



Pan American Health Organization



Regional Office of the
World Health Organization

<http://www.paho.org>

PAHO/WHO Regional and Global Policy Frameworks on Workers' Health and Occupational Cancer

International Conference on Occupational and
Environmental Cancer

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3 August 2009
Bogotá, Colombia

Outline

1. Situational analysis

- Global
- Regional

2. Policy

- Global Plan of Action on Workers' Health
- Regional Plan for Cancer Prevention and Control

3. Activities

4. Challenges and opportunities



Occupational Cancer - Overview

Global burden of disease

- 2-4% of cancers are due to exposure at work¹
- 1.6 million DALYs per year²

Common carcinogens

- Approximately 160 occupational carcinogens*³
 - e.g. pesticides, tobacco smoke, sun, asbestos, benzene, crystalline silica⁴

3 major occupational cancers

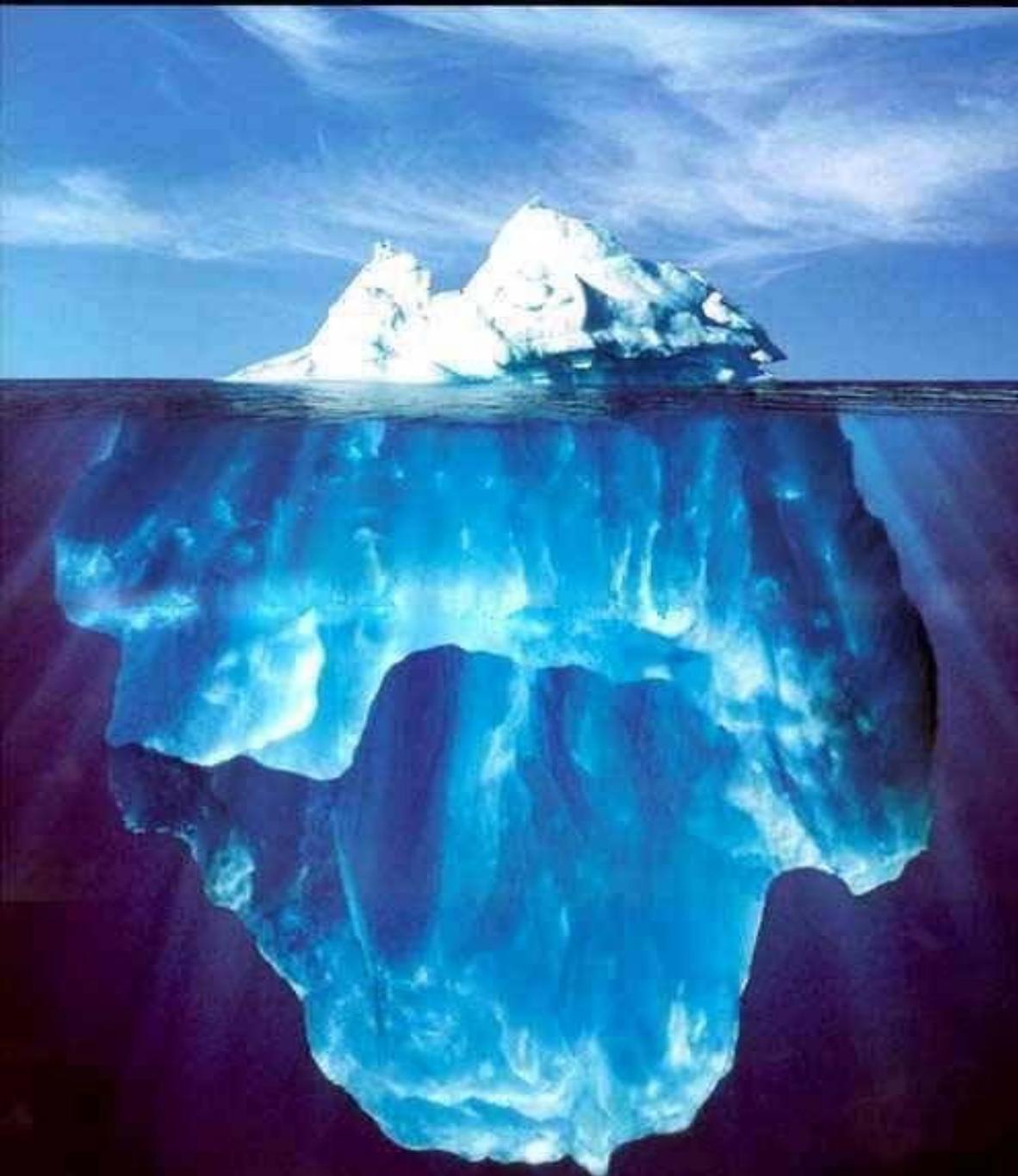
- lung cancer
- leukemia
- malignant mesothelioma²



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*28 definite; 27 probable; 113 possible human carcinogens (3)

¹Peto 2001; ²Driscoll et al. 2003; ³Siemiatycki et al. 2004; ⁴Clapp et al. 2005



Tip of the iceberg

Only 5 - 10% of all occupational diseases are reported

5% of occupational research is conducted in developing countries which possess 90% of the burden of disease

Occupational cancer in the Americas: who is exposed?

- Many jobs are known to expose workers to carcinogens:
 - Agriculture
 - Oil refining
 - Mining
 - Health care
 - Workplaces with indoor tobacco smoke
- The risk of lung cancer among **males** in New Mexico is approximately **14%** for employment in uranium mining, underground mining, and welding¹
- Deaths due to occupational cancer are 2-4 times higher than deaths due to work-related injury in the USA²



Risk factors in the Americas

developing countries



Viral Infections

The proportion of **hepatitis B infection** due to contaminated sharps among health care workers is up to **83%**

Silica

Between **15-22%** of miners in Bolivia, Chile, and Colombia suffer from silicosis¹

Pesticides

Women working in banana plantation had a significant excess of **cervical cancer** in comparison to the general population^{2,3}. **Childhood leukemia** is also increased as a result of maternal exposure.

Risk factors in the Americas

Tobacco

Workers heavily exposed to second hand tobacco smoke at their workplaces have **twice the risk** of developing lung cancer than those working in a smoke-free environment¹

Asbestos

is responsible for **50% of all deaths** from occupational cancer²

Solar Radiation

Sun exposure caused approximately **115,000 new cases** of skin cancer in 2008 in Brazil, mostly among rural workers³. The **most common carcinogenic exposure** in Costa Rica is solar radiation.



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Trends of occupational cancer in the Americas



Mortality from female lung and breast cancers¹

Testicular cancer and leukemia¹

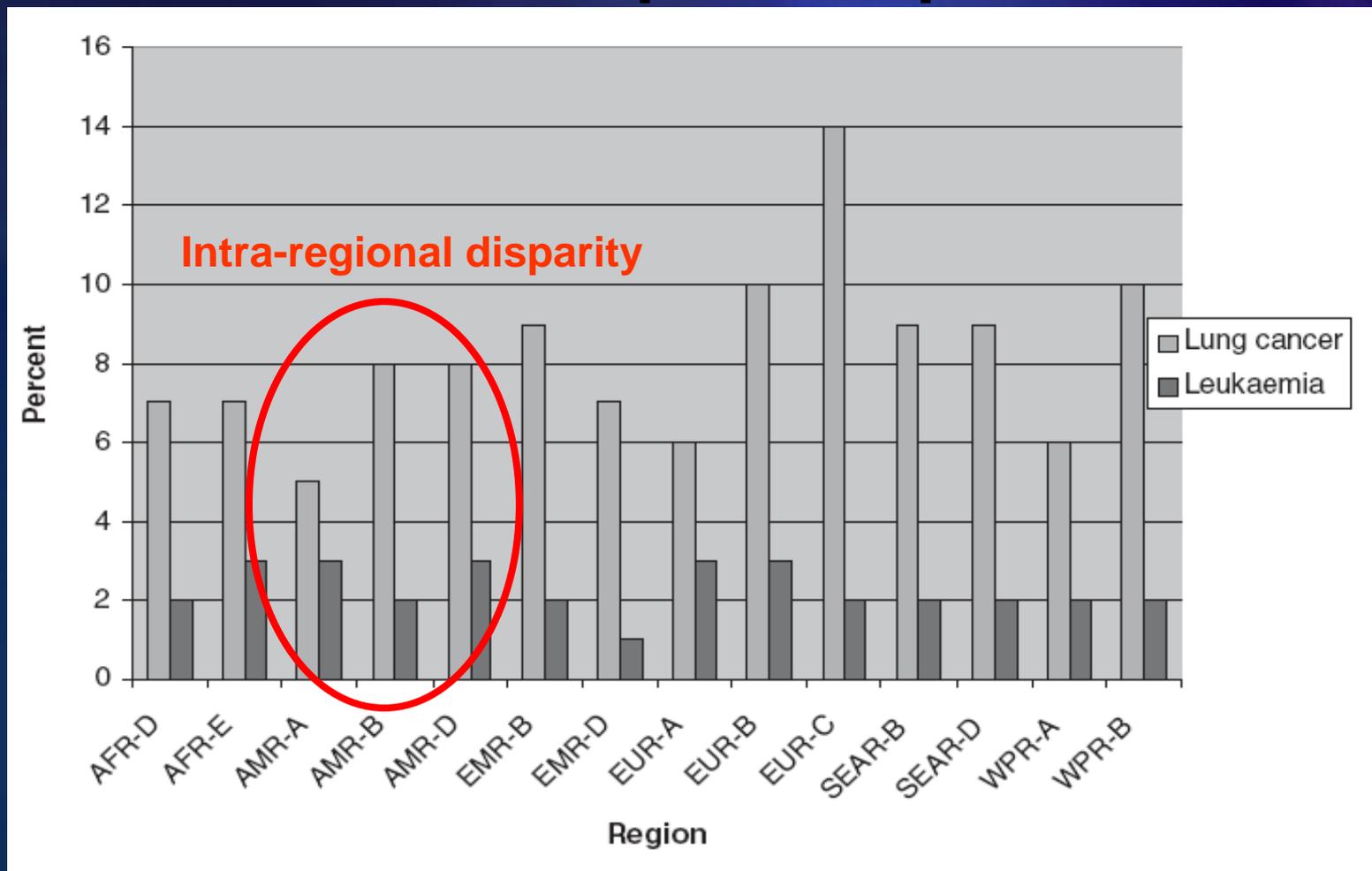
Countries vary in their profiles for occupational cancer due to:

- Main industrial sector
- Occupational health and safety standards
- Social and legal protection of workers
- Access to occupational health care services



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Proportion of lung cancer and leukemia due to workplace exposure



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AMR A: CAN, USA, CUB

AMR B: COL, GUY, PAN, SUR, BRA, COR, VEN, ANT, BAR, BLZ, DOM, DOR, ELS, GRE, HON, JAM, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines, MEX, CHL, TRT, BAH, PAR, ARG

AMR D: ECU, PER, GUT, HAI, NIC, BOL, PER

Deaths (thousands) from lung cancer, leukemia, and malignant mesothelioma due to workplace exposure

Region	Lung Cancer		Leukemia		Mesothelioma	
	Males	Females	Males	Females	Males	Females
Americas-A	6.7	1.6	0.4	0.4	0.5	0.2
Americas-B	3.6	0.4	0.2	0.2	1.7	0.5

Gender and intra-regional inequities



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Preventing occupational cancer is cost-beneficial

- **Treatment, care, and rehabilitation costs**
 - In Chile, treatment for tobacco-related lung cancer accounted for 6% of total health care costs in 2004¹
- **Workplace cost of diseased workers**
 - Days off work limits productivity and outputs
 - Premature death
- **Social costs of occupational cancer**
 - Loss of household income limits opportunities for growth
 - Housekeeping, care giving, medical treatments, transportation, etc.
- **Aging population**
 - occupational cancers are chronic with long latency periods



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WHO Global Plan of Action on Workers' Health 2008-2017

5 Objectives

- Strengthen the governance and leadership function of national health systems to respond to the specific health needs of working populations
- Establish basic levels of health protection at all workplaces and strengthen health promotion at work
- Ensure access of all workers to preventive health services and link occupational health to primary health care
- Improve the knowledge base for action and linking health and work
- Stimulate incorporation of actions on workers health into other policies



WHO Global Plan of Action on Workers' Health 2008-2017

Occupational and environmental cancer

- Health promotion and prevention of occupational cancers
- Elimination of asbestos-related diseases
- Hepatitis B immunization for health care workers
- Elimination of second-hand tobacco smoke from all indoor workplaces
- National registries, reporting and information systems



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Elimination of asbestos-related diseases

Strategies:

1. Stop the use of all types of asbestos
2. Provide information about safer substitutes, including economic and technologic mechanisms to stimulate its replacement
3. Prevent exposure in place and during removal (abatement)
4. Improve early diagnosis, treatment, social and medical rehabilitation and establish registries



Regional overview

Policy

- Plan of Action for Cancer Prevention and Control

Activities

- PLAGSALUD
- World Day for Safety and Health at Work 2008
- Americas Silicosis Initiative
- Hepatitis B immunization campaign
- Vaccination Week in the Americas 2009



PAHO/WHO Collaborating Centers and Participating NGOs in Occupational Health



Great Lakes Centers for Occupational & Environmental Safety and Health, USA



Southwest Center for Occupational & Environmental Health, USA



SESI, Brazil



IAPA, Canada



IOM, Cuba



IRET, Costa Rica



ACHS, Chile



University of Massachusetts Lowell, USA



CINBIOSE, Quebec



American
Occupational Safety and Health
Organization
NIOSH, USA



FUNDACENTRO, Brazil



ISP, Chile



CCOHS, Canada



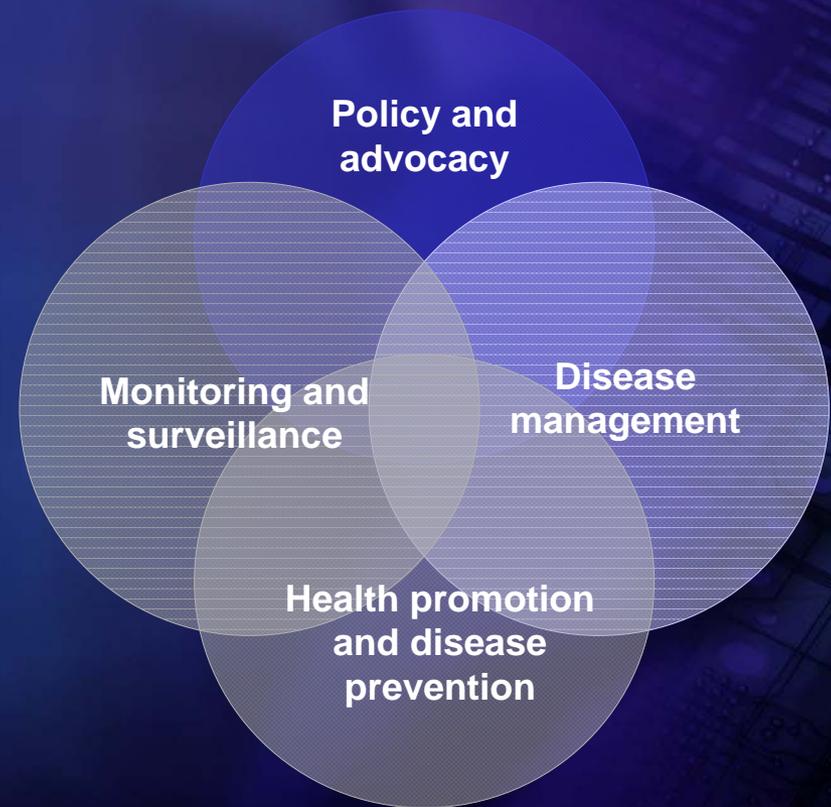
National Institute of Public Health, Quebec

PAHO Plan of Action for Cancer Prevention and Control

Goals:

- Prevent what is preventable
- Cure what is curable
- Provide palliative care for patients in need
- Monitor and manage for measurable results

Lines of Action



Partners' Forum

Goal

- To discuss how to stimulate environment and policy changes
- To strengthen partnerships to take action on agreed objectives
- To create synergy and address underlying risk factors of chronic diseases, making the healthy choice the easier choice and supporting the regional strategy and related mandates

Workplace wellness component

Programs and policies e.g. smoke-free workplace, healthy food in canteens, lifestyle education, screening to identify high risk employees for intervention



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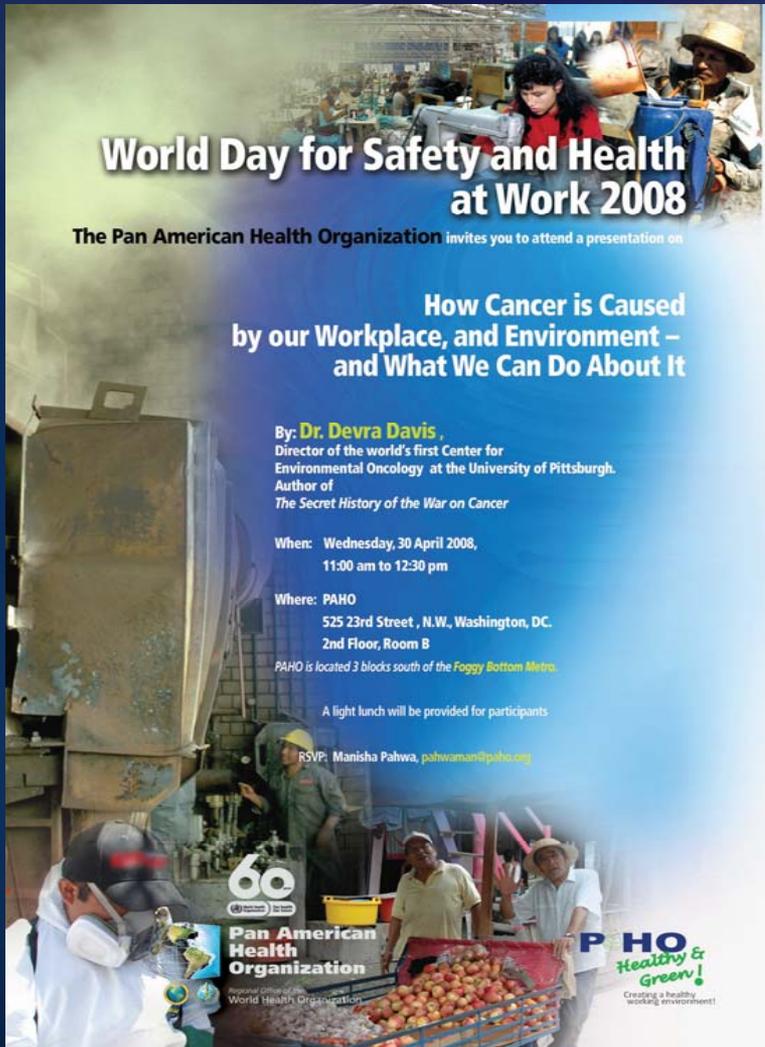
PLAGSALUD

- Central America, 1995-2005
- **Goal:** reduce acute pesticide poisoning and support the implementation of sustainable alternative agriculture
 - National Epidemiological Surveillance System
 - Research
 - Legislation
 - Train on alternatives, risk assessment, proper handling, and effects on human health and the environment
 - Inter-sectoral and inter-agency coordination
 - Implement alternatives (e.g. organic farming, integrated pest management)



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“How cancer is caused by our workplace and environment – and what we can do about it”



World Day for Safety and Health at Work 2008

The Pan American Health Organization invites you to attend a presentation on

How Cancer is Caused by our Workplace, and Environment – and What We Can Do About It

By: **Dr. Devra Davis**,
Director of the world's first Center for Environmental Oncology at the University of Pittsburgh.
Author of
The Secret History of the War on Cancer

When: Wednesday, 30 April 2008,
11:00 am to 12:30 pm

Where: PAHO
525 23rd Street, N.W., Washington, DC,
2nd Floor, Room B
PAHO is located 3 blocks south of the Foggy Bottom Metro.

A light lunch will be provided for participants

RSVP: Manisha Pahwa, pahwaman@paho.org

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Member of the World Health Organization

PAHO Healthy & Green!
Creating a healthy working environment!

- 2008 World Day for Safety and Health at Work
- Over 100 participants from more than 20 countries
- Development of an asbestos atlas

Millions of workers in the Americas are exposed to silica at work

The Colombian Government estimates that **1.8 million** workers are at risk of developing silicosis

In Chile, about **5.4%** of the formal and informal workforce has a high probability of exposure to silica



At least **1.7 million** workers exposed in the United States

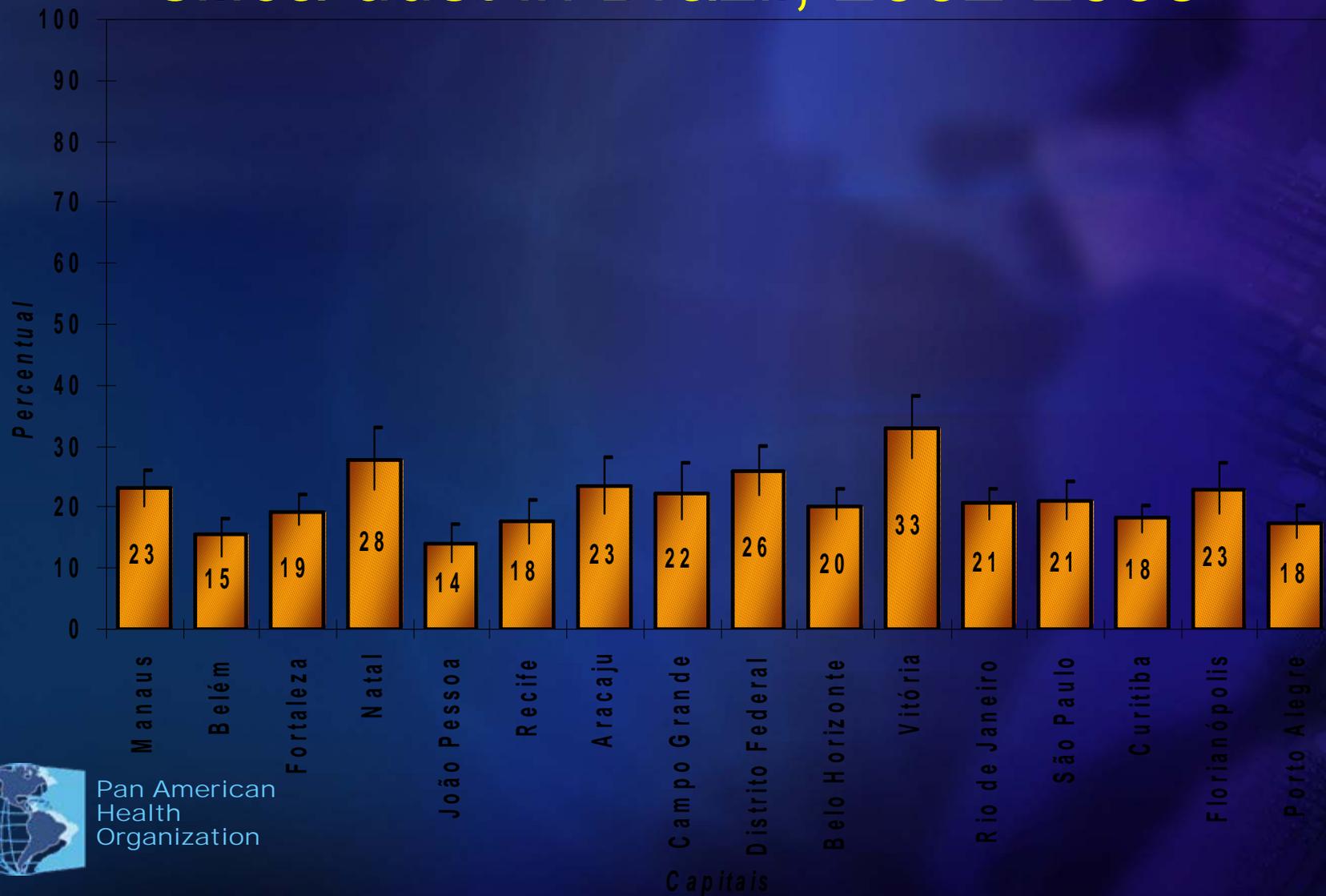
In Brazil, about **2 million** workers in the formal sector are exposed to silica for as long as **30%** of their working hours



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Sources: WHO 2000 Fact Sheet; CDC E-Brief 2007; Bernales B et al Ciencia y Trabajo 27: 1-6 2008; Algranti E GOHNET 2007, 12:15-17.

Frequency of occupational exposure to silica dust in Brazil, 2002-2003



Americas Initiative to Eliminate Silicosis

Goal: global elimination of silicosis by 2030



Partners: WHO, PAHO, ILO, NIOSH, Chile, Brazil, Peru

Components:

- Implementation of control methods
- Laboratory analytical techniques
- Respiratory protection training
- Silicosis surveillance systems
- Training courses on spirometry and radiologic reading using ILO technique



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Americas Initiative to Eliminate Silicosis

- **Countries that have joined:** Mexico, Uruguay, Argentina, etc.
- Countries establish National Plans, Action Plans, and National Profiles involving multi-sectoral stakeholders
- Model for other regions to meet global target



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Hepatitis B immunization of health care workers in Peru

Policy Development

- Presidential Mandate
- National Plan for preventing NSI among HCWs

Immunization Campaign Outcomes

- Over 500 000 health care workers vaccinated in 34 regions

Training in Occupational Health & Safety

- **1,200** HCWs trained and **7,300** HCWs reached with the toolkit



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MINISTERIO DE SALUD
DIRECCIÓN GENERAL DE SALUD AMBIENTAL
DIGESA



EsSalud
MAS SALUD PARA MAS PERUANOS



Organización
Panamericana
de la Salud
Oficina Regional de la
Organización Mundial de la Salud



National Institute for
Occupational Safety and Health
NIOSH



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Vaccination Week in the Americas 2009

Vaccination

Vaccination Week in the Americas 2009

Immunization begins with health-care workers: Get vaccinated



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Hepatitis B Immunization of Health Workers

AIDE-MEMOIRE

for an effective approach to the immunization
of health workers against hepatitis B

Are health workers at risk of exposure to hepatitis B virus (HBV)?

Yes: HBV is an important occupational hazard for health workers. Approximately 37% of hepatitis B infections among health workers worldwide are the result of occupational exposure.¹

The World Health Organization (WHO) recommends that health workers be vaccinated against HBV.² The WHO Global Plan of Action on Workers' Health calls upon member countries to develop and implement occupational policies and programs for health workers, including hepatitis B immunization.³

What is hepatitis B?

HBV is a viral infection that attacks the liver and can cause both acute and chronic disease that can be life-threatening. Persons with chronic HBV infection have a 15 to 25% risk of dying prematurely from HBV-related cirrhosis and liver cancer.² Worldwide, an estimated two billion people have been infected with HBV, and more than 350 million have chronic liver infections.² Health workers can become infected with HBV by exposure to even small amounts of blood from needle-stick injuries or punctures with blood-contaminated equipment.

How can health workers be protected against HBV?

- Immunize
- Adhere to standard precautions
- Train health workers about mode of transmission and preventive measures
- Ensure access to post-exposure management services
- Record and report exposure to blood and body fluids

Be prepared: addressing commonly asked questions related to the hepatitis B vaccine

> What is the **efficacy and safety** of the hepatitis B vaccine?
The hepatitis B vaccine is 95% effective in preventing HBV infection and its chronic consequences. The hepatitis B vaccine has been used since 1982 and over one billion doses have been administered worldwide.²

> What are the **benefits** of being vaccinated against hepatitis B?
Hepatitis B vaccination protects and promotes the health of health workers, patients, and families. For employers, a vaccinated workforce contributes to the availability of a healthy workforce.

> What are the potential **adverse effects** of the hepatitis B vaccine?
Potential adverse effects include redness, swelling, and pain at the injection site. Serious effects are very rare; difficulty breathing, rash, and shock have been reported.²

✓ Checklist

Ensuring a Successful Vaccination Campaign Targeting Health Workers

Action Plan for immunizing health workers

- Identify responsible authority (e.g., occupational health unit)
- Implement occupational health and immunization policy and guidelines
- Integrate immunization activities within existing health and safety plan
- Allocate human and financial resources

Effective strategies to increase vaccination coverage

- Demonstrate management commitment towards the health of employees including providing resources needed to prevent exposure
- Provide and promote accessible and free on-site vaccination
- Establish participation in vaccination by signed consent or declination
- Educate health workers about the occupational risks associated with HBV, the efficacy of vaccination and other preventive measures
- Repeat reminders to ensure completion of all three doses of hepatitis B vaccine
- Integrate immunization into pre-employment orientation for employees and students
- Monitor immunization coverage regularly

Who should be immunized?

- Any health worker who performs tasks involving direct patient contact or handles blood-contaminated items is at risk:
 - Physicians, nurses, laboratory workers, dentists, pharmacists, aids, and allied health professionals
 - Support staff, such as transporters, cleaners, and waste collectors
 - Students training in the field of health care

Hepatitis B immunization

- Recommended schedule: 0, 1, and 6 months⁴
- Dose: 1mL intramuscular injection
- Serological testing:
 - Pre-vaccination: not indicated^{4,7}
 - Post-vaccination: not required as part of a routine program²

Cancer registries

- “No data, no problem”
- Cover 1/6 of the world’s population
- Few countries in the Americas have registries that cover all or part of the national population

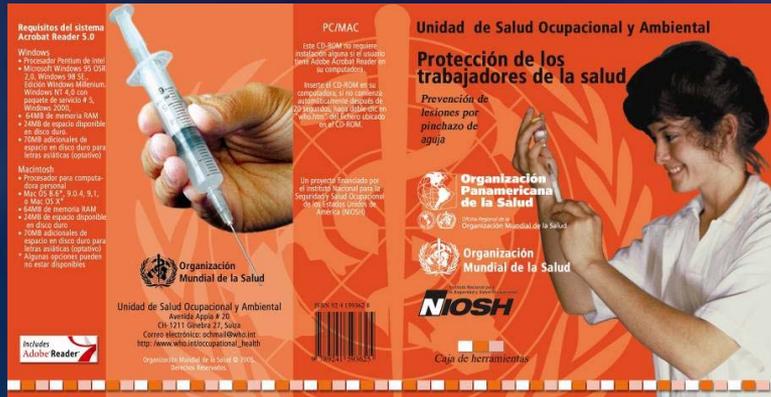


Challenges and opportunities

- Information systems
 - Exposure history, epidemiology
- Surveillance
 - Sentinel cases e.g. mesothelioma (asbestos)
- Prevention and early detection
 - Prevent exposure to known occupational carcinogens
 - Build capacity of clinicians to diagnose occupational cancer
- Informal sector
- Carcinogenic drugs in the health care sector
- Denmark first country to consider breast cancer an occupational disease



Information dissemination and resources



Requisitos del sistema Acrobat Reader 3.0

- Windows
- Procesador Pentium de Intel
- Microsoft Windows 95, 98, 2000, Windows NT 4.0 con Service Pack 4 o Windows 2000
- RAM de memoria RAM
- 24MB de espacio disponible en disco duro
- 10MB adicionales de espacio en disco duro para letras móviles (opcionales)

Macintosh

- Procesador para computadora personal
- Mac OS 8.5, 9.0, 9.1, o Mac OS X*
- RAM de memoria RAM
- 24MB de espacio disponible en disco duro
- 10MB adicionales de espacio en disco duro para letras móviles (opcionales)
- *Algunas personas pueden no estar disponibles

PCIMAC

Este CD-ROM requiere un lector de discos ópticos para Adobe Acrobat Reader en su computadora.

Importante: El CD-ROM no es compatible si no cambia automáticamente al modo de CD después de haberse establecido el software instalado en el CD-ROM.

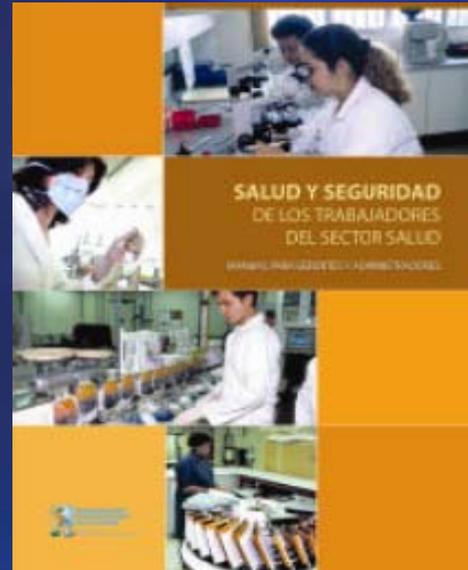
Un personal capacitado por el Instituto Nacional de Seguridad y Salud Ocupacional de los Estados Unidos de América (NIOSH)

Organización Panamericana de la Salud
Organización Mundial de la Salud

NIOSH
Caja de herramientas

Unidad de Salud Ocupacional y Ambiental
Protección de los trabajadores de la salud
Prevención de lesiones por pinchazo de aguja

Organización Mundial de la Salud
Avenida Appalé # 20
CH-1211 Ginebra 27, Suiza
Centro electrónico: och@who.int
http://www.who.int/occupational_health



CCOHS
Canadian Centre for Occupational Health and Safety

Salud y Seguridad de los Trabajadores del Sector Salud
Manejo, Prevención y Administración

Salud y Seguridad de los Trabajadores del Sector Salud



CCOHS free e-course on Occupational and Environmental Cancer

http://www.ccohs.ca/products/courses/prevent_cancer/

EPINet™
Exposure Prevention Information Network

GeoLibrary.org

Cochrane Occupational Health Field
The reliable source of evidence in occupational health



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Thank you

Gracias

Merci

Obrigada

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