TASK FORCE 5: HEALTH CARE WORKERS

Co-Chairs: George Delclos, University of Texas, USA (gdelclos@sph.uth.tmc.edu), Gerry Eijkemans, WHO (eijkemansg@who.int)

Ageing of the populations, rapid changes in the work life and economies, increased mobility of people as a consequence of globalization, and several adverse health phenomena in the world put additional pressures on improving the work and working conditions of health care workers world-wide. The work of this Task Force will contribute to the preparation of WHO Guidelines for Health Care Workers.

An International Conference 'Occupational Health for Health Care Workers'

International Commission on Occupational Health, Institute of Health and Safety at Work, Tunisia (dg.isst@email.ati.tn)

The international meeting held in Tunis in September 2002 had a successful attendance rate with occupational health specialists. The Conference was co-sponsored by WHO and ILO and organized with the Tunisian Medical Society for Occupational Health.

Training materials for latex allergies and safe use of chemotherapy agents

Cesary Palczynski (cpalczyn@imp.lodz.pl) and Stanislaw Tarkowski (tarko@imp.lodz.pl), Nofer Institute of Occupational Medicine, Poland

Keywords: training materials, latex allergy, chemotherapy agents, health care workers

Target group: health care workers

The purpose of the project is to raise awareness among health care workers concerning the health risk of exposure to natural rubber latex and/or chemotherapy agents.

The training materials will cover an introduction to natural rubber latex allergy, signs and symptoms, review of prophylactic approach and dealing with an employee sensitized to latex. Procedures concerning latex sensitized patients will be also presented. In the second part of materials health risk of the exposure to antineoplastic agents, as well as obligatory procedures during preparation and administration of cytostatics, and attendance to a patient will be reviewed.

Funding is in place. The project will be completed by 2004.

Train-the-trainer course for workers: health and safety in hospitals

George L. Delclos (gdelclos@sph.uth.tmc.edu) and Sarah Felknor, (sfelknor@sph.uth.tmc.edu)
Southwest Centres for Occupational and Environmental Health, University of Texas School of Public Health, USA

Keywords: worker training, risk mapping, injury reporting, train-the-trainer

Target group: This workshop is aimed at any hospital worker with reasonable presentation skills and who has an interest in hospital health and safety.

The objective of this project is to develop a train-the-trainer workshop focused on basic worker training in various aspects of hospital health and safety as well as basic methods of teaching. The program was developed based on sound principles of adult learning theory. Once trained, course attendees would have the expectation of teaching basic concepts to workers that will allow them to recognize hazards in their workplace, participate in workplace safety committees and report workplace injuries.

The workshop has been developed. It is available in Spanish, but could conceivably be translated into other languages. Funding would be needed to cover costs related to travel and lodging for instructors to administer the course.

Training course - Occupational health and safety in hospitals

Manuel Peña European Institute of Health and Social Welfare, Madrid, Spain (admon@ie-es.com)

Keywords: program administration, surveillance, hospital ergonomics, worker training

Target group: hospital administrators, physicians, nurses, hygienists, hazardous waste specialists and epidemiologists, as well as workers with an interest in healthcare worker health and safety.

The aim of this project is to conduct a workshop that provides basic training in fundamental aspects of health and safety in hospitals, which may eventually be modified for use in other non-hospital healthcare
settings. The aim of the project is to develop distance learning at a broad audience with an interest in occupational hazards of healthcare workers. Its structure combines something of interest to the whole group at 4 beginning and ending monographic seminars on Health and Safety Program Management in Hospitals, Surveillance, Hospital Ergonomics and Worker Training in Hospital Health and Safety.

Training course – Health management
Manuel Peña European Institute of Health and Social Welfare, Madrid, Spain (admon@ie-es.com)

*Keywords:* hospital management, quality assurance, human resources

*Target group:* hospital administrators, physicians, nurses, hazardous waste epidemiologists, as well as professionals with an interest in healthcare management.

The aim of this project is to conduct a workshop that provides continuous training in fundamental aspects of health management in hospitals and non-hospital healthcare centres, as well as to develop distance learning at a broad audience with an interest in Health Systems and Services Development, quality assurance, health economy and human resources management.

Expertise on research methods in healthcare settings
George Delclos, University of Texas, USA (GDelclos@sph.uth.tmc.edu)

*Keywords:* research methods, healthcare workers

*Target group:* Researchers in academic institutions with research interests in health and safety aspects of healthcare workers.

The aim of this project is to provide consultation and assistance in the design, conduct and implementation of research projects in occupational health related to healthcare workers. Our emphasis is on applied research that can be of benefit to healthcare institutions in the short term. The faculty at the University of Texas has extensive experience in the conduct of research related to health and safety in healthcare workers. These faculties are available to other centres to provide consultation and/or assistance in this area.

Research expertise of the faculty is also provided at the Southwest Centres for Occupational and Environmental Health. Funding would be needed to cover costs related to travel and lodging. Collaborative research relationships would be encouraged.

Production of a kit for trainers (CD-ROM) and a Program to train trainers for health care workers
Emilio Volturo, Vito Foà, Silvia Fustinoni and Chiara Rengo (omscons@unimi.it), Istituti Clinici di Perfezionamento, Department of Occupational Safety and Health and ISPESL/ICP Consortium for the WHO Collaborating Centre in Occupational Health, Clinica del Lavoro “Luigi Devoto”, Milan, Italy
Sonia Maria José Bombardi (bombardismj@gov.br) and Zuher Handar (handar@onda.com.br), Fundacentro, São Paulo, Brazil

*Keywords:* training, occupational health and safety, multimedia, health care workers.

*Target group:* health care workers of the Curitiba Municipality (Paraná), professionals of occupational health and safety

The objective of this project is to work out modalities and training actions for prevention, occupational health and safety to improve health and safety at work in the health sector and in public services. This project strengthens the initiatives of the project Cooperation Italy-Brazil Global Strategy 7 and Global Strategy 8 (Task Forces 12 and 8).

The objective will be reached through the following stages: documentary research, production of a repertoire of training experiences, theoretical patterns to train the trainers and of organizational patterns to complete the task, reconstruction of work organization in the health sector in the two countries and implementation of an integrated plan to train workers in the health sector.

At the Iguassu Meeting, February 2003, an Italian-Brazilian seminar was held during which an important result was obtained, because the Segretaria da Saúde of the Paraná state joined the project and showed its interest in applying it to the metropolitan area of the State Capital City (Curitiba, 49 municipalities), with the perspective to extend the results to the entire state (about 400 municipalities). During the mission the relevant interest of other possible scientific, technical and institutional partners was verified. A shared version of the scientific project has been defined and in the next few months the project will be integrated in a cooperation plan to submit to the competent authorities for funding. An internet discussion group has been set up for the permanent exchange of information, updating, experiences and data.
Considering that the planning phase has been completed, we are initiating to identify the necessary funding. In case human and financial resources will not be identified within 12 months, the possibility of reconsidering the feasibility of the project will be evaluated.

The planning of the project has been completed. Funds are needed for proceeding further.

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**Realizzazione di un kit per formatori (CD-ROM) ed un programma di formazione formatori per gli operatori del settore sanitario**

Emilio Volturo, Vito Foà, Silvia Fustinoni, Chiara Rengo (omscons@unimi.it), Istituti Clinici di Perfezionamento, Dipartimento di Medicina del Lavoro e Sicurezza sul Lavoro e Consorzio ISPESL/ICP per il Centro di Collaborazione con l’OMS per la Medicina del Lavoro e l’Igiene Industriale, Clinica del Lavoro “Luigi Devoto”, Milano, Italia

Sonia Maria José Bombardi (bombardismj@.gov.br), Zuher Handar (handar@onda.com.br), Fundacentro, São Paulo, Brazil

*Parole chiave:* Formazione, Medicina del Lavoro, Sicurezza, Multimedia, operatori del settore sanitario

*Utenza destinatar:* Lavoratori nel settore sanitario della municipalità di Curitiba, Esperti e professionisti di Medicina del Lavoro e Sicurezza operanti nelle strutture sanitarie.

Realizzazione di percorsi ed azioni formative efficaci ai fini del miglioramento della sicurezza e salute dei lavoratori nei luoghi di lavoro, per i lavoratori del settore sanità e gli operatori dei servizi pubblici di prevenzione e medicina del lavoro e sicurezza.

Questo progetto rafforza i progetti inseriti nei Global Strategy 7 e Global Strategy 8 (task Forces 12 e 8).

L’obiettivo sarà raggiunto attraverso le seguenti fasi:
- Ricerca documentale
- Costruzione di un repertorio di esperienze formative
- Definizione del quadro teorico di riferimento per la formazione dei formatori e del quadro organizzativo per la completa realizzazione
- Ricostruzione comparata dell’organizzazione del lavoro in sanità nei due paesi

Elaborazione e realizzazione di un piano integrato di formazione per i lavoratori della sanità.

**Produção de kit para formadores (CD-Rom) e de Programa de Formação de Formadores para os Trabalhadores do Setor da Saúde**

Emilio Volturo, Vito Foà, Silvia Fustinoni, Chiara Rengo (omscons@unimi.it), Instituto Clínico de Aperfeiçoamento – Departamento de Segurança e Saúde Ocupacional e Consórcio ISPESL/ICP para o Centro Colaborador da OMS em Saúde Ocupacional – Clinica Del Lavoro “Luigi Devoto” – Milão

Sonia Maria José Bombardi (bombardismj@.gov.br), Zuher Handar (handar@onda.com.br), Fundacentro, São Paulo, Brasil

*Keywords:* Formação de Formadores, Segurança e Saúde no Trabalho, Multimídia, Trabalhadores do Setor da Saúde

**Grupo de alvo:** - Trabalhadores do setor da saúde da região metropolitana de Curitiba e/ou outra localidade a definir.
- Especialistas e profissionais de Segurança e Saúde no Trabalho que atuam na área da saúde.

Realização de intervenções e ações de formação para a melhoria das condições de trabalho dos trabalhadores do setor da saúde e de serviços públicos voltados para a prevenção e Segurança e Saúde Ocupacional. Este projeto reforça os projetos inseridos no Global Strategy 7 e Global Strategy 8 (task forces 12 e 8).
O objetivo será alcançado por meio das seguintes fases:

- Pesquisa bibliográfica
- Construção de repertório de experiências de formação
- Definição de padrões teóricos de referência para a formação de formadores e de quadro organizacional para a completa realização do projeto
- Reconstrução comparada das organizações de trabalho na área da saúde dos dois países.

Elaboração e realização de plano integrado de formação para trabalhadores da área da saúde.

Nas ações pré-Congresso de Foz do Iguaçu, fevereiro de 2003, foi realizado um Seminário Ítalo-Brasileiro no qual foi alcançado importante resultado de adesão da Secretaria da Saúde do Estado do Paraná que indicou a possibilidade de aplicação do projeto na área metropolitana de Curitiba (capital do Estado do Paraná), através da Secretaria Municipal da Saúde. A proposta é atingir 49 municípios com a possibilidade de ampliar os resultados para o interior do Estado (cerca de 400 municípios). No curso da atividade foi verificado o notável e factível interesse de outros possíveis parceiros científicos, técnicos e institucionais. Foi definida uma versão consensuada do projeto que nos próximos meses será integrada a um plano de cooperação, a ser submetido às autoridades responsáveis pelo financiamento. Está em preparação um grupo de discussões via Internet para o intercâmbio permanente de informações, atualizações, experiências e dados. Considerando que a fase de planejamento está completa, estamos voltando nossa atenção à busca dos recursos necessários. Se em 12 meses não conseguirmos os recursos humanos e financeiros necessários, iremos avaliar a possibilidade de reconsiderar a viabilidade do projeto.

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**Preparation of a guideline for prevention of latex allergy in health care workers**

Xaver Baur, Ordinariat und Zentralinstitut für Arbeitsmedizin, Hamburg, Germany (baur@uke.uni-hamburg.de)

**Keywords:** latex allergy, occupational asthma, contact dermatitis, prevention, inventory of good medical practice

**Target group:** In the first step, primarily European stakeholders, scientists in occupational health, state authorities for worker protection, with a focus on medical doctors in occupational health,

The aim of this project is to organize a workshop and prepare a guideline for the prevention of latex allergy in health care workers.

There is the high prevalence (4-17%) of sensitization among health care workers, resulting in a large socio-economical problem for the society and affected individuals. Respiratory latex allergies result from the inhalation of powder released when gloves are put on or taken off. A main step to prevent latex sensitization is to reduce the exposure to powdered high-allergen latex gloves. The guideline will cover the current medical knowledge on causes, prevalence/incidence, dose-response relations, and risk factors of work-related latex allergy. A workshop is planned where effects of established interventions in the use of powdered high-allergen latex gloves will be presented and discussed. Regulations of work and health protection in the different countries have to be taken into consideration. A code of good medical practice involving risk assessment in the workplace, advice for reduction of health risks due to latex gloves, improved medical surveillance, health promotion, and examples illustrating concrete steps will be given.

A German campaign of a preventive approach to latex allergy among health care workers is currently evaluated.

Other German centres are collaborating on the project. Interested centres in other countries are encouraged to contact the project team for possible collaboration.

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**Various guidelines for health care workers**

Marie Haring Sweeney (MSweeney@cdc.gov) and Raymond Sinclair (RSinclair@cdc.gov), NIOSH, USA

The objective of the first project is to contribute to the development of WHO Guidelines regarding prevention of musculoskeletal injuries among nursing home workers and also to the development of WHO Guidelines regarding prevention of needlestick injuries.

The objective of the second project is to contribute two documents on hazards to health care workers, one pertaining to workers in hospitals and one pertaining to home health care workers (in preparation).

Funding is in place. The project will be completed by December 2005.

Bill Eschenbacher (BEschenbacher@cdc.gov), NIOSH, USA

The objective of this project is to contribute to development of WHO Guidelines on emerging infectious diseases and bioterrorism risks to health care workers and also to contribute to information obtained from the National Exposure at Work (NEWS) survey of hazardous exposures to health care workers.
Funding is in place. The project will be completed by December 2005.

**Demonstrating and promoting best practices in reducing medical waste to avoid environmental releases of dioxins and mercury from health care practice**

Peter Orris, MD, MPH, Great Lakes Centres For Environmental and Occupational Safety and Health, University of Illinois at Chicago School of Public Health, USA (porris@uic.edu)

*Keywords:* Health Care, Waste, Worker, Safety, Environment, Pollution

The Proposed Project is a Global Project to demonstrate best practices in the management of health care wastes with the intent of minimizing and eliminating releases of dioxins and mercury to the environment, and also to demonstrate ways of overcoming barriers to their adoption.

The project under development will be implemented by the United Nations Development Programme (UNDP) and will be executed by WHO (Protection of the Human Environment). The international NGO Coalition, Health Care without Harm (HCWH), has been an active partner in project planning and will continue as a WHO partner in project execution. The governments of the seven participating countries have endorsed the project: Argentina, India, Lebanon, Philippines, Poland, Senegal and Viet Nam. In each participating country, the Project will demonstrate best practices in the management of health care wastes in a number of countries and regions to minimize dioxin and mercury releases; and it will establish national and/or regional programs in participating countries to train experts who can then replicate the program at other hospitals and facilities. Under this Project, best practices will include: Techniques for waste minimization; Segregation of infectious wastes from ordinary wastes; Selection and utilization of appropriate waste treatment approaches. It will as well address the health and safety issues of the health care and waste workers handling of waste including sharps, infectious materials, and toxins. The project is currently in the intergovernmental consultative planning phase.

**Support of a WHO guidance document for the protection of healthcare workers**

George Delclos, MD, MPH and Sarah Felknor, DrPH, University of Texas School of Public Health (GDelclos@sph.uth.tmc.edu) and Maritza Tenassee, M.D., PAHO (tenassm@paho.org).

This task is based on the outcome of discussions of Task Force 5 at the Network of WHO Collaborating Centres Meeting, held in Iguazu Falls, Brazil in February 2003, regarding a request from WHO for assistance in the development of guidelines for protecting health care workers. After much discussion on the role of WHO guidelines and the intended audience(s) of such a document, it was agreed that the following steps would be taken in the 2003-2004 time period and that the University of Texas would coordinate these activities in collaboration with PAHO:

- Development of an inventory and compilation of existing guidance documents globally, pertaining to occupational hazards of healthcare workers. This will include a survey of WHO Collaborating Centers and is expected to be completed by the end of 2003.
- White papers will be solicited and scientific referees will be identified to help organize the documents by topic, audience and intended use. This activity will be conducted in late 2003 and early 2004.
- A subgroup of Task Force 5 will reconvene to review the materials and make recommendations to further develop the documents. It is expected that this meeting will take place in early 2004.
- WHO will commission the final guidance documents based on the input and materials from Task Force 5.

**Assessment of safety climate in hospitals and among health care workers**

Sarah Felknor, DrPH and George Delclos, MD, MPH, University of Texas School of Public Health (GDelclos@sph.uth.tmc.edu)

*Keywords:* healthcare workers, safety climate, work organization

*Target group:* Healthcare workers in hospitals at all levels: administrative, professional, technical, basic ancillary services. The instrument can also be adapted for use in healthcare settings other than hospitals and other industrial settings.

The objective of this project is to create a survey tool that allows assessment of safety climate in healthcare settings, its determinants and the relationship between safety climate, workplace injuries and compliance with safety practices. Safety climate has been described as the perceptions and expectations that workers have of safety in their workplace. It is an “integrated” variable that reflects the influence of both organization-centred factors as well as worker-centred factors. It has also been shown to influence workplace injuries and compliance with safety practices. Safety climate and its determinants can be assessed using sound survey methodology. This group has previously developed and validated this
methodology in public hospitals in Costa Rica. Results from the analysis of this survey methodology have led to the identification of determining workplace factors that can then be intervened on in order to improve safety climate. This improvement, in turn, will hopefully lead to a decrease in workplace injuries and increased compliance with safety practices.

The survey has been completed and results are available. However, it is important to note that there is a detailed methodology that accompanies use of this survey instrument. Training in that methodology is essential before using the instrument. Training sessions in methodology and in approach to its statistical analysis and interpretation of results are conducted. The instrument is available in English and Spanish.

**Sustainable hospitals**
Margaret Quinn, Sc.D., Department of Work Environment, University of Massachusetts at Lowell (Margaret_Quinn@uml.edu)

*Keywords:* demonstration project, substitutes, occupational and environmental exposures
*Target group:* hospital managers, occupational health professionals, regulatory authorities

The objective of this demonstration project is to present a model for identifying alternative substances for hospital use to reduce occupational and environmental exposures generated by hospitals.

**Protecting hospital workers from chemical hazards**
Juan Alcaino Lara, Instituto de Salud Publica de Chile, Chile (jalcaino@ispch.cl)

*Keywords:* air sampling, prevention, chemical substances, sterilization, disinfecting
*Target group:* public hospital workers expose to chemical substances (6000 people approximately).

The purpose of this project is to control chemical agents commonly used in public hospitals to prevent accidents and diseases due to them.

Even though, until 1995, public workers had workplace exposure accident and disease insurance, it didn't include risk prevention activities. On March 1, 1995, these workers were included in the regulation Nº 16744, dictated in 1964 that established an obligatory social insurance against working accident and diseases, which included risk prevention activities. Until that time, there was almost no knowledge about working conditions of public workers, and especially those that face chemical substances.

The focus areas of the present project are:
1. Air Sampling of Ethylene Oxide (sterilization facilities), formaldehyde (mortuaries-pathology anatomy and hemodialysis units), glutaraldehyde (disinfecting units), anesthetic gases (operating rooms) and organic solvents (clinic laboratories) to check whether the concentrations are under the exposure limits. All the samples were analysed at Occupational Laboratory of the Institute of Public Health from Chile.
2. Establishment of allowable limits of Ethylene Oxide residues on medical devices and formaldehyde residues on sets for hemodialysis (dialyzer).
3. To define air sampling criteria and strategies to have representative samples considering the different limits and the process involved.
4. To develop checklists to verify the fulfilment of working conditions.
5. To develop and spread checklists related to personal protection devices necessary to wear.
6. To propose protection and prevention measures for workers exposed to chemical substances indicated above.

A sample of 46 hospitals in the country has been taken for the evaluation of ethylene oxide, formaldehyde, glutaraldehyde, anesthetic gases and organic solvents.

The evaluation not only took into account air samples, but also other workplace conditions such as ventilation systems, procedure manuals, protection and prevention measures for workers, wearing and caring of personal protection devices (i.e. gloves, masks), training and labelling and posting of hazards.

Significant achievements have been made:
- Improvements in Sterilization Facilities: Separated loading and unloading rooms, manuals and instructions writing, ventilation system improvements. A checklist was also used to verify some workplace conditions. Aeration times were modified to meet regulation. FDA residual levels were adopted as a reference.
- Procedures of dialyzer cleaning have improved, with which formaldehyde air concentrations were reduced.
- Ventilation systems are being implemented in Anatomy Pathology Units.
- Sampling strategies were implemented according to both work processes and permissible limits for each substance.
- The project has advanced from the detection stage to the evaluation stage. The prevention stage is being implemented.

**Assessment of exposure to antineoplastic agents in pharmacy and hospital personnel**

Dr. Rudi Schierl, Institute and Outpatient Clinic for Occupational and Environmental Medicine, University of Munich, Germany (rudi.schierl@arbeits.med.uni-muenchen.de)

**Keywords**: cytostatic drugs, biological monitoring, working conditions

**Target group**: Pharmacy technicians, pharmacists, people involved in the transport of antineoplastic agents

Description of safe working conditions related to internal exposure of substances handled in centralised cytostatic drug preparation units in hospitals.

There is a risk of adverse health effects for personnel with occupational exposure to antineoplastic agents. The study is aiming at identification, quantification and evaluation of potential health hazards of occupationally exposed workers in pharmaceutical and oncology departments with central processing units for drug preparation. Biomonitoring for the leading substances is performed in a large number of pharmacy technicians and pharmacists in hospital pharmacies and oncological departments. An environmental monitoring strategy is developed in order to detect contamination and attempt to improve hygiene during work.

Progress is being made continuously and according to the work plan.

Names of other Centres collaborating: 14 hospital pharmacies are currently partners in the collaborative study.

**Product**: Evidence-based recommendation to avoid / reduce internal exposure

**Research project in Cuba to control exposure to anaesthetic gases in operating rooms**

Virgino Somenzi, Renato Gilioli, Silvia Fustinoni, Chiara Rengo (omscons@unimi.it), Istituti Clinici di Perfezionamento, Dipartimento di Medicina del Lavoro e Sicurezza sul Lavoro e Consorzio ISPESL/ICP per il Centro di Collaborazione con l’OMS per la Medicina del Lavoro e l’Igiene Industriale, Clinica del Lavoro “Luigi Devoto”, Milan, Italy

Alberto González Salso, Heliodora Díaz Padrón, Maria Esther Linares Fernandez (linares@infomed.sld.cu), Instituto Nacional de Salud de los Trabajadores, Cuba

**Keywords**: anaesthetic gases, environmental and biological monitoring, operating rooms, neurobehavioral study

**Target group**: health workers of Cuban operating rooms

The objective of this project is to assess pollution and health risks from anaesthetic gases in subjects working in operating rooms in Cuba. The project aims at controlling anaesthetic pollution in Cuban operating rooms, with the following targets:

- Exchange of scientific and methodological documentation and supply of technical instrumentation and analytical methods for the Toxicology and Industrial Hygiene laboratory
- Environmental and biological monitoring in operating rooms (monitoring of anaesthetics such as Halothane and N₂O)
- Study of Neurobehavioral performance prior to and after work in operating rooms
- Specific training activities on the above topics.

The following has been accomplished thus far:

- Exchange of scientific and methodological documentation
- Supply of technical instrumentation and analytical methods for the Toxicology and Industrial Hygiene laboratory (i.e. donation by an Italian Company of instruments to control anaesthetic exposure, such as thermal desorption unit, head space autosampler and gas chromatographs equipped with flame ionization and electron capture detectors)
- Training course on the use of the apparatus, held in Milan
- Identification of suitable tools for the detection of possible changes in neurobehavioral performance (by means of BARS "Behavioural Assessment and Research System" in its Spanish version)

The project is preliminary to

1. cleaning up the operating rooms performed at sustainable cost
2. healthiness of the work environment and workers.

Phases 1 and 2 should be implemented within the next work plan (2006-2010).
Progetto di Ricerca per il controllo dell'esposizione a gas anestetici nelle sale operatorie cubane

Virginio Somenzi, Renato Gilioli, Silvia Fustinoni and Chiara Rengo (omscons@unimi.it), Istituti Clinici di Perfezionamento, Dipartimento di Medicina del Lavoro e Sicurezza negli Ambienti di Lavoro e Consorzio ISPESL/ICP per il Centro di Collaborazione con l'OMS per la Medicina del lavoro e l'Igiene Industriale, Clinica del Lavoro "Luigi Devoto", Milano

Alberto González Salso, Heliodora Diaz Padrón, Maria Esther Linares Fernandez (linares@infomed.sld.cu), Instituto Nacional de Salud de Los Trabajadores, La Habana, Cuba

Parole chiave: gas anestetici, monitoraggio ambientale e biologico, sale operatorie, studi neurocomportamentali

Utenza destinatan: personale sanitario delle sale operatorie cubane

Scopo del progetto: Valutazione dell'inquinamento e del rischio per la salute in soggetti esposti a gas anestetici nelle sale operatorie cubane. Il progetto ha lo scopo di controllare l'inquinamento da gas anestetici nelle sale operatorie cubane ed è articolato nelle seguenti fasi:

- Scambio di documentazione scientifica e metodologica e donazione di strumentazione tecnica e metodi analitici per la Tossicologia e il Laboratorio di Igiene Industriale
- Monitoraggio ambientale e biologico nelle sale operatorie (monitoraggio di anestetici quali Alotano e N2O)
- Studio delle performance neurocomportamentali del personale sanitario nelle sale operatorie
- Attività di formazione specifiche e mirate sull'argomento

Avanzamento:
- Scambio di documentazione scientifica e metodologica
- Donazione di strumentazione tecnica e metodi analitici per il Laboratorio di Tossicologia e Igiene Industriale (i.e. donazione da parte di una Società Italiana di strumenti per il controllo dell'esposizione a gas anestetici, come per esempio desorbitore termico autocampionatore per spazio di testa e gascromatografia, forniti di rilevatore a ionizzazione di fiamma e a cattura di elettroni)
- Attività di formazione all'uso della strumentazione donata, organizzata a Milano
- Identificazione di strumenti per lo studio delle performance neurocomportamentali (per esempio BARS "Behavioral Assessment and Research System" nella versione in lingua spagnola)

Il progetto è propedeutico a:
1. bonifica delle sale operatorie a costi sostenibili
2. successiva verifica della salubrità degli ambienti e delle condizioni dei lavoratori.

Si prevede di completare le fasi 1 e 2 del progetto nel prossimo quinquennio (2006-2010).

Progetto de investigación para el control de la exposición a gases anestésicos en salones de operaciones cubanos

Virginio Somenzi, Renato Gilioli, Silvia Fustinoni and Chiara Rengo (omscons@unimi.it), Instituto Clínico de Perfeccionamiento, Departamento de Seguridad Ocupacional y salud y Consorcio ISPESL/ICP Centro Colaborador de la OMS en Salud Ocupacional, Clinica del Trabajo Luigi Devoto, Milan, Italia

Alberto González Salso, Heliodora Diaz Padrón, Maria Esther Linares Fernandez (linares@infomed.sld.cu), Instituto Nacional de Salud de Los Trabajadores, La Habana, Cuba

Grupo estudio: Personal sanitario de los salones de operaciones cubanos

Palabras claves: Gas anestésico, monitoraje ambiental y biológico, salones de operaciones, estudio neuroconductual

Propósito del proyecto: Evaluación de la contaminación y del riesgo a la salud en sujetos expuestos a gases anestésicos en salones de operaciones cubanos

El proyecto está dirigido al control de la contaminación de gases anestésicos en salones de operaciones cubanos con los siguientes aspectos principales:

- Intercambio de documentación y metodología científica y la donación de de equipamiento técnico y métodos analíticos para el Laboratorio de Toxicología e Higiene Industrial
- Monitoraje ambiental y biológico de los salones de operaciones (monitoraje de anestésicos como Halotano y N2O)
- Estudio del funcionamiento neuroconductual del personal sanitario en los salones de operaciones.

Actividades de formación específica sobre los aspectos anteriores.

Progreso:
- Intercambio de documentación científica y metodológica
- Donación de equipamiento técnico y métodos analíticos para el Laboratorio de Toxicología e Higiene Industrial (donación de parte de una Sociedad Italiana de equipos para el control de la exposición a
gases anestésicos, como por ejemplo desorbitor térmico automuestrador por head space test y gascromatografia, equipado con ionizacuión de llama y captura de elctrones)

- Actividad de formacion y adiestramiento para el uso del equipamiento donado, organizada en Milano
- Identificación del instrumento para el estudio de la función neuroconduccionalport (por ejemplo BARS "Behavioral Assessment and Research System” en la version en lengua española).

El proyecto es propedeutico para:
1. Reformar los salones de operacion a un costo sostenible
2. Verificaciones sucesivas de la salubridad del ambiente y de las condiciones de trabajo.
La fase 1 y 2 deberán desarrollarse en el próximo quinquenio (2006 al 2010).

The management of liquid wastes in district hospitals of Benin
Benjamin Fayomi, University Laboratory of Health at the Work and Environment (LUSTE) (bfayomi@intnet.bj)

Keywords: biological risk, liquid waste, hospital environment
Target: Health professionals, decision makers, NGOs

This study aims at analysing the mechanism of liquid waste management in the peripheral hospitals. The consequences for the environment due to solid waste such as also liquids constitute serious dangers in hospital environments.

Medical groups constitute important producers of waste, in particular biomedical waste whose management constitutes a major health and environmental problem.

Bad management of liquid waste can be the source of several endemic and epidemic diseases. Our objective is to describe the management of liquid waste produced in two peripheral hospitals in Benin to spread the awareness by decision-makers and health professionals. Indeed, the chemicals used in various services, blood, the faeces and the urine of certain patients of contagious diseases must be considered as potentially dangerous for our health and the environment. This universal principle is not currently practiced in Benin. The Ministry of Public health and the Béninoise Agency for the Environment are our collaborators.

La gestion des déchets liquides dans les hôpitaux de district au Bénin
Benjamin Fayomi, Laboratoire Universitaire de Santé au Travail et Environnement (LUSTE) (bfayomi@intnet.bj)

Mots clés : Risque biologique, déchets liquides, milieu hospitalier
Cible ; Professionnel de santé, décideurs, ONG

Cette étude vise à analyser le mécanisme de gestion des déchets liquides dans les hôpitaux périphériques. Les atteintes à l'environnement par les déchets solides comme liquides constituent des dangers graves en milieu hospitalier.

Les formations sanitaires sont un groupe non négligeable de producteur de déchets, en particulier des déchets biomédicaux dont la gestion constitue un problème majeur de santé et d'environnement.

La mauvaise gestion des déchets liquides peut être source de plusieurs maladies à caractères endémiques et épidémiques.

Notre objectif est de décrire la gestion des déchets liquides produits dans deux hôpitaux périphériques au Bénin. Ceci pour éveiller la conscience des décideurs et des professionnels de santé. En effet, les produits chimiques utilisés dans les différents services, le sang, les matières fécales et les urines de certains patients atteints de maladies contagieuses doivent être considérées comme potentiellement dangereux pour notre santé et notre environnement. Ce principe universel n'est pas en pratique courante au Bénin.

Le Ministère de la Santé Publique et l'Agence Béninoise pour l'Environnement sont nos collaborateurs.

Gaining support of the decision-makers for improving working conditions in the health care sector
Maritza Tennessee, PAHO (tennassm@paho.org)

A document on the Healthcare Workers Situation in Latin America and the Caribbean Region is near completion and is already available as a draft. This document aims to help PAHO's decision-making on interventions. As the shortage of local data aggravates the unawareness of healthcare workers suffering, the project plans to work in both technical and political approaches, by facilitating advocacy actions as well as by offering technical cooperation to the Members States' assessment and intervention on their situation.
The work plan is as follows:

*2002:* to publish a preliminary analysis on Healthcare Workers Situation in Latin America and the Caribbean Region, based on secondary sources of data.

*2003:* to prepare a pilot proposal to be conducted in some countries, to provide information about the needs and differences among the health care settings in LAC, as well as the development of assessment instruments, to prepare a document for the Planning Subcommittee.

*2004:* to begin the implementation of the proposal in the countries, to submit the document to the Planning Subcommittee and Executive Committee and to prepare the document and submit it to the Directing Council.

Funding is being mobilized in PAHO. This initiative uses the Healthy Workplace Approach and it is a responsibility of PAHO's Division of Health and Environment (HEP) in collaboration with HSP (Health Systems and Services Development), HPP (Health Promotion and Protection), HVP (Vaccines and Immunizations) and HCP (Disease Prevention and Control) Divisions.

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**Health care workers’ occupational risks**

Prof. Dr Jovanka Karadzinska Bislimovska, Institute of Occupational Medicine, Republic of Macedonia (bislimovska_j@hotmail.com)

*Keywords:* occupational risk, health workers, infectious agents, stress at workplace, preventive measures

*Target group:* health care workers, state authorities for worker protection, scientists in occupational health, medical doctors in occupational health

The objective of this project is to assess specific occupational health risks from infective agents (HIV, Hepatitis) and stress at work and to prepare a proposal for guidelines on prevention.

Biological infectious hazards and psychogenic stress as specific occupational risks derive from the character, type of working process and conditions of work in health care and are closely connected. Data from studies on the Republic of Macedonia in the last 10 years in different profiles of health workers occupationally exposed to biological, infectious agents indicate high prevalence of Hepatitis B (26.6%) and present biological markers such as HBsAg (19.2%). Numerous stress factors of working environment are manifested as emotional and behavioural disorders and increase in the risk of psychosomatic diseases.

The aims of this project are:

- Establishing the criteria for assessment of specific occupational risk of infectious and psychosomatic character
- Definition of highly risky segments and profiles of workers in health care
- Preparation of a draft guidelines on prevention of infective diseases (HIV/Hepatitis) and stress at work

In the methodology an epidemiological cross sectional study will be conducted with an exposed and a control group examination of health care workers. A structural questionnaire has been designed on infective agents and Maslach Burnout Inventory (MBI) on stress factors at work, medical examinations and laboratory analysis for markers to infectious agents (hepatitis and HIV) as well as psychological tests with Cornel index, Life style test, PIE questionnaire will be used. The practical outcome of this project will be the preparation of a proposal-guideline on prevention (including concrete preventive activities and procedures) to specific occupation health hazards in health care workers.

The methodology for this project (questionnaire and procedures) has already been prepared. A pilot study of 50 health care workers with different profiles has been conducted. Preliminary results are available.

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**Guidance on prevention and control of occupational hazards for health care workers**

Fengsheng He, National Institutes in Occupational Health and Poison Control, China (hefs@public.bta.net.cn)

*Target Group:* Health care workers.

The purpose is to analyze the occupational hazards and critical control points of health sectors and to improve the control and prevention.

Planning and the preparatory work have been initiated.

Funds have been secured by the Ministry of Sciences and Technology for 2003-2005

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**Assessment of working conditions and health of health care workers in public and private healthcare facilities in Vietnam**
The purpose is to analyze the occupational hazards, implementation of OSH policies in health care facilities and awareness of health care workers on OSH. The project will start in 2004 and funds have been secured by WHO, Vietnam Government.

**Development of OSH guideline for health care workers in Vietnam**

Nguyen Thi Hong Tu, Ministry of Health, Viet Nam (hongtu@netnam.vn)

*Keywords: working condition, health care, health care workers, facility, public, private*

*Target group: decision-makers at Ministries, academic institutions, health care facilities*

The purpose is to improve control and prevention of occupational hazards for health workers. The project will start in 2004 and funds have been secured by WHO, Vietnam Government.

For cross references see also:

TF 1 : National guidelines for healthcare for workers in various sectors in Vietnam

TF 5 : Protecting hospital workers from chemical hazards;

TF 7 : Study of the mental and physical burden, in collaboration with the HabibThameur Hospital, Medicine at Work Service of the company Light Subway Tunis

TF 11 : Training course – Occupational health and safety in hospitals; Training programmes and modules; Packaged training course for health care workers (available in English and in Spanish); Postgraduate training courses in maritime occupational health; Establishment of an international working group for utilisation of telemedicine to reduce health risks of seafarers; Development of a comprehensive medical training package for captains and first officers on ships; Training of Occupational Health and Safety Personnel; Training course - occupational health and safety in hospitals; Training course - health management

TF 14 : Role of primary care physicians and nurses in addressing occupational health issues