

CHEMICAL SUBSTITUTION in US HEALTH CARE

**HPH and Environment Symposium
Bureau of Health Promotion
Department of Health, Taiwan
April 12th, 2012**

**International Conference on Health Promoting Hospitals & Health
Services Taipei, Taiwan.**

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UNIVERSITY OF ILLINOIS
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Health Care and the Environment: Global Trends

Environmental Impact of Health Care

Waste Management

Volume

Incineration

Sustainable Purchasing

PVC

Mercury

Safe Injections

Indoor Environment

Healthy Food

Institutional Design

Climate Impact



The 3 Safeties

Patient – Worker - Community

Environmental Impacts of Healthcare Practices

Dioxin & Incineration: In 1995, medical waste incinerators were the largest source of dioxin and were responsible for 10% of mercury emissions.

Indoor Air Quality: Poor air quality has been identified as the most frequent cause of work-related asthma in healthcare workers.



Body Burden Profile: Pollution in Newborns

A benchmark investigation of industrial chemicals, pollutants, and pesticides in human umbilical cord blood.



287 chemicals detected

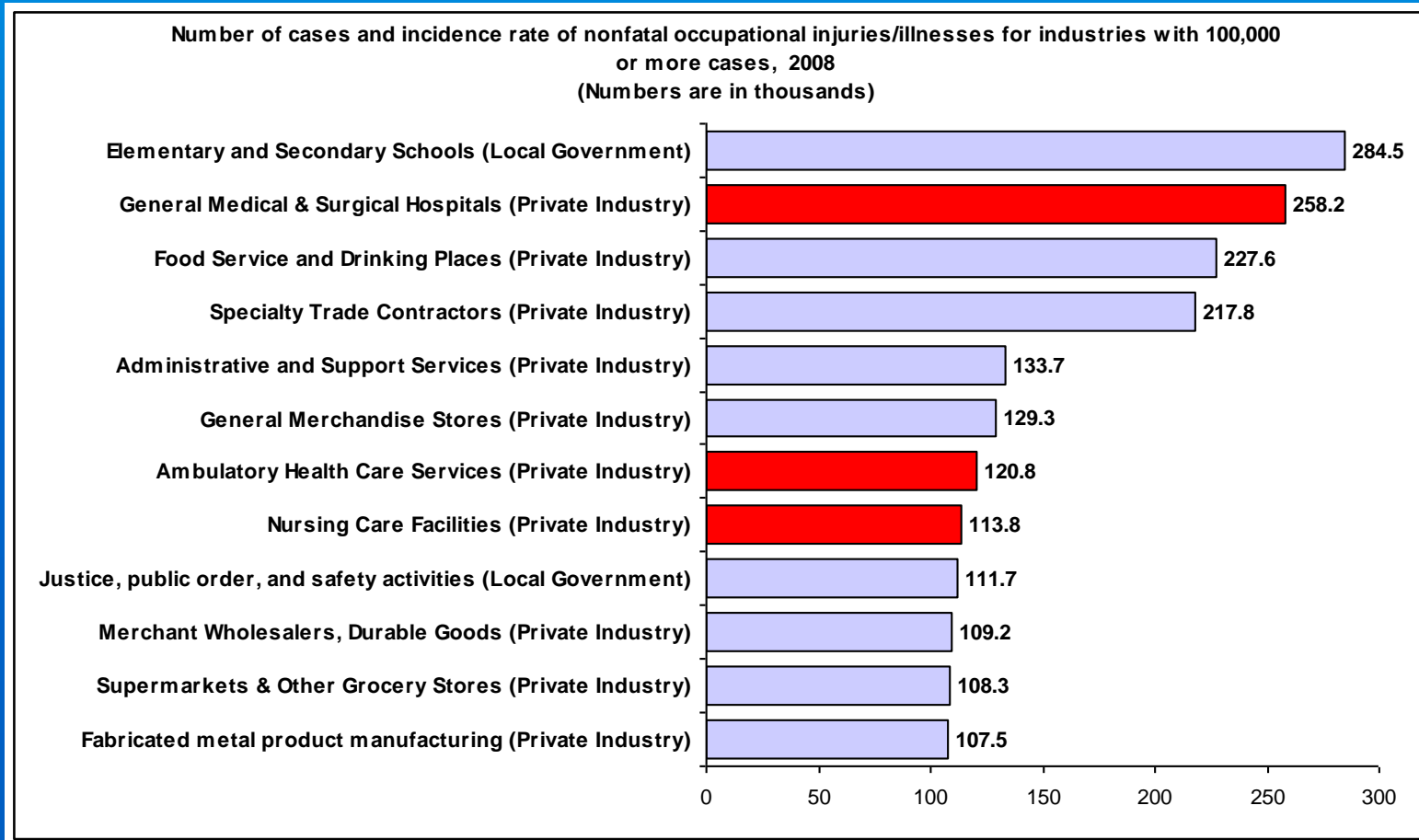
**180 - known or suspect
carcinogens**

217 - neurotoxins

**208 - linked to birth
defects.**

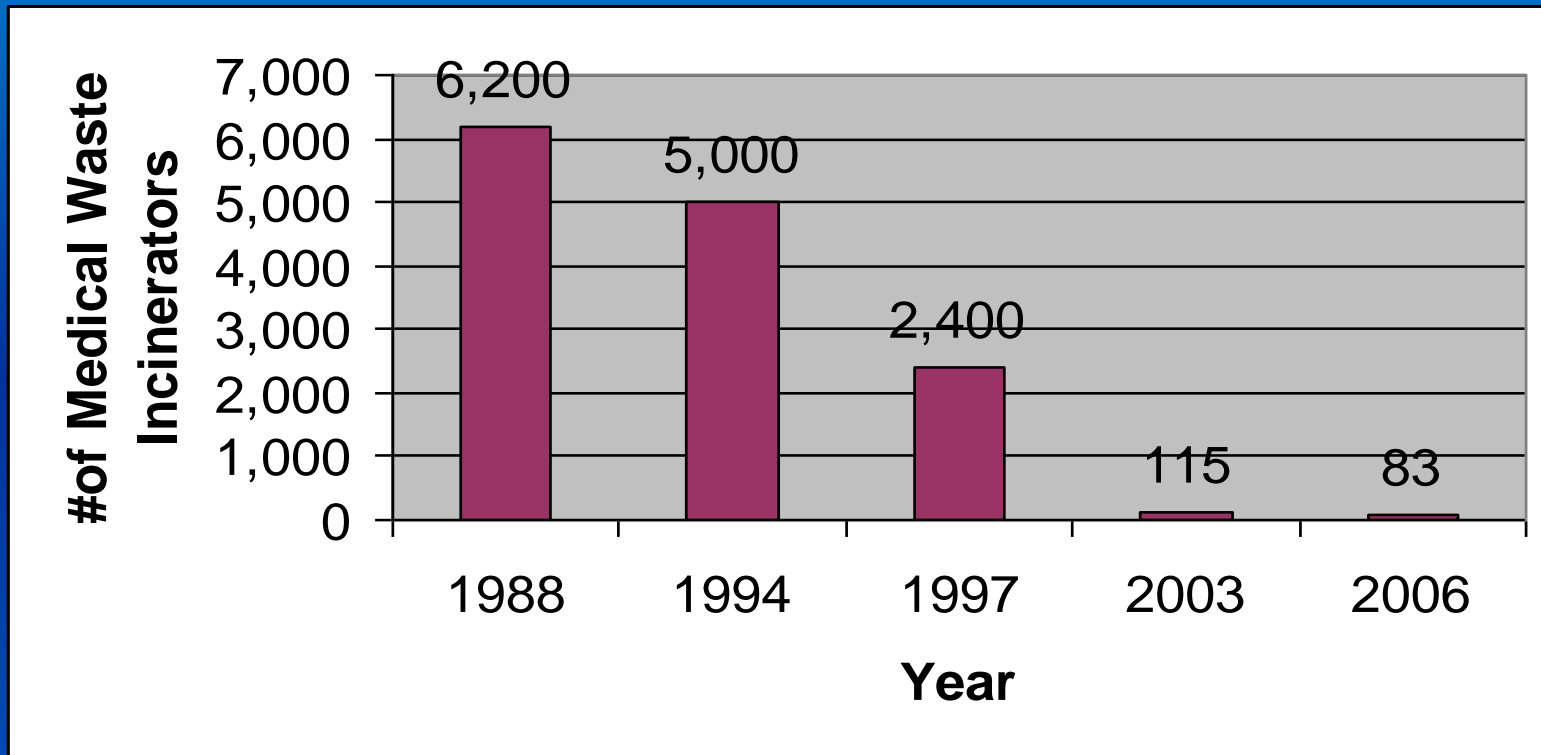
Worker Impacts of Healthcare Practices

Of the 14 industries with the highest numbers of occupational injuries/illnesses, three are in health care. Hospitals have the greatest number of occupational injuries/illnesses in the private industry sector.





Decline in Medical Waste Incinerators in the U.S.



SOURCES: **1988**: "Hospital Waste Combustion Study-Data Gathering Phase," USEPA, December 1998; **1994**: "Medical Waste Incinerators-Background Information for Proposed Standards and Guidelines: Industry Profile Report for New and Existing Facilities," USEPA, July 1994; **1997**: 40 CFR 60 in the Federal Register, Vol. 62, No. 178, September 15, 1997, page 48350; **2003**: "Status of Current HMIWI Efforts," presentation by Fred L. Porter, USEPA, at the Medical Waste Institute, June 2003; **2006**: USEPA medical waste incinerator inventory, February 17, 2006.



Decline in Mercury Use in Healthcare

5,000 U.S. health care facilities have pledged to go mercury-free; all major pharmacy chains stop selling mercury thermometers

29 states have passed laws restricting mercury-based products

European Union enacted ban in 2007.

Philippines and Argentina first developing countries to pass mercury-free legislation

HCWH and WHO in global partnership to eliminate mercury from healthcare





IMAGINE...

Cancer treatment centers built without materials linked to cancer

Pediatric clinics free of chemicals that trigger asthma

Hospitals with healthy food, fresh air, sunlight

...

265 hospital pilots

Basis for LEED for Healthcare

www.gghc.org





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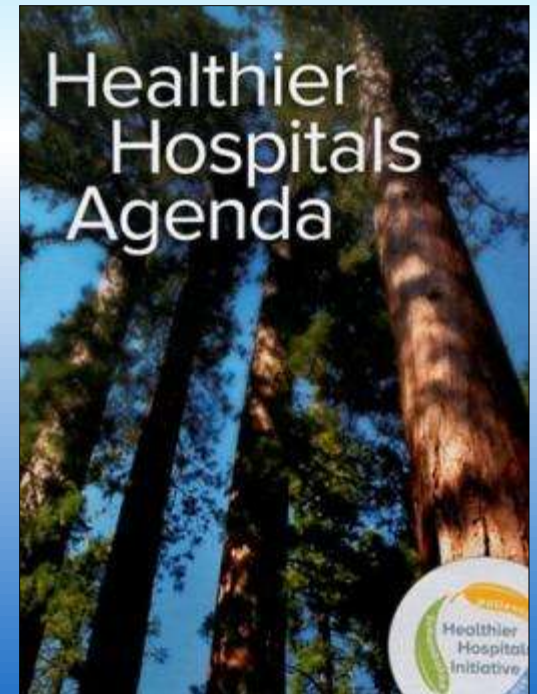


www.healthierhospitals.org



Healthier Hospitals Initiative

- Acceleration strategy at the intersection of sustainability, patient and worker safety
- Using Proven Strategies to demonstrate Success!
- Moving the \$135 billion market a unique and explicit goal
- 475 hospitals in original cohort; modeled after IHI 100,000 Lives Campaign in enrollment strategy
- Linking sustainability with the “quality” movement in healthcare
- No charge to participants
- “How-To” for all interventions



Challenges

- Engaged Leadership
- Healthier Food
- Leaner Energy
- Less Waste
- **Safer Chemicals**
- Smarter Purchasing



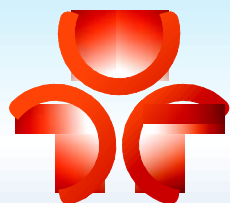
Sponsoring Health Systems



INOVA[®] HEALTH
SYSTEM



KAISER PERMANENTE[®]



Dignity Health[™]



Safer Chemicals

Baseline – Virtually Mercury Free Status

Level 1 – Commit to one

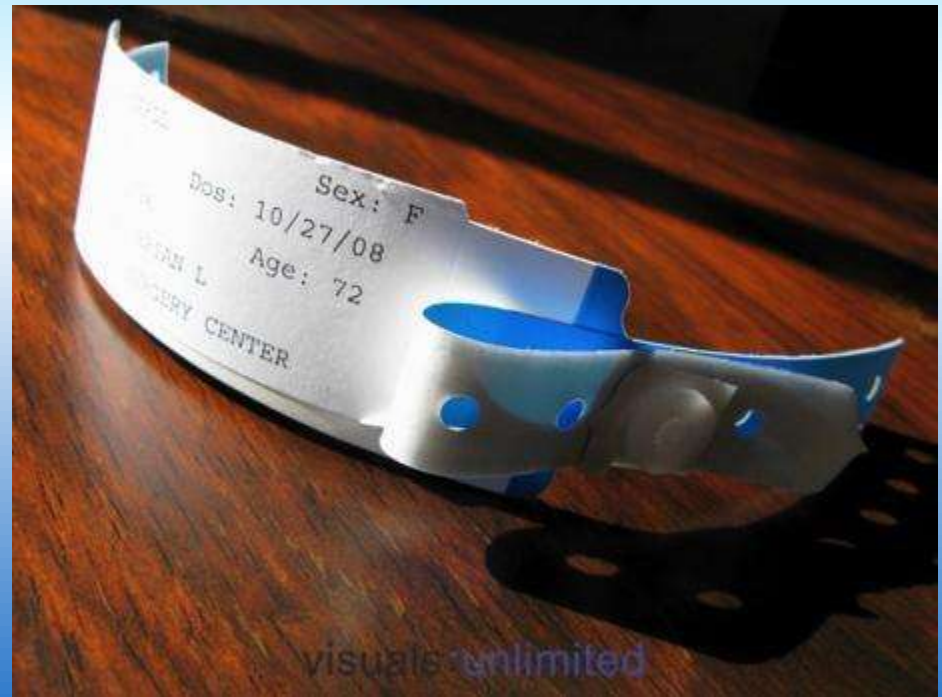
Level 2 – Commit to two

Level 3 – Commit to three

- Green Cleaning for carpet, window, all purpose and bathroom cleaners
- Safer Chemicals and Materials in Medical Products – DEHP and PVC reduction
- Healthy Interiors – Toxicity Reduction

Kaiser Permanente

- PVC-free ID bands (61,000 square ft of PVC not used)
- Saved \$25,000 annually
- Sustainable fabrics eliminate toxins and save \$1 million a year
- PVC/DEHP-free IV Bags and Tubing = 100 tons of medical supplies, including 4.9 million IV tubing sets and 9.2 million IV bags annually



The Good News

Green Cleaning – Ridgeview Medical Center started Green Seal certified cleaners in 2003.

- Follow CDC Guidelines for cleaning protocol, minimal toxicity cleaners to achieve appropriate levels of cleanliness in various areas,
- minimal number of chemical types in one facility,
- interior design resulting in less need for cleaning,
- a floor mat system,,
- Green Seal cleaners include the general purpose cleaner, glass cleaner, cleaning and degreasing compounds, floor cleaners, waxes, and restroom cleaner.



Magee Women's Education

Magee-Womens Hospital of UPMC

Magee-Womens Hospital of UPMC


This program was made possible through a generous grant from The Heinz Endowments
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Baby Steps to Green Parenting

Magee-Womens Hospital of UPMC

Baby Steps to Green Parenting

Practical Guidelines for Conception to Early Childhood



www.magee.upmc.com

Healthier Interiors

Carmen and John Thain Center for Prenatal Pediatrics
New York Presbyterian/Columbia University Medical
Center

Photo by Perkins & Will

Health Care Without Harm Research Collaborative

SCHOOL OF PUBLIC HEALTH
people serving people

UIC University of Illinois
at Chicago

- Pharmaceuticals
- Ventilation Research
- Advancing Patient, Worker Environmental Health & Safety
- Accuracy of Non-mercury Blood Pressure Measurement
- Resilient Flooring Comparison
- Cleaning in Health Care
- How sustainability in health care can bend the cost curve
- Green Building and Staff Satisfaction



http://www.noharm.org/us_canada/reports/researchcollaborative.php

April 2012 Release

HEALTH CARE RESEARCH COLLABORATIVE



Creating a Culture of Sustainability

Leadership, Coordination and Performance Measurement Decisions in Healthcare

AUGUST 2011

AUTHOR:
Tonya Boone, Ph.D.



UNC SCHOOL OF PUBLIC HEALTH



SAVE THE DATE



April 30–May 2, 2012 • Denver, Colorado
Colorado Convention Center & The Hyatt Regency Denver

The premiere national environmental conference for leaders in healthcare sustainability.





International Environmental Health

International Chemicals Management

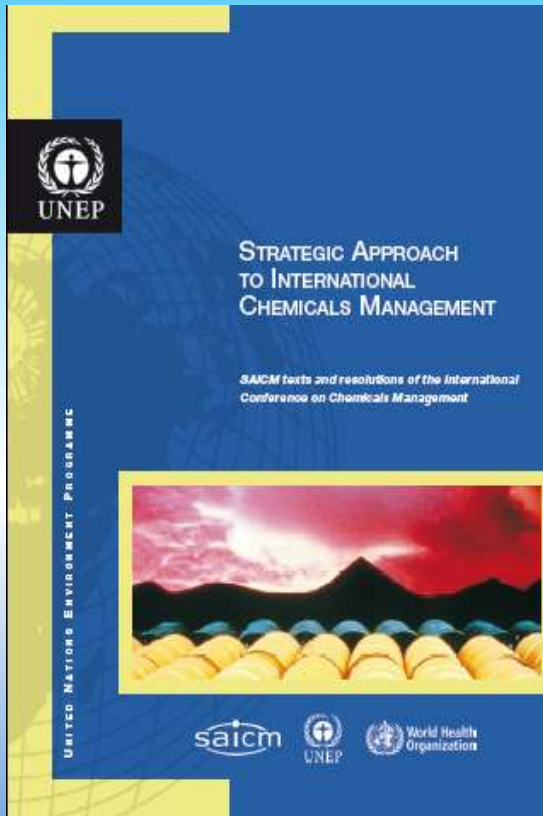
Environment ministers, health ministers and other delegates from over 100 governments together with representatives of civil society and the private sector declared in Dubai, February 6, 2006:

“fundamental changes are needed in the way that societies manage chemicals,...and that the environment worldwide continues to suffer from air, water and land contamination, impairing the health and welfare of millions.”

They adopted the *Strategic Approach to International Chemicals Management (SAICM)*,

Health & SAICM

- Minimization of significant adverse effects of chemicals on health and environment is the fundamental goal of SAICM.
- Dubai Declaration acknowledges the significance of the MDGs.
- Strategies for health protection are included in the SAICM's Overarching Policy Strategy.
- Human health protection priorities make up a specific work area of SAICM's Global Plan of Action.



ICCM2 and health aspects of chemicals management



- High-level statements & interventions from over 750 government & non-government delegates.
- Information reports & side events included those on activities to implement SAICM in the health sector.
- High-level round table on public health, the environment and chemicals management.
- State-secretary for Health of Slovenia elected President of ICCM2.
- Adoption of resolution II/8 on the health aspects of chemicals management.



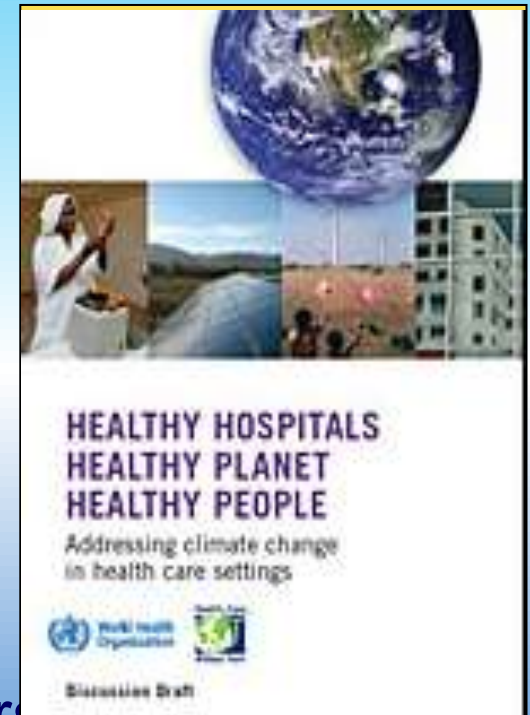
Development of SAICM health-sector strategy

- Formal analysis of current engagement of health sector.
- Survey & report on stakeholder views.
- Consultation meeting to develop draft strategy (Ljubljana, Slovenia 2010).
- Internet consultation on outcomes of consultation meeting.
- Release of draft strategy for comment since November 2010).
- Intersessional SAICM regional meetings further the discussion.



Activities & actions are proposed in the following areas

- Raising awareness
- Building health-sector networks
- Empowering Strategic Approach focal points.
- Healthy health-care settings
- Strengthening professional training & development
- Increasing joint actions between sectors



- Develop institution-wide chemicals and materials policy and protocols to protect patient, worker, and community health and the environment, while helping drive society-wide demand for alternatives.
- Implement a facility-specific chemicals action plan with benchmarks and timelines.
- Participate in the WHO-HCWH Global Mercury-Free Health Care Initiative by substituting all mercury thermometers and blood pressure devices with safe, accurate, affordable alternatives.
- Address the use of chemicals of concern, including, for example, glutaraldehyde, halogenated fire retardants, PVC, DEHP and BPA, and seek safer alternatives and substitutes.
- Adopt policies that require disclosure of chemical ingredients in products and materials and seek to ensure that all ingredients have undergone at least basic toxicity testing.
- When products or materials are identified that contain Substances of Very High Concern -- substances that have been identified as carcinogenic, mutagenic or toxic for reproduction, or that are persistent and bioaccumulative or warrant similar concern -- hospitals should make it a high priority to replace them with safer alternatives.²¹

For Tools and Resources to implement this goal please visit www.greenhospitals.net



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Thank You

