World Health Organization

Department of Health
Republic of the Philippines

Lung Center of the Philippines

REPORT ON THE

OCCUPATIONAL HEALTH TRAINING COURSE MODULE 1:

The Recognition, Management and Prevention of Occupational Lung Diseases: Pneumoconiosis including Asbestos-related Diseases

May 10-12, 2011
Lung Center of the Philippines

GROUP PHOTO
OCCUPATIONAL HEALTH TRAINING COURSE: MODULE 1

The Recognition, Management and Prevention of Occupational Lung Diseases: Pneumoconiosis including Asbestos-related Diseases

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INTRODUCTION TO THE WORKSHOP

RATIONALE

Asbestos has been classified as a human carcinogen by the International Agency for Research on Cancer (IARC). Although steps have been undertaken to ban, reduce or minimize exposure to this material in many Western countries, asbestos use in the Asian region has been increasing since the 1980s. The long-term effects of asbestos exposure are thus expected to impose a greater disease burden in the next 20-40 years. Asbestos companies in the Philippines are importing an estimated 4,000 metric tons of asbestos annually for use in asbestos fiber cement boards, packaging materials, gaskets, friction and mechanical parts such as brakes and automotive clutches. Data gathered from a screening program of former shipyard workers at the Subic Naval base showed that among 1,542 workers, 366 were diagnosed with asbestosis and 132 are suffering from pleural disease. Diagnosed cases of malignant mesothelioma have been reported at the Lung Center and by the Philippine Cancer Society and the Employees Compensation Commission, however, asbestos-related malignancies are likely underreported.

This training course on occupational lung disease focusing on asbestos-related diseases was undertaken as a joint venture of the World Health Organization, the Department of Health and the Lung Center of the Philippines to address the following issues and concerns:

- The paucity of local prevalence data on occupational lung diseases, esp. asbestos-related diseases (ARDs)
- Likely under-recognition, under-diagnosis and under-reporting of these diseases
- The lack of a structured, comprehensive surveillance and reporting system for these diseases
- The urgent need for preventive and occupational health programs to protect at-risk workers

COURSE OBJECTIVES

This 3- day training course aimed to provide participants with the knowledge and skills on the early recognition, diagnosis, management and prevention of asbestos-related diseases (ARDs).

LEARNING OBJECTIVES

It was expected that by the end of the course, the participants will be able to:

1. discuss a basic overview of asbestos and asbestos-related diseases to include the following:
    a. Types of asbestos and its uses
    b. Occupations where asbestos exposure is likely to pose a risk to workers
    c. General features of asbestos-related diseases, their early recognition and management
    d. Preventive strategies to eliminate and/or minimize asbestos exposure

2. formulate a formal surveillance and reporting system established for occupational lung diseases, focused on pneumoconiosis such as asbestos-related diseases, which will provide the data base needed to establish priority plans and programs to be implemented by the Department of Health and other government agencies.

TRAINING COURSE SCHEDULE

DAY 1: MAY 10, 2011

Time	Activity/Topic	Lecturer/Facilitator
8:00-9:00 AM	Registration	
9:00-9:45 AM	Welcome address Introduction to the Training Course : Objectives/Schedule of Activities Introduction of Participants	Dr. Jose Luis J. Danguilan, LCP Dr. Hyen-mi Chung, WPRO, WHO Dr. Eduardo C. Janairo, DOH Dr. Dina V. Diaz, LCP
9:45-10:00 AM	Morning Break	
10:00-10:30 AM	Background on Mineralogy and Fiber Toxicology, Production and Uses Global Perspective	Dr. Hyen-mi Chung, Technical Officer on Environmental Health, WPRO, WHO
10:30-11:15 AM	Background , Current Uses and Status of Control of Asbestos in the Philippines (e.g. Chemical Control of Asbestos)	Ms. Emmanuelita Mendoza SEMS, Chemical Management Section, EMB
11:15 AM-12:00 PM	WHO Assessment on Alternatives	Dr. Hyen-mi Chung, Technical Officer on Environmental Health, WPRO, WHO
12:00-1:30 PM	Lunch Break	
1:30-2:30 PM	Overview of Health Effects of Asbestos Exposure	Dr. Teresita Cucueco Director, OSHC
2:30-3:30 PM	Workplace Environment Monitoring for Asbestos	Engr. Nelia Granadillos, Chief, Environment Division, OSHC
3:30-3:45 PM	Afternoon Break	
3:45-5:00 PM	Asbestos Clean-up and Remediation Procedures	Mr. Gregory How, GlobeCare
5:00-5:15 PM	Open Forum	

DAY 2: MAY 11, 2011

Time	Activity/Topic	Lecturer/Facilitator
8:30-9:30 AM	Non-malignant Asbestos-related Lung Diseases : Recognition and Management	Dr. Dina V. Diaz, Dept Manager III, Dept of Pulmonary Medicine, LCP
9:30-10:30 AM	Overview of Asbestos-related Malignant Diseases	Dr. Guia R. Ladrera, Medical Specialist-Oncologist, LCP
10:30-10:45 AM	Morning Break	
10:45-11:45 AM	Overview of Imaging in Non-malignant ARDs : Chest radiographs and HRCTs	Dr. Joseph Z. Obusan, Dept Manager III, Dept of Radiology, LCP
11:45 AM-12:00 PM	Open Forum	
12:00-1:30 PM	Lunch Break	
1:30-2:30 PM	Introduction to Pulmonary Function Testing	Dr. Dina V. Diaz, LCP
2:30-3:30 PM	Principles of Medical Screening and Surveillance in the Workplace	Dr. Juan M. Lopez, NEC-DOH
3:30-3:45 PM	Afternoon Break	
3:45-4:15 PM	Prevention of Asbestos Exposure/PPE	Engr. Rene Timbang, EOHO-

		NCDPC
4:15- 5:00 PM	Workshop 1: Small group discussion on screening and surveillance for asbestos-related disease	DOH
5:00-5:30 PM	Workshop 2: Planning/Workshop	DOH

DAY 3: MAY 12, 2011

Time	Activity/Topic	Lecturer/Facilitator/Coordinator
8:30-9:30 AM	Overview of Workers' Compensation for Hazardous Workplaces	Dr. Melba Sacro, Chief, Medical Division, ECC
9:30-10:30 AM	Framework of the National Program on the Elimination of asbestos-related diseases (NPEAD)	Engr. Ana Trinidad F. Rivera, EOHO-NCDPC
10:30-10:45 AM	Morning Break	
10:45 AM-12:00 PM	Overview of the LCP Asbestos Referral Center/Background on the Services Provided by the Occupational Safety and Health Center	OHSC Officer/ Dr. Dina V. Diaz, LCP
12:00-1:00 PM	Lunch Break	
1:00-3:00 PM	Workshop 2: Planning/Workshop Presentation	DOH
3:00-3:30 PM	Afternoon Break	
3:30-4:45 PM	Presentation of Strategic Plans	DOH
4:45-5:00 PM	Synthesis and Closing	Dr. Rodolfo A. Albornoz, MO V, EOHO-NCDPC

COURSE PARTICIPANTS

There were 52 participants mostly from the Department of Health Centers for Health Development Regional offices, regional hospitals and medical centers and partner government agencies such as the Department of Labor, Occupational Safety and Health Center and the Department of Environment and Natural Resources, Environment Management Bureau, as well as from the private sector.

TRAINING COURSE PROCEEDINGS

OPENING CEREMONIES

Dr. Jose Luis Danguilan, the Executive Director of the Lung Center of the Philippines welcomed the participants. Then Dr. Rodolfo Albornoz, Chief of the Environmental and Occupational Health Office of the Department of Health, represented Dr. Eduardo Janairo and gave the Opening Message. Dr. Hyen Mi Chung, Technical Officer of the Western Pacific Region of the World Health Organization represented Dr. Hisashi Ogawa, Regional Adviser on Environmental Health, delivered her brief opening remarks.

Dr. Dina Diaz, the Course Director presented an overview to the Training Course which included the rationale, objectives and results of the screening program on asbestos-related diseases which was conducted at the Lung Center from 1992 to 1996. This was followed by an introduction of the participants.

TRAINING COURSE LECTURES/DISCUSSION HIGHLIGHTS

DAY 1: MAY 10, 2011: 10:00-10:30 AM

Background on Mineralogy and Fiber Toxicology, Production and Uses: Global Perspective

TOWARDS ELIMINATION OF ASBESTOS-RELATED DISEASES

By : Dr. Bonifacio B. Magtibay &
Dr. Hyen-mi Chung, Technical Officer on Environmental Health,
Western Pacific Regional Office, World Health Organization

This presentation provided the background for the move towards elimination of asbestos-related diseases, gave a brief overview of what is asbestos, how it is used, the diseases that it causes as follows:

Background

- Resolution WHA 58.22 from 2005 on Cancer Prevention and Control

  –Countries should pay special attention to cancers for which avoidable exposure is a factor

- 13th Session of ILO/WHO Joint Committee on Occupational Health (2003)

  –Special efforts on elimination of silica and asbestos-related diseases

- Resolution WHA60.26 from 2007 Workers' Health: Global Plan of Action

  –Global campaign on elimination of asbestos-related diseases, bearing in mind a differentiated approach to regulating its various forms

- Asbestos is the most important occupational carcinogen

–One third of the estimated mortality from occupational cancer

What is asbestos?

This is a group of naturally occurring mineralsthat take the form of long thin fibres and fibre bundles. These minerals have great tensile strength, conduct heat poorly and are relatively resistant to chemical attack. Asbestos is non-biodegradeable.

The principal varieties of asbestos are chrysotile(known as white asbestos) a serpentine mineral, and crocidolite (blue asbestos), amosite (brown asbestos), anthophyllite, tremolite and actinolite, all of which are amphiboles. The chrysotile form is the one most commonly used now.

How is asbestos used ?

Asbestos is widely used throughout the world, particularly in building and insulation materials. Asbestos causes both malignant and non-malignant diseases such as:

- Lung cancer
- Mesothelioma
- Asbestosis (fibrosis of the lungs)
- Pleural plaques, thickening and effusions
- Laryngeal cancer
- Other cancers

Worldwide 125 million people are exposed to asbestos (half of them in SEARO & WPRO Regions).

Every year at least 107,000 people die from asbestos-related diseases:

- Annual deaths attributable to asbestos are at least 107,000 from lung cancer, mesothelioma and asbestosis due to occupational exposure.
- At least several thousand deaths can be attributed to asbestos in the living environment

Asbestos is the most important occupational carcinogen and it is estimated as the cause of one in every three estimated deaths from occupational cancer.

What is a safe level of exposure to asbestos?

No safe level can be proposed for asbestos because a threshold is not known to exist (IARC Group 1). Occupational exposure limits: -The USA Occupational Safety and Health Administration (OSHA) standard for asbestos in the workplace is 0.1 fibres/ml of air as an 8-hour Time Weighted Average (TWA).

Most asbestos materials pose little risk unless they are damaged or disturbed in some way that releases fibres into the atmosphere. Low-density materials, such as asbestos-containing thermal insulation for pipes and boilers, some wall or ceiling plasters, some ceiling tiles, are friable and can crumble under hand pressure. These materials can release high concentrations of fibres when damaged or disturbed e.g. during maintenance, renovation or demolition work. High-density, hard materials in which asbestos fibres are embedded in a matrix, such as asbestos cement pipes and sheets, floor tiles, and ceiling materials are less likely to release fibres. Sawing, drilling, crushing, scraping and sanding asbestos containing materials are particularly likely to release respirable fibres and dust. Small diameter fibres and particles may remain suspended in the air for a long time and be carried long distances by wind or water before settling down.

There are safer substitutes for asbestos.

Summary of Conclusions from WHO assessments:

1. All types of asbestos cause asbestosis, mesothelioma and lung cancer
2. No safe threshold level of exposure has been identified
3. Safer substitutes exist
4. Exposure of workers and other users of asbestos containing products is extremely difficult to control
5. Asbestos abatement is very costly and hard to be carried out in a completely safe way

WHO Recommendations for elimination of asbestos-related diseases

- Elimination of the exposure
  –recognize that stopping the use of asbestos is the most effective preventive measure
  –provide information about safer substitutes
  –develop economic and technological mechanisms to stimulate substitution
- Asbestos abatement
  –avoid exposure during asbestos removal
  –develop regulatory and workplace control measures for asbestos abatement
- Medical surveillance
  –improve early diagnosis, treatment, rehabilitation and compensation of asbestos-related diseases
  –establish registries of people with current and past exposures

National programs for elimination of asbestos-related diseases – the ILO/WHO model

- Introduction and purpose
  –Health aspects
  –Magnitude of the problem
  –Economic and social aspects
- Political and legal background
  –National legislation
  –International commitments
- Strategy for elimination of asbestos-related diseases
  –Preventive strategies
  –Strategic actions –national, provincial and enterprise levels
- Knowledge management
  –information about substitutes
  –registry of exposed workers
  –capacities and resources
- Implementation
  –Preparatory phase –building up political commitment
  –First phase –reducing exposure to chrysotile
  –Second phase –stopping the use of chrysotile
- Monitoring and evaluation
  –outcome
  –process

–administration
- National asbestos profile
  –first profile
  –periodic update

DAY 1: MAY 10, 2011: 10:30-11:15 AM

CURRENT STATUS OF REGULATORY CONTROL OF ASBESTOS IN THE PHILIPPINES

By: Ms. Emmanuelita D. Mendoza
Supervising EMS, Environmental Quality Division,
Environmental Management Bureau (EMB)

Ms. Mendoza began with the Department of Environmental and Natural Resources (DENR) EMB policies and thrusts.

The EMB: (1) formulates, implements and enforces environmental policies, rules and regulations; (2) acts as Department of Environment and Natural Resources (DENR) Secretary's adviser in all environmental matters; (3) issues environmental permits/ clearances and conducts compliance monitoring pertinent to the particular environmental laws; (4) provides support and technical assistance; and (5) acts as Secretariat and Coordinator to the various Conventions with international commitments i.e., Stockholm, Rotterdam, SAICM, among others.

Based on the DENR laws and policies, the legal mandate RA 6969 pertaining to Toxic Substances, Hazardous and Nuclear Waste Control Act of 1990 was mentioned and the Department Administration Order that pertains to asbestos was described. This is Order No. 2000-02 Chemical Control Order (CCO) for Asbestos, a specific regulatory policy on asbestos which states restrictions on allowable usages in industry and products. There is a specific community allowed to use asbestos (chrysotile) which include: importers, distributors and waste management service providers. They should possess registration certificates; submit annual self-monitoring reports; retain all records that have to be made available in their premises.

The discussion also included the definition of hazardous waste and the regulatory framework of hazardous waste management, specifically listing asbestos 21 waste generators. There was mention of the notification process for asbestos dismantling/removal, asbestos labeling and signages, asbestos measurement and analyses, and disposal policies. It was stated that the EMB Regional offices are tasked to monitor the transport/ movement of hazardous waste and perform compliance monitoring and follow specific inspection guidelines. The last item presented was a draft road map for the proposed development of the national action plan for asbestos.

DAY 1: MAY 10, 2011: 11:15 AM-12:00 PM

ASBESTOS SUBSTITUTES AND HEALTH HAZARD ASSESSMENT: A REVIEW OF LITERATURE

By : Dr. Bonifacio B. Magtibay &
Dr. Hyen-mi Chung, Technical Officer on Environmental Health,
Western Pacific Regional Office, World Health Organization

Health hazards by fibrous materials:

•Can be breathed in, contaminating the surfaces of the nose, mouth, throat, larynx or lung. Fibres which are bio-persistent can also travel through the body, they cause damage and cancers wherever they are.

•Can be ingested because they could be on food or spittle which is swallowed. May damage the sensitive inner surfaces of the esophagus, stomach and gut causing lesions and cancers.

•Contact hazards with skin and eyes. This can cause thickening of tissue and basal cell cancers (a kind of skin cancer) at one end of the ill-health scale and itching and irritation at the other.

Types of substitute fibrous materials

•Manufactured inorganic fibres:

- Glass and stone wool products are loose conglomerates of fibres with oils and binders added to maintain the shape of the product and reduce the generation of dusts. Both contain a range of fibres which are respirable and are cancer hazards (well as causing skin and eye irritation).
- Glass fibre is now believed to be as hazardous as chrysotile by many experts, although this is disputed by the industry (cancer risk to the throat by the London Hazards Centre)
- Vitreous inorganic synthetic fibre: ceramic fibres, fibreglass, mineral wool (eg. rock wool), graphite etc
- Synthetic inorganic crystalline fibres: mixture containing potassium octatitanate or magnesium sulfate

•Naturally occurring crystalline fibres and other minerals:

- Wollastonite, attapulgite, xonotlite, perlite,etc
  - Exposures have resulted in respiratory symptoms such as inflammation, fibrosis, pneumoconiosis, lung function alterations, emphysema, pleural calcification, and obstructive airway disease

•Manufactured organic fibres

- Aramid and para-aramid fibre.
- Polyvinyls (PVA, PVC) fibre.
- Polystyrenewill give off toxic fumes when heated.
- Polyamides
- Cellulose (semi synthetic fibre)

•Natural organic fibres

- Cotton fibres can cause long term ill-health effects which sometimes are diagnosed late. Cotton causes the lung disease byssinosis.
- Shredded paper can be used as an insulating wall fill. It can irritate the eye, nose and throat.

- Cellulose fibres can also be used for insulation, etc. Available evidence shows their cancer stimulating effects to be significantly smaller than those from asbestos.

Official Advice for Substitutes

The World Health Organisation (WHO), the International Agency for Research on Cancer (IARC) and the Health and Safety Executive (HSE) have expressed opinions on fibre contamination and make a variety of recommendations:

- As far as possible manufacturers should ensure fibre sizes that are not breathable (non-inspirable), or at least not so small as to get deep into the lung (non-respirable).
- If small-diameter respirable fibres are necessary then they should not resist the body's clearing mechanisms (be bio-persistent) or exhibit other toxic effects. All fibres that are respirable and bio-persistent must undergo testing for toxicity and for their ability to cause cancers (carcinogenicity).
- Exposures to fibres whose health risks have not been completely investigated should be temporarily banned until better data is available and informed decisions can be made on their safe use.

Chrysotile asbestos substitutes evaluated by WHO in 2005:

Aramid and para-aramid fibres:
- releases respirable fibres with dimensions similar to known carcinogenic fibres
- have induced pulmonary effects in animal inhalation studies
- Biopersistence was noted.
- Human health hazard is medium.

Attapulgite fibres:
- a magnesium aluminium phyllosilicate with formula $(Mg,Al)_2Si_4O_{10}(OH)\cdot 4(H_2O)$
- length (natural deposit mostly <5 μm; workplace mean <0.4 μm)
- Based on long-term inhalation experiments in animal:
  - –Hazard is high for long fibres; tumors were seen in studies with long fibres
  - –Hazard is low for short fibers; no tumors

Carbon fibres:
- Workplace exposure is mostly to non-respirable fibres
- Nominal diameter : 5-15um
- Hazard from inhalation exposure to these fibres is low.

Cellulose fibres:
- Most are non-respirable fibres.
- Hazard is indeterminate due to not enough data availability.

Magnesium sulphate whiskers:
- Did not induce tumors in limited inhalation and intratracheal administration studies
- Were negative in limited short term tests, and are very quickly eliminated from the lung
- Either low or indeterminate (not reached consensus)

Graphite whiskers:
- Dimensions indicate high respirability
- With long half time in the lungs
- Due to inadequate information, the hazard is considered indeterminate.

Polyethylene, polyvinyl chloride, and polyvinyl alcohol fibres:
- Data was insufficient for hazard classification.
- Hazard is indeterminate.

Polypropylene fibres:

- Respirable polypropylene fibres in workplace were highly biopersistent after intratracheal administration.
- No fibrosis was reported in a sub-chronic animal study.
- Data are sparse and the human health hazard potential was considered to be indeterminate.

Potassium octatitanate fibres (TISMO):

- Likely to pose a high hazard to humans after inhalation exposure
- At workplace, there are exposure to respirable fibres.
- High and partially dose-dependent incidence of mesothelioma after intraperitoneal injection in two spps.
- There is evidence of genotoxicity.
- Biopersistence was noted.

Wool-like synthetic vitreous fibres:

- Glass wool/fibrous glass, mineral wool, special purpose vitreous silicates, refractory ceramic fibres
- Available epidemiologic data are not informative (due to mixed exposure or other design limitation).
- Carcinogenic hazard could vary from high to low, with high for the biopersistent fibres and low for non-biopersistent fibres.

Natural wollastonite:

- Contain respirable fibres and occupational exposure to short fibres
- In chronic studies, wollastonite did not induce tumors after intraperitoneal injection in animals.
- However, samples of wollastonite were active in different studies for genotoxicity (discrepancy).
- Hazard was likely to below.

Xonotlite:

- Chemical composition is similar to wollastonite, but it is more rapidly eliminated from the lung.
- Human health hazard to below.
- No tumor induced by intraperitoneal implantation, no inflammatory or fibrotic reaction in lung after intratracheal injection

References:

1. *Summary Consensus Report. WHO Workshop on Mechanisms of Fibre Carcinogenesis and Assessment of Chrysotile Asbestos Substitutes, 8-12 November 2005, Lyon, France*
2. *www.mesothelioma.com/asbestosalternatives.htm*
3. *www.toxicslink.org/art-view.php?id=12*

DAY 1: MAY 10, 2011: 1:30-2:30 PM

Overview of Health Effects of Asbestos Exposure:
ASBESTOS RELATED DISEASES

By : Dr. T. Cucueco
Director, Occupational Safety and Health Center (OSHC)

Dr. Cucueco started the lecture with an overview of the epidemiology of asbestos-related diseases. She stated that the WHO reports that, every year, at least 90,000 people die from these diseases, specifically, asbestosis, asbestos-related lung cancer and malignant mesothelioma. Despite this, one third of the WHO member states still use asbestos, 90% in the asbestos-cement industry in developing countries.

Then Dr. Cucueco relayed the results of a survey conducted by the OHSC in 1992 that looked into the prevalence of asbestos-related diseases in four companies with a total of 86 workers. Based only on ILO classification of radiograph category, there were 12 cases identified with asbestosis on chest radiograph and these were workers with a mean duration of employment ranging from 8 to 38 years.

Asbestos toxicity is largely based on the physical properties of the fibres and a differentiation between chrysotile and amphibole asbestos was mentioned. A brief discussion on the pathogenesis of asbestos-related diseases was followed by a description of the different benign and malignant asbestos-related conditions. Risk factors for asbestos-related disease are: exposure concentration, exposure duration, exposure frequency, size, shape and chemical make-up of asbestos and individual risks factors such as smoking and pre-existing lung disease. The synergistic action of smoking and asbestos exposure was emphasized.

Subsequently, the rationale for performing medical surveillance of exposed workers and components of these were presented. The Occupational Safety and Health Standards were mentioned followed by a recommendation for safer substitutes for asbestos.

A summary of the conclusions from WHO assessments was shown as follows: (1) All types of asbestos cause asbestosis, mesothelioma and lung cancer; (2) No safe threshold level of exposure has been identified; (3) Safer substitutes exist; (4) Exposure of workers and other users of asbestos containing products is extremely difficult to control; (5) Asbestos abatement is very costly and hard to be carried out in a completely safe way.

Finally, WHO recommendations for elimination of asbestos-related diseases were reviewed: (a) elimination of asbestos: stop using asbestos, provide information about safer substitutes, develop economic and technological mechanisms to stimulate substitution; (b) asbestos abatement: avoid exposure during removal, develop regulatory and workplace control measures for asbestos abatement; (c) medical surveillance: improve early diagnosis, treatment, rehabilitation and compensation of asbestos-related diseases, establish registries of people with current and past exposures.

DAY 1: MAY 10, 2011: 2:30-3:30 PM

WORKPLACE ENVIRONMENT MONITORING FOR ASBESTOS

By: Engr. Nelia G. Granadillos,
Chief, Environment Control Division, OSHC

The lecture started with the purpose of workplace monitoring for asbestos as follows: (1) to prevent exposure of workers and serve as data for epidemiological purposes; (2) to determine the efficiency of dust suppression equipment; (3) to check compliance with legislation.

A discussion was presented on hazard identification and risk evaluation which involved different methods of qualitative analysis, e.g. x-ray diffractometry, infrared spectroscopy, and quantitative analysis in the determination of airborne fibrous particles using the membrane filter method.

Specific exposure assessment to asbestos was shown which included types of asbestos samplers, where to sample, measuring methods, sample preparation and actual counting method. It was mentioned that exposure to airborne asbestos should be kept as low as achievable and below the exposure standards which is 2 fibres/cc for chrysotile asbestos (OSHS, DOLE, DENR, CCO on Asbestos).

DAY 1: MAY 10, 2011: 3:35-5:00 PM

Asbestos Clean-up and Remediation Procedures:
PROPER ASBESTOS REMOVAL, HANDLING AND DISPOSAL
By: Gregory How, GlobeCare Services Inc.

The lecture first dealt with the background on local and foreign guidelines stating the Asbestos CCO and DENR-EMB MC and the international standards.

Basic Principles on Asbestos handling involve the following: (1) Prevent asbestos fibres from being released from the material into the air; (2) Protect the ACM removal worker; (3) Prevent asbestos fibres from spreading from the removal area to outside areas through enclosure, decontamination and packaging.

The rest of the presentation elaborated on the procedures for friable and non-friable asbestos removal, and asbestos disposal. Final points stated are: (1) Proper asbestos removal is painstaking work that requires discipline, consistency and a high degree of thoroughness every step of the way; (2) It is difficult but not complicated and is based on very simple concepts and goals. These are as follows: (a) Protect workers inside the removal area by avoiding fibre releases through wetting and safe handling and proper use of personal protective equipment for the particular activity; (b) Protect people outside the removal area by use of polyethylene enclosure and filtered exhaust units and proper decontamination procedures; (c) Thorough cleaning and removal of asbestos.

DAY 2: MAY 11, 2011: 8:30-9:30 AM

NON-MALIGNANT ASBESTOS-RELATED DISEASES: RECOGNITION AND MANAGEMENT

By: Dr. Dina V. Diaz, Pulmonologist, Department Manager III,
Department of Pulmonary Medicine, Lung Center of the Philippines

The introduction of the lecture dealt with the types of asbestos and the epidemiology of asbestos-related diseases. It was stated that deaths from these diseases in developed countries appear to be increasing so these have been a cause for concern. Moreover, there is a paucity of data from developing countries such as the Philippines and this makes it more problematic because asbestos-related mortality and morbidity may be underestimated.

The discussion then focused on the asbestos-related diseases starting with asbestosis which is a diffuse interstitial fibrosis from inhalation and retention of asbestos fibres in the lungs usually after prolonged exposure. The pathology of asbestosis was presented followed by the mechanisms in the pathogenesis of the condition. Recognition of asbestosis is based on presenting manifestations which may be non-specific such as breathlessness on exertion and dry cough. Physical examination findings of bibasilar crackles over the lower lung fields and clubbing may or may not be present in all cases. It is essential to take a comprehensive occupational and environmental history when asbestos-related disease is suspected. The occupational history should emphasize occupational and environmental opportunities for exposure that occurred about 15 years and more before presentation. Asbestosis is commonly associated with prolonged exposure, usually over 10 to 20 years. However, short, intense exposures to asbestos, lasting from several months to 1 year or more, can be sufficient to cause asbestosis. Examples of these are: shipyard workers who applied or removed insulation in confined spaces, insulation workers when they unloaded asbestos-containing sacks into troughs for mixing asbestos cement. The prevalence of asbestosis among asbestos workers increases with the length of employment.

A listing of potential sources of occupational and environmental exposures to asbestos was shown. It was stated that the chest radiograph remains an extremely useful tool for the radiographic diagnosis of asbestosis and asbestos-related pleural disease. The initial radiographic presentation of asbestosis is typically that of bilateral small primarily irregular parenchymal opacities in the lower lobes bilaterally. Over time, the distribution and density or "profusion" of opacities may spread through the middle and upper lung zones. A chest film clearly showing the characteristic signs of asbestosis in the presence of a compatible history of exposure is adequate for the diagnosis of the disease and further imaging procedures are not required.

A standardized system for taking and classifying films for presence and profusion of opacities consistent with pneumoconiosis and for pleural changes was mentioned, this is known as the *International Classification of Radiographs of Pneumoconiosis (or "ILO classification" after* its sponsor, the International Labour Organization). This system was developed for grading the radiographic severity of pneumoconiosis in epidemiologic studies but has been applied to clinical settings to maintain consistency in classifying chest films. High resolution chest CT (HRCT) scan has an important role in the recognition of asbestosis and asbestos-related disease. It is more sensitive than chest

radiography particularly when the latter's findings are equivocal. It can be more specific in excluding other conditions such as emphysema and can distinguish pleural disease from extrapleural fat.

In the evaluation of subjects with suspected asbestos-related disease, pulmonary function testing should be performed. This should include spirometry (with a hard copy of the flow–volume loop for the permanent medical record), all lung volumes, and the carbon monoxide diffusing capacity. As with other interstitial lung diseases, the classic finding in asbestosis is a restrictive impairment but mixed restrictive and obstructive impairment is frequently seen. Restrictive impairment may also be observed with pleural disease. In addition to diminished lung volumes, the carbon monoxide diffusing capacity is commonly reduced, which although a non-specific finding, is the most sensitive indicator of early asbestosis.

Lung biopsy is not usually necessary for the diagnosis of asbestosis when a significant exposure history is obtained but may be warranted: a) to exclude other potentially treatable diseases; b) to identify the nature of a disease in an indeterminate case or one lacking an adequate exposure history. In those who undergo biopsy, the identification of asbestos fibres in lung specimens is integral to the histological diagnosis of asbestosis.

There is no specific treatment for asbestosis. What is important is to avoid further exposure, smoking cessation and surveillance monitoring.

The last portion of the lecture was focused on presenting manifestations, clinical and radiographic, of asbestos-related pleural disease such as: pleural effusion, pleural thickening, both diffuse and circumscribed, and rounded atelectasis.

DAY 2: May 11, 2011: 9:30-10:30 AM

Overview of Asbestos-related Malignant Diseases:
ASBESTOS AND CANCER

By: Dr. Guia R. Ladrera, Oncologist, Medical Specialist II,
Department of Pulmonary Medicine, Lung Center of the Philippines

The lecture first presented a brief overview of the uses of asbestos then emphasized that asbestos is considered one of the cancer-causing physical agents along with ionizing radiation and ultraviolet light. Asbestos, classified as a physical carcinogen, has physical interactions with cells which are responsible for their carcinogenic effects. Statistics were then presented as to the prevalence and incidence of malignant mesothelioma which, in approximately 80% of diagnosed cases, can be directly linked to a job where asbestos was present. The pathogenesis of malignancy due to asbestos exposure was discussed.

The presentation then dwelt on malignant mesothelioma, its clinical manifestations such as dyspnea, nonpleuritic chest pain and pleural effusion, and the physical findings. The radiographic features can be diverse but often present as a pleural-based mass and effusion on the same side. The procedure of choice, the one that can provide most accurate histopathologic diagnosis, is open lung biopsy. The histopathologic types of mesothelioma were listed as: epithelial type (most commonly seen in 50-60% of cases), the sarcomatoid or fibrous type (10%) and a combination of the two or biphasic (30-40%). Other laboratory examinations involving biomarkers may be nonspecific.

In terms of prognosis, the majority of patients die of complications of local disease. Those with sarcomatous morphology are quite resistant to treatment and have a median survival of up to 2 years

from diagnosis. Treatment is mostly supportive care consisting of management of recurrent pleural effusion, control of pain and nutritional support. Surgical procedures are indicated only for control of the primary effusion, for cytoreduction prior to multimodal therapy, to deliver and monitor intrapleural therapies. In terms of radiation therapy, it is mostly used to palliate pain. Complete surgical resection is rarely feasible and affords no survival benefit in the absence of additional therapy. However, surgical debulking (peritoniectomy) is an integral part of treatment once indicated. The two-drug regimen of pemetrexed and cisplatin has been defined as the standard of care since 2003. In clinical trials, chemotherapy and postoperative radiotherapy regimen resulted in a median survival of 17 months, a significant improvement while induction chemotherapy followed by surgery gave a median survival of 23 months and the 1-year survival rate is about 77%.

Asbestos-related lung cancer usually affects the lower lungs. Exposure to both tobacco smoke and asbestos increases the risk for lung cancer 60-90 times. The diagnostic and treatment approach is the similar to non-asbestos related lung cancer.

DAY 2: MAY 11, 2011: 10:45-11:45 AM

OVERVIEW OF IMAGING IN NON-MALIGNANT ASBESTOS-RELATED DISEASES: CHEST RADIOGRAPHS AND HRCT

By: Dr. Joseph Z. Obusan, Radiologist, Department Manager III,
Department of Radiology, Lung Center of the Philippines

The presentation emphasized that the imaging findings in asbestosis is similar to that of interstitial lung disease specifically idiopathic pulmonary fibrosis. It started with the introduction of the basic anatomic unit of pulmonary structure and function in radiology, that is, the secondary lobule. Some points into the basics of chest x-ray and HRCT interpretation were shown. HRCT findings in asbestos-related diseases consisted of parenchymal abnormalities indicative of interstitial lesions such as irregular or linear opacities, interstitial fibrosis, ground-glass opacification and honeycombing. It also includes pleural abnormalities such as pleural thickening and plaque formation, pleural effusion and rounded atelectasis. Distinctive features of these abnormalities were shown along with others to help differentiate these from other types of parenchymal and pleural abnormalities.

DAY 2: MAY 11, 2011: 1:30-2:30 PM

INTRODUCTION TO PULMONARY FUNCTION TESTING

By: Dr. Dina V. Diaz, Pulmonologist, Department Manager III,
Department of Pulmonary Medicine, Lung Center of the Philippines

The discussion centered on basic principles of pulmonary function testing: the components, indications, contraindications, the equipment and approach to interpretation of spirometry, lung volumes and diffusing capacity. It also included information on quality control for reliable data and a

brief demonstration of the spirometric maneuver using real-time video and volunteers from the participants followed by a practice session on interpretation of spirometric results.

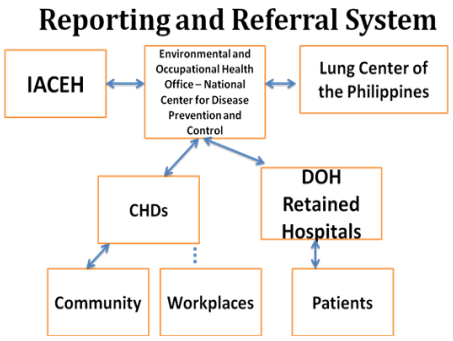
DAY 2: MAY 11, 2011: 2:30-3:30 PM

OCCUPATIONAL AND ENVIRONMENTAL HEALTH SURVEILLANCE

By: Engr. Ana Trinidad F. Rivera,
Supervising Health Program Officer,
Environmental and Occupational Health Office
National Center for Disease Prevention and Control, Department of Health

The lecture first defined surveillance as a systematic and ongoing collection, analysis, and dissemination of information on disease, injury or hazard for the prevention of morbidity and mortality. Then the phases of public health surveillance were discussed. These are: 1) needs assessment, 2) selecting programmatic goals and target population, 3) choosing testing modalities, 4) identification of overexposures and disease patterns, 5) interpretation of data, 6) intervention based on results, 7) communication of results, and 8) program evaluation.

Occupational health surveillance may include : (1) Identification and evaluation of physical, chemical, biological and ergonomic factors which may affect the workers' health; (2) Assessment of conditions of occupational hygiene and factors, such as physical, chemical, and biological exposures which may generate risks to the health of workers; (3) Assessment, where appropriate, of exposure of workers to adverse psychological factors and aspects of work organization; (4) Assessment of risk of occupational accidents and major hazards; (5) Assessment of collective and personal protective equipment; (6) Assessment of control systems designed to eliminate, prevent or reduce exposure; (7) Assessment of general hygiene and sanitary facilities. For surveillance, it is important to answer the ff: what, why, who , when, where, how and how often . The reporting and referral system for the surveillance program for asbestos-related diseases was presented (Fig 1- see below)



DAY 2: MAY 11, 2011: 3:45-4:15 PM

PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR ASBESTOS

By : Rene Timbang, Supervising Health Program Officer,
National Center for Disease Prevention and Control

The lecture began with the scope of Industrial Hygiene which is the recognition, evaluation and control of hazards. The components of control include engineering, administrative, medical and PPE.

PPE is the equipment or device that protects a worker's body from hazards and any harmful condition (existing and potential) that may result in injury, illness or possible death. It is the least effective way to protect workers because it does not eliminate or reduce the hazard; it only places a barrier between the worker and the hazard.

The basic concepts in risk assessment was presented, i.e. hazard analysis and job hazard analysis. Hazard assessment for PPE is intended to identify hazards by the body parts affected. It is good for retail and non-manufacturing businesses with few hazards but has the disadvantage of being not very detailed and may not be accurate for a manufacturing site. Job hazard analysis and assessment for PPE has the objectives of breaking down the job into tasks or steps, identifying hazard types and sources and assigning a risk priority code to determine what action to take. This is good for detailed analysis of hazards associated with a job or task but requires more resources and time. A brief photo exercise on spotting the hazard(s) was given.

The outline on developing a PPE Program for asbestos was discussed. This includes the following:

1. Selection criteria:
    a) Work/Undertaking requiring PPE
    b) Exposure pathways
    c) Time/duration of exposure
    d) Comfort/Fit testing
    e) Protection Factor
    f) Service Life
2. Health requirements prior to wearing of PPE:
    a) Respiratory problems- e.g. asthma
    b) Cardiovascular diseases
    c) Contact dermatitis
    d) Allergies
3. Fit testing:
    a) Consider facial characteristics : beards, ethnic features, eyeglasses
    b) Conducted prior to entering the exposed area
4. Steps on Donning and Removing PPE
5. Maintenance and disposal:
    a) Disposal of PPEs: Asbestos-containing materials should be discarded as hazardous waste.
    b) Reusable PPEs: Appropriate decontamination procedures should be followed.
6. Monitoring and Enforcement of PPE:
    a) Regular conduct of safety inspection
    b) Training of workers
    c) Incentives/sanctions
    d) Safety meetings/small group discussions
    e) Information, education, communication campaign

DAY 3: May 13, 2011: 8:30-9:30 AM

OVERVIEW OF WORKERS' COMPENSATION FOR ALL WORKPLACES

By : Dr. Melba Y. Sacro, Chief, Medical Division,
Employees' Compensation Commission (ECC)

The presentation started with the general rationale and purpose of the Workers' Compensation Systems which evolved as a result of mounting pressure to shift financial impact of occupational injury from workers to the employers and society in general. The purpose would be: (1) to cover costs of medical care and rehabilitation; (2) to provide partial compensation for lost wages resulting from injury or disease.

The structure of the Workers' Compensation in the Philippines is that the ECC's function is policy formulation while the management and administration of the State Insurance Fund are functions of the Government Social Insurance System (GSIS) and Social Security System (SSS). The ECC, therefore, is a government corporate entity attached to the Department of Labor and Employment (DOLE) for policy coordination and guidance. It was created primarily to initiate, rationalize and coordinate the policies of the Employees' Compensation Program (ECP).

The laws pertaining to the ECC and the Employees' Compensation were also mentioned. The discussion then proceeded to lay out the primary aims of the ECP, the definitions of occupational diseases vs work-related diseases and a listing of Occupational diseases contained in Annex 'A' of the PD 626 Article 167. Asbestosis was added to the list through Board Resolution No. 96-08-0372 dated August 01, 1996. Rules on compensability and the criteria which have to be met for an occupational disease to be compensable were elaborated as follows: (1) The employees' work must involve the risks described therein; (2) The disease was contracted as a result of the employee's exposure to the described risks; (3) The disease was contracted within a period of exposure and under such other factors necessary to contract it; (4) There was no notorious negligence on the part of the employee. For asbestosis : (a) The employee must have been exposed to asbestos dust in the workplace, as duly certified by the employer, or by a medical institution or competent medical practitioner acceptable to, or accredited by the System;(b) The chest x-ray report of the employee must show findings of asbestos or asbestos-related disease, e.g. pleural plaques, thickening, effusion, neoplasm and interstitial fibrosis; and (c) In case the ailment is discovered after the employee's retirement/separation from the service, the claim thereof must be filed with the System within 3 years from discovery.

The last portion of the presentation discussed the ECP benefits as follows: loss of income benefits, medical benefits, carer's allowance, death benefits and rehabilitation services, and how to avail of these benefits. Dr. Sacro mentioned that in the past 3 years, pulmonary cases was number 3 among the top 5 EC-appealed medical claims and comprised 13-16 % of the total claims.

DAY 3: May 13, 2011: 9:30-10:30 AM

NATIONAL PROGRAMMES FOR ELIMINATION OF ASBESTOS-RELATED DISEASES: PHILIPPINES

By : Engr. Ana Trinidad Rivera, Supervising Health Program Officer,
Environmental and Occupational Health Office,
National Center for Disease Prevention and Control, Department of Health

The lecture started with an overview of the types of asbestos; one is the serpentine group primarily represented by chrysotile and the amphibole group consisting of crocidolite, amosite, anthophyllite, tremolite and actinolite. A graph of the trend of estimated asbestos consumption by country from 1990 to 2003. A worldwide peak in the 1970s and 1980s followed by a gradual decline until the mid2000s was seen. Then a differentiation between the subtypes of asbestos was highlighted in terms of fiber structure and characteristics as well as carcinogenicity. Chrysotile is known for its high flexibility while crocidolite for its strong anti-acid property. Crocidolite is considered to be 500x more carcinogenic vs chrysotile. A brief presentation with photos on the usual uses of asbestos, e.g. asbestos pipes and roofing materials, and common occupational exposures, e.g. construction, mining, shipbreaking, demolition work. Asbestos waste clean-up after disasters such as earthquakes, tsunamis, typhoons was mentioned. Among such examples were demolition of buildings that contain asbestos materials after tropical cyclones in the Pacific, Asian tsunami, Gizo earthquate and tsunami in the Solomon Islands. It was stated in that during such events, guidelines for minimizing risks of asbestos exposure have been drawn for protection of workers as well as the general public. The use of personal protective equipment (PPE) during asbestos removal was shown.

The carcinogenic potential of asbestos was further emphasized with a graph showing increasing mortality due to mesothelioma. Mesothelioma is an aggressive, fatal and rare cancer with a long latency period, a median survival rate of ≤18 months and no curable treatments. More importantly, asbestos is considered the most important carcinogen because it also causes lung cancer with a documented global burden of 39,000 attributable deaths and 360,000 attributable DALYs in 2000. The difficulties involved in the diagnosis and recognition of asbestos-related diseases was presented as follows: (1) exposure to asbestos is difficult to control and assess; (2) lifetime risks of 5/1000 for lung cancer, 2/1000 for asbestosis at OEL of 0.1f/cc; (3) long latency period; (4) residual health risks after exposure cessation; (5) late detection due to lack of standardized diagnostic criteria; and (6) low levels of diagnosis and compensation in developing countries. Furthermore, compensation costs for ARDs is high in developed countries.

A presentation on asbestos control strategies was given for different countries such as China, Thailand, Australia, Chile and the European community. It was stated that there are safer substitutes for chrysotile. The outline for national programmes for elimination of ARDs was shown which is contained in a published document issued jointly by the Programme on Safety and Health at Work and the Environment of the ILO and the Department for Public Health and Environment of the WHO. The three levels of prevention of ARDs was listed as: Primary : Substitution technologies, WEM and lab tests for asbestos-containing products, exposure reduction through containment, local exhaust systems, use

of PPE; Secondary : Chest x-ray techniques, pathological diagnosis of mesothelioma, identification of asbestos fibres in the lung ; Tertiary : Effective treatment of ARDs, i.e. new treatment options for mesothelioma, design and implementation of just compensation schemes

The Philippine National Program on the Elimination of Asbestos-related Diseases (PNPEAD) Project was presented. The Project goal is to develop the Project with the specific objectives as follows:

- To build up political commitment for developing the PNPEAD through consultations with concerned stakeholders
- To generate data/information for the National Profile of Asbestos including current and past uses of the various forms of asbestos as well as cases of asbestos-related diseases (ARDs)
- To review relevant existing policy, rules and regulations on asbestos and recommend amendments, as may be necessary to ensure the implementation of the PNPEAD
- To upgrade manpower capability in the early recognition and identification of ARDs
- To develop a sufficient level (or increase the level) of awareness of health risks posed by asbestos hazards

The Project activities will be:

1. Development of the institutional framework for the PNPEAD with a sub-activity of: Creation of a technical working group under the Occupational Health and Toxic Substances and Hazardous waste sectors
2. Preparation of the National Asbestos Profile which will serve as the baseline data/information for the country to include:
    a. information about substitutes, alternative technologies, technical solutions
    b. registry of workers exposed to asbestos
    c. mobilization of resources
3. Review and development of relevant legislation, regulations and guidelines pertaining to asbestos
4. Medical surveillance for the early detection of any symptoms and health conditions resulting from asbestos exposure

DAY 3: May 13, 2011: 10:45 AM – 12:00 PM

BACKGROUND ON THE SERVICES PROVIDED BY
THE OCCUPATIONAL SAFETY AND HEALTH CENTER

By: Engr. Elexis Edmond Lauzon, Occupational Safety and Health Center

The Occupational Safety and Health Center (OSHC) was established through Executive Order No. 307, signed by the late President Corazon C. Aquino, on November 4, 1987. Its vision is as follows : "A healthy, well protected working population in a caring and responsive work environment brought about by sound OSH policies and laws, research, training, information exchange, technical expertise and extensive networking". Its Mission is: "An efficient and effective OSHC fully committed to the attainment of a healthy and safe working environment through a responsive and sustainable OSH

programs and policies; effective delivery of quality OSH services; client focused responses; excellent management of resources; and mutually beneficial linkages."

The functions of the OHSC are: 1) Research, 2) Training, 3) Information Dissemination, 4) Technical Services. The latter services primarily include: workplace environment monitoring (WEM) which involves evaluation of the levels of exposure to physical agents like noise, heat, vibration and illumination and chemicals like solvents, heavy metals, toxic gases, dust and asbestos. Asbestos sampling can be area or personal sampling and asbestos analysis can be quantitative and qualitative.

DAY 3: May 13, 2011: 10:45 AM – 12:00 PM

THE LUNG CENTER ASBESTOS-RELATED DISEASES REFERRAL CENTER

By: Dina V. Diaz, M.D.
Lung Center of the Philippines

The Asbestos-related Referral Center is a tertiary level referral center for the diagnosis of individuals or groups with previous or current exposure to asbestos and who may have: asbestos-related malignant disease primarily asbestos-related lung cancer or malignant mesothelioma, asbestos-related non-malignant disease mainly asbestosis, asbestos-related pleural disease.

Main objectives are :

- To provide clinical evaluation and diagnosis of those suspected of having an asbestos-related disease
- To provide management and follow-up of those affected
- To establish a database on asbestos-related malignant and non-malignant disease
- To assist those affected to gain access to relevant agencies that provide legal advice for compensation claims

Secondary objectives :

- To institute medical surveillance of potentially exposed or at-risk workers
- To provide health education for the asbestos-exposed at-risk worker and asbestos-industry employer on prevention of occupational asbestos-related disease
- To increase awareness of potential hazards of asbestos by the occupational health care worker and the general public.

The Center's Services include the following: 1) Out-patient consultation: Medical history, occupational history, clinical diagnosis and management of asbestos-related malignant and non-malignant disease ; 2) Occupational Health : Medical surveillance and asbestos education of at-risk workers and employers in relevant industries ; 3) Health Promotion and Education: Health education for the industry-based health worker and the general public

Facilities include the out-patient clinics, imaging facilities: Chest x-ray, High-resolution Chest CT scan (HRCT), lung function laboratory and surgical and pathologic diagnostic facilities and services. It has a roster of medical specialists and allied medical staff. An additional feature of the Center is its networking capability.

KEY POINTS:

Open Forum:

- Dr. Hyen was asked if she had information on what alternatives to asbestos were implemented in South Korea and Japan in its car industry and if the cars exported by these countries to the Philippines were also installed with asbestos-alternatives. Dr. Hyen said that she has no information at the moment but will check with counterparts in these countries.
- Mr. Wambangco of the Asbestos Industry of the Philippines stated that they have been using chrysotile asbestos for the past 40 years but they have not documented any case of asbestos related disease. He questioned the list of alternatives in terms of risks and costs.
- On the presentation of the removal of asbestos, the participants asked Mr. How on the costs of the removal and disposal of asbestos. Mr. How did not give specific figures but informed that costs are very expensive since they are working with hazardous wastes, the personnel are highly trained and provided with PPE. These are added to removal and disposal costs.
- There were questions on how to obtain training on the pulmonary function tests and costs of a PFT machine. Dr Diaz said that LCP provides special courses for PFT training for health care workers on a modular basis.
- There were also questions as to the national government's plan of action. In the discussion of the National Program on the Elimination of Asbestos Related Disease (NPEAD), Engr. Rivera informed the participants that the stand of the DOH is for the ban of chrysotile asbestos due to health concerns plus the fact that there are available asbestos alternatives. The NPEAD will form the framework of the government's action on asbestos.
- Dr. Diaz emphasized the need to conduct surveillance activities. She stressed that another mineral, silica, should be also be a cause of concern because of the increasing multi-drug resistant to tuberculosis. Silicosis predisposes the affected individual to develop pulmonary tuberculosis and thus may coexists as silico-tuberculosis. The participants then requested that a second training module on silica be organized.
- There were questions from the participants on the procedure for reporting suspected cases of asbestos-related diseases. It was recommended that a semi-annual reporting scheme be implemented using a form provided by Dr. Diaz. The Regional Hospitals will submit the forms to the CHDs who will then submit the data to the EOHO. This will be referred to LCP for review and analysis.
- The participants expressed concern on the inequality of benefits provided for work/occupationally-related illnesses and diseases under the Employees Compensation Commission (ECC) considering that the contribution of government workers were higher. Dr. Sacro replied that these were the provisions provided under the existing law of the ECC. On the prescriptive period of 3 years as applied to asbestos-related diseases, Dr. Sacro clarified that workers can still file their claim even if they have retired from the service for as long as the conditions under the prescriptive period have been observed.

Workshop Discussion Highlights:

- The participants were presented with several samples of reporting forms that may be utilized in their surveillance program on Occupational Lung diseases.
- The Participants deliberated and agreed to decide on which forms would be most suitable in their respective areas.
- Some clarifications were made as to the flow of referrals from the regional level to the national level.

CONCLUSION

The Training Course was successful in providing the basic knowledge and skills needed by the participants in the early recognition, management and prevention of Occupational Lung Diseases specifically Asbestos-related diseases. As part of the initial effort towards the conduct of medical surveillance and preventive strategies, there were group discussions on the establishment of a standardized occupational lung disease reporting scheme and referral system for workers suspected of having asbestos-related disease and other pneumoconioses.

The feedback from the participants was generally positive and they expressed willingness and enthusiasm about participating in more occupational health training modules in the near future.

World Health Organization

Republic of the Philippines
Department of Health

LUNG CENTER OF THE PHILIPPINES

Awards this

Certificate of Participation

to

for having attended the

OCCUPATIONAL HEALTH TRAINING COURSE
MODULE 1: THE RECOGNITION, MANAGEMENT AND PREVENTION OF OCCUPATIONAL LUNG DISEASES: PNEUMOCONIOSIS INCLUDING ASBESTOS-RELATED DISEASES

held on May 10–12, 2011 at the Lung Center of the Philippines, Quezon City

Given this 12th day of May in the year of our Lord 2011.

SOE NYUNT U, MD	EDUARDO C. JANAIRO, MD, MPH	JOSE LUIS J. DANGUILAN, MD
WHO Representative to the Philippines, WHO Office, Manila	Director IV, National Center for Disease Prevention and Control , Department of Health	Executive Director, Lung Center of the Philippines