claudio Colosio, MD, PhD	Increasing Interventions and Services for Agricultural Workers
Knut Ringen, DrPH	Construction Safety and Health: Origin in Europe, North America, and India.
Prof. Dr. Johannes Siegrist	Challenges of Work Stress in a Globalized Economy on Occupational Health
W. Kent Anger	Advances in Human Behavioral Neurotoxicology Research
Prof. Rodney Ivan Ehrlich	Occ Lung Disease
Prof. John Spengler, Ph.D.	Indoor Air Pollution: An Old Problem with New Challenges
Dr. Marissa Salanova	Advances & Perspectives in Psychosocial Factors
Dr Michel Vézina	Mental Health in the Workplace
Dr Linda Grainger	Building Professional Occupational Health and Safety Capacity Through a Learning Repository

Approximately 120 special sessions were offered (Table 4). There were more than 100 oral session topic areas for which abstracts were submitted for the Congress. Topic areas all related to the National Occupational Research Agenda (NORA). Abstracts were reviewed by members of the International Scientific Advisory Committee group, and approximately 1000 were selected for oral or poster presentations (Tables 5 and 6). All abstracts were reviewed by members of the topic-related scientific committee for selection. Abstract submission was completed online. Abstracts were submitted for relevant topics identified by the ISC and 34 Scientific Committees listed in the program announcement brochure and on the website. Oral abstracts were organized into appropriate session groupings consistent with topical areas.

3. Support opportunities for occupational safety and health professionals from underserved and underrepresented areas to acquire knowledge and information about the science, education and training, and practical aspects concerned with health and safety at work.

Consistent with the goals of NIOSH to provide and offer education and training in occupational health and safety, and to address research consistent with the NORA priorities, support was provided to underserved and underrepresented participants to attend this Congress to learn about occupational safety and health science, topical issues, and education/training advances. The Congress budgeted Euros at about 100,000 (~ \$140,000 USD) to support participation from less privileged countries. Women were represented on all ICOH Scientific Committees, Organizing, and Scientific Program Committees as well as in the keynote lectures program. Special sessions were devoted to the issue of women, work, health, and disability was one of the focuses of the Congress. Persons in need of a scholarship in order to attend the meeting applied for a grant. Those eligible were delegates coming from newly industrialized or in transition countries with a GDP per capita of less than \$15,000 USD. Other eligibility criteria included ICOH members needed to submit an abstract and participate in the Congress. More than 300 requests for scholarships were received. For this grant, 18 scholarships were awarded to participants from 13 countries (Table 7). Accepted abstracts were published in an Abstract Book, distributed to conference participants, and made available on the ICOH website post-conference.

Table 4: Special Sessions, ICOH Congress 2012, Cancun, Mexico
Organized by ICOH Scientific Committees, Officers, Working Groups, and National and International Scientific Committees

Special Session Titles:
OSH research - Important to health for all people
Protecting health workers from biological hazards: Success stories and good practices
Asbestos: Combining issue from past to future and from factory to civil society
Suspect and fact: Health effects in newly emerging industry (Semiconductor industry)
Occupational Diseases - new international developments and campaigns
Occupational Health in the Green Economy
Neurotoxicity of chronic exposures to xenobiotics in the working environment
Occupational safety and health culture
Tracing new occupational diseases towards OSH-vigilance system
Emerging lung disease including Nano particles
Educational on Occupational Health in Latin America
Migration and OH
Women, aging and work ability
Immunotoxicology of fibers: From bulk to nanomaterials
Percutaneous penetration of metals and their effects on skin
Global transfer of knowledge and sharing of learning materials for occupational health and safety
Return to work and job retention - What can be done at the individual, workplace, health service provision and societal levels

Special Session Titles:
Protecting health workers from biological hazards: Success stories and good practices
Structures and services for occupational health surveillance in agriculture
Protecting health workers: WHO, ILO and UNAIDS actions and instruments
Caring for the health of all workers: What can we expect from primary health care reforms?
Caring for the health of all workers: What can we expect from primary health care reforms?
How to read and write Cochrane Systematic Reviews
What do we know in OSH: Systematic reviews of occupational health topics
The use of new media to improve risk communication and build our community of practice
Revised ICOH Code of Ethics for occupational health professionals
Nanotechnology: Current status
OSH research - Important to health for all people
Global transfer of knowledge and sharing of learning materials for occupational health and safety
Occupational health issues in developed, emerging, and developing countries
Asbestos: Combining issue from past to future and from factory to civil society
Suspect and fact: Health effects in newly emerging industry (Semiconductor industry)
Skill sets for occupational health
Neurotoxicity of chronic exposures to xenobiotic in the working environment
Manganese neurotoxicity
Nervous system impacts of rural exposures to pesticides
Promoting Occupational Safety and Health among Mexican Immigrant Workers in the United States: A Model for Binational Collaboration
Nanotechnology: Current status
Impact of climate change on occupational health and safety
Shiftwork and working time effects: updating news
Progress in prevention of occupational skin diseases: Global medical regulatory and societal aspects
Recognition, prevention and control of work-related cardiovascular disorders
Innovative practices in occupational health
Skill sets for occupational health
WHO healthy workplace framework: Conceptualization and Development
Occupational Health Challenges Toward Globalization in Asian Countries
Occupational Health Nursing
Human Biomonitoring: From theory to practical use and interpretation
Results and preventive recommendations about physical work load at construction workplaces
Economic incentives and promotion of OHS in enterprises
Occupational radiation protection - Global initiatives
A hands-on workshop: Facebook, Twitter, and Wikipedia for OSH professionals
Radiographs and pneumoconiosis
Structures and services for occupational health surveillance in agriculture
Protection, reduction, or banning of pesticides? What are the effective and realistic interventions to avoid occupational/accidental/suicidal intoxications - examples from high and low income countries
Work with seafood - Exposure and health effects
Basic Occupational Health Services
Farming- Impact of organic dust exposure and genes on respiratory health
Creating tools for risk assessment and management in agriculture: Updating the text health surveillance of pesticide workers
Risk assessment of pesticide use in agriculture: New tools and traditional approaches
Occupational and environmental lead exposure is still a threat to children's health
Promoting job retention and health of older employees in times of organizational restructuring
Promoting employment, job security and mental health among young workers
Noise in the entertainment industry
Whole body vibration and shocks measurements, effects, and prevention
Psychosocial approaches in healthy organizations
Workplace bullying: Prevalence, risk factors, and consequence in a cross-cultural perspective
Fresh perspectives of occupational health psychology: From ill-health to well-being
Workplace social capital and cardiovascular and mental health
Basic Occupational Health Services
Biological monitoring for occupational risk assessment

Special Session Titles:
Work Integral Rehabilitation of arms and legs using biomecatronics.
Occupational infectious diseases
Occupational illnesses in Central America and Caribbean.
Occupational Health: Innovation programs
Macroergonomics: Emotions and mind helping lean manufacturing
Deepwater Horizon Disaster Response
Promoting health and well-being of outdoor workers exposed to solar
Work with seafood - Exposure and health effects
Risk analysis and prevention of biomechanical overload experiences by the international OCRA schools
Good Practices and methods for small-scale enterprises
Detergent Enzyme Hygiene and Medical Surveillance – What We Have Learned
Exposure to cooking fumes and health effects among cooks and kitchen workers
Work-life balance for working women
Building capacity, research, and networking for gender mainstreaming at work: A glance to global achievements
Gender perspective in health, agriculture, and work in Latin America
Different models of occupational health administration in Latin America
Occupational respiratory disorders the difficult diagnosis, a joint session
Climate change and occupational heat stress
Expatriates on High Risk Assignments: Best Practices in Pre-assignment Health Assessment Programs
A hands-on workshop: Facebook, Twitter, and Wikipedia for OSH professionals
Occupational radiation protection - Global initiatives
From Occupational Health to Optimal Health
Detergent Enzyme Hygiene and Medical Surveillance – What We Have Learned
Occupational Health in Fine Arts, Music, and Literature
Linking Health Risk to Business Risk Management
Work-related Road Safety: Research, Policy, and Practice
Chemical splashes: mechanisms and management, Occupational Health professionals' role
Global Occupational Health for the Common Good
Exposure assessment in epidemiologic studies of diesel exhaust and lung cancer
Occupational Safety and Health Culture in African Continent
Current Challenges in Occupational Health and Safety in Europe
Case studies of ergonomics
Deepwater Horizon Disaster Response
Nervous system impacts of rural exposures to pesticides
Protection of Workers in Disaster Relief
Emerging illness in workers and age of retirement
The role of social security in the prevention of risk in Latin America and the Caribbean
Implementing Safety Culture as a Strategy on improving Occupational Safety and Health
The reciprocal influences of Corporate Social Responsibility and Occupational Security and Health. Sustainable Work in Sustainable Development”
Emergency in occupational setting : should we suggest a new scientific committee?
Occupational Health in Pemex -Mexican Petroleum Company
Global Occupational Health for the Common Good
Exposure assessment in epidemiologic studies of diesel exhaust and lung cancer
Current Challenges in Occupational Health and Safety in Europe

Table 5: Oral Paper Sessions, ICOH Congress 2012, Cancun, Mexico
 Organized by ICOH Scientific Committees, Officers, Working Groups, and National and International Scientific Committees

Oral Session Topics:
Psychosocial Factors at Work and Worker Health
Occupational Health Conditions of Health Care Workers in Developing countries
Shiftwork & Working Time
History of Occupational Health in Mexico and Latin America
Health risks and Prevention Tools in the Construction Industry
Biomonitoring of Chemical exposures experiences in Developing countries
Work Disability Prevention and Integration
Training for Pesticide Exposure Reduction, Online resources, for Low income countries
Promoting health and Well-being at work
Advances in Biological Monitoring
Occupational Health for Health Care Workers
Improving quality in Occupational Health Practice
Radiation and Work
Psychosocial Factors How to Intervene
Psychosocial Factors at Work and Worker Health
Psychosocial Interventions for Prevention of Stress at Work
Occupational Health Conditions of Health Care Workers in Developing countries
Shiftwork & Working Time
Small-scale enterprises and the Informal Sector
Work Disability Prevention and Integration
Work and Vision Functional and Clinical Aspects
Promoting health and Well-being at work
Advances in Biological Monitoring
Occupational Health for Health Care Workers
Improving quality in Occupational Health Practice
Occupational and Environmental Immunotoxicology
Psychosocial Factors at Work and Worker Health
Improving quality in Occupational Health Practice
Occupational Health Nursing
Occupational Medicine
Education and Training in Occupational Health
Accident Prevention
Job-specific Workers' health Surveillance
Women, Health and Work
Noise
Occupational Health for Health Care Workers
History of Prevention of Occupational and Environmental Diseases
Occupational Health and Development
Psychosocial Factors at Work and Worker Health
Occupational Health Nursing
Occupational Medicine
Children and Adolescent Workers Occupational Health Work Conditions in Developing Countries
Education and Training in OH
Accident Prevention
Job-specific Workers' health Surveillance
Women, Health and Work
Noise
Occupational Health for Health Care Workers
The state of Construction Safety and Health Science
History of Prevention of Occupational and Environmental Diseases
Occupational Health and Development
Reproductive Hazards in the Workplace
Psychosocial Factors at Work and Worker Health

Oral Session Topics:
Occupational Chronic Obstructive Pulmonary Disease
Occupational Health in the Chemical Industry
Occupational Medicine
Accident Prevention
Co-occurrence of musculoskeletal disorders and mental health problems
Psychosocial factors and MSDs Cause effect interventions
Promoting health and Well-being at work
Safety Management in the Construction Industry
Occupational Allergies
Cardiovascular and Chronic diseases and Occupational risks in Developing countries
Psychosocial Factors at Work and Worker Health
Occupational Asthma and Hypersensitivity Pneumonitis
Occupational Exposure to Toxic Metals
Occupational Medicine
Nanoparticules and Occupational Health
Neurobehavioral methods in Occupational and Environmental Health
Promoting health and Well-being at work
Pneumoconiosis
Occupational Infectious Agents
Occupational Allergies
Cardiovascular and Chronic diseases and Occupational risks in Developing countries
Pesticide Risk Assessment and Management in Agriculture
Advances in Occupational Toxicology
Occupational HEALTH RESEARCH in Mexico-FENASTAC experience
Work and Vision Assessing the risk of the work environment
Neurotoxic effects from Chemical agents
Ergonomic Risks in Non-traditional Jobs in Developing Countries
Education Sector Workers Occupational Health Conditions
Development and Evaluation of evidence-based practice guidelines in Occupational Health
Indoor Air Quality
Occupational Health and Development
Occupational HEALTH RESEARCH in Mexico-FENASTAC experience
Vibration
Psychosocial Risks Interventions at Work in Developing Countries
Cardiology in OH
MSDs in the Construction Industry Risks and Prevention
Occupational and Environmental Dermatoses
Molecular Biology in Occupational Health
Aging and work

Table 6: Posters Program, ICOH Congress 2012, Cancun, Mexico
 Organized by ICOH Scientific Committees, Officers, Working Groups, and National and International Scientific Committees

Poster Session Topics:
Accident Prevention
Advances in Biological Monitoring
Advances in Occupational Toxicology
Aging and work
Biomonitoring of Chemical exposures experiences in Developing countries
Cardiology in Occupational Health
Cardiovascular and Chronic diseases and Occupational risks in Developing countries.
Children and adolescent workers Occupational Health work conditions in Developing countries
Co-occurrence of musculoskeletal disorders and mental health problems
Development and Evaluation of evidence-based practice guidelines in Occupational Health
Education and Training in OH
Education Sector Workers Occupational Health Conditions
Ergonomic Risks in Non-traditional Jobs in Developing Countries
Health risks and Prevention Tools in the Construction Industry
Improving quality in Occupational Health Practice
Indoor Air Quality
Infectious Diseases and Prevention in Agriculture and Animal Breeding
Job-specific Workers' health Surveillance
Molecular Biology in Occupational Health
MSDs in the Construction Industry Risks and Prevention
Nanoparticules and Occupational Health
Neurobehavioral methods in Occupational and Environmental Health
Neurotoxic effects from Chemical agents.
Noise
Occupational Allergies
Occupational and Environmental Dermatoses
Occupational and Environmental Immunotoxicology
Occupational Asthma and Hypersensitivity Pneumonitis
Occupational Chronic Obstructive Pulmonary Disease
Occupational Exposure to Toxic Metals.
Occupational Health and Development
Occupational Health Conditions of Health Care Workers in Developing countries
Occupational Health Conditions of Informal Outsourcing Workers in Developing Countries
Occupational Health Nursing
Occupational HEALTH RESEARCH in Mexico-FENASTAC experience
Occupational Infectious Agents.
Occupational Medicine
OH for Health Care Workers
OH in the Chemical Industry
Pesticide Risk Assessment and Management in Agriculture
Pneumoconiosis.
Promoting health and Well-being at work
Psychosocial factors and MSDs Cause effect interventions
Psychosocial Factors at Work and Worker Health
Psychosocial Factors How to Intervene
Psychosocial Interventions for Prevention of Stress at Work
Radiation and Work
Reproductive Hazards in the Workplace

Poster Session Topics:

Safety Management in the Construction Industry
Shiftwork & Working Time
Small-scale enterprises and the Informal Sector
Social Responsibility for Vulnerable Population in Mexico
Vibration
Women, Health and Work
Work and Vision. Functional and Clinical Aspects
Work Disability Prevention and Integration

Table 7: Participants Awarded Grant Support

	Name of the participant	Country
1	Bao Nguyen Duy	Vietnam
2	Anjali Nag	India
3	Vanda Felli	Brazil
4	Babacar Fall	Senegal
5	Jovanka Bislimovska	Macedonia
6	Ashish Mittal	India
7	Obehi Okojie	Nigeria
8	Edith Clarke	Ghana
9	Hemant Kshirsagar	India
10	Mohamed Omaira	Egypt
11	Charles Odhiambo	Kenya
12	Eniko-Judith	Romania
13	Sarat Kumar Sahoo	India
14	Abdel Kader Toure'	Senegal
15	Meral Turk Soyer	Turkey
16	Metin Picaktiefe	Turkey
17	Reginald Matchaba-Hove	Botswana
18	Antoine Vickey Hinson	Benin

Discussion/Conclusion:

The purpose of this Congress was to provide support for researchers and practitioners from underserved and underrepresented countries to attend and present at the 30th International Congress on Occupational Health for All: From Research to Practice, Cancun, Mexico (March 18-23, 2012). The Congress, held for the first time in Mexico, was a landmark event in the long history of the International Commission on Occupational Health (ICOH). Triennial Congresses, since the first Congress in Milan in 1906, have always played a front-line role in protecting and promoting the health of workers. This role is particularly vital at the time of rapid changes in employment structures, working life, and work environments along with the globalizing economy. ICOH is a recognized non-governmental organization (NGO) by the United Nations, and has close working relationships with the International Labour Organization and World Health Organization.

The ICOH 2012 Congress brought together occupational health researchers and practitioners worldwide to share and learn from each other the most current advances in the wide field of occupational health and safety. Serial sessions were organized to promote regional and network-based cooperation for achieving good occupational health practices.

Over 90% of scientific papers on occupational health are written in developed countries, though it is in developing countries where the most compelling needs in this field are a part of everyday reality. The Cancun, Mexico Congress aimed to build a bridge between research and practice in order to help developed and developing countries improve the level of health protection for workers and help prevent occupational injuries and diseases. The Congress dealt with subjects relevant to occupational health at its 10 plenary sessions, 30 Semi-Plenary sessions, and close to 250 mini-symposia. Topics covered reflected the 10 NORA Sectors and Cross-Sector Programs, and supported the mission of NIOSH and the NIOSH Global Collaboration Program.

This NIOSH funded grant helped to support the attendance of 31 participants from underserved or underdeveloped countries. The information shared is vital to not only the mission of NIOSH but to helping reduce the burden of work-related diseases and illnesses in these countries and worldwide by information sharing of active research.

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