



## Mercury poisoning hospital indoor air

Study by Toxics Link reveals high levels of mercury in hospital indoor air is posing a risk to healthcare staff, patients, new-born babies and visitors

**D**angerous levels of mercury have been found in the indoor air of two Delhi hospitals, indicating a persistent toxic exposure of the healthcare staff and visitors to these facilities. This finding is part of a January 2007 report released by Toxics Link, titled '*Mercury in Hospital Indoor Air: Staff and Patients at Risk.*'

According to the US Agency for Toxic Substances and Disease Registry (ASTDR), the minimal risk level for mercury is  $0.2 \mu\text{g}/\text{m}^3$  and the action taking level is  $1 \mu\text{g}/\text{m}^3$ .

mercury can lead to neuro-developmental disorders in newborns.

Ingestion, inhalation and skin absorption of mercury is proven to result in damage to the central nervous system and kidneys. The minor symptoms include nausea, blurred vision, painful breathing, excessive salivation and pneumonitis. In the long-term, it is known to cause memory problems, hypertension, vision impairment, hallucinations and personality disorders.

Past research done by Toxics Link and other groups indicates that breakages are one of the main causes of mercury release –



The storage room ( $3.78 \mu\text{g}/\text{m}^3$ ), calibration room ( $2.44 \mu\text{g}/\text{m}^3$ ), dental wing ( $3.11 \mu\text{g}/\text{m}^3$ ), nursing station ( $1.98 \mu\text{g}/\text{m}^3$ ), maternity ward ( $1.09 \mu\text{g}/\text{m}^3$ ) and general ward ( $1.23 \mu\text{g}/\text{m}^3$ ), all showed mercury levels higher than  $0.2 \mu\text{g}/\text{m}^3$ , which is the minimal risk level specified by the US Agency for Toxic Substances and Disease Registry (ASTDR). The action taking level is  $1 \mu\text{g}/\text{m}^3$ .

The high levels of mercury in nursing and maternity wards of the hospitals were particularly alarming, since exposure to

around 70 thermometers break in hospitals with 300 to 500 beds every month.

India is the second largest consumer of mercury in the world after China. At present there are no standards in India for mercury in the indoor ambient air. The Central Government, however, had placed a limit for occupational exposure of mercury at the level at which it crosses the skin-barrier for alkali compounds. But this standard under the Factories Act of 1948, amended in 1987, does not apply to the healthcare facilities. ▲

### Some findings of the study

- ▼ All the test locations for the study showed the presence of mercury vapour at varied levels.
- ▼ The highest concentration was found in storage and calibration areas of the hospitals.
- ▼ The nursing station and maintenance room in the hospitals showed a higher concentration of mercury than other areas.
- ▼ The dental wing of both hospitals had very high levels of mercury ( $3.11 \mu\text{g}/\text{m}^3$ ).
- ▼ The levels were also high in maternity and general wards, posing a substantial risk to newborn babies and patients.
- ▼ The findings indicate that there is an urgent need for regulatory intervention to minimise mercury emissions in indoor air of healthcare facilities.
- ▼ The study once again reconfirms that all the hospitals must substitute mercury-based products with non-mercury alternatives.
- ▼ Finally, the study recommends large-scale investigations of this nature for a more comprehensive policy intervention.
- ▼ Both hospitals have phased out mercury thermometers and have a mercury spill management policy.

Nidhi Jain

## INDIA FILE

Maharashtra gets six months to implement bio-med norms

The Mumbai High Court on March 20, 2007 directed the State Government to ensure implementation of the Bio-medical Waste (Management and Handling) Rules, 1998, in all its hospitals within six months.

An affidavit filed by Principal Secretary (Public Health) stated that the Maharashtra Pollution Control Board (MPCB) had issued notices to 162 state hospitals for not complying with the waste disposal norms. The court has asked Consumer Welfare Association, the NGO, which filed the PIL, and the MPCB to verify the government's claims and file a rejoinder within six weeks. ▲

**Source:** Daily News and Analysis, March 21, 2007

Noida medical centres putting citizens at risk

Despite claims of being a bio-medical waste free city, 146 private hospitals and medical centres in Noida and Greater Noida have been found disposing off their bio-medical wastes in vacant plots of residential colonies. This not only violates bio-medical waste disposal norms but also poses a grave threat to citizens by way of infection and contiguous diseases in the coming summer months.

The UP Pollution Control Board (UPCB) is considering taking action against the erring health centres. ▲

**Source:** The Pioneer, New Delhi, March 14, 2007

## WORLD NEWS

HOSPITALS CAN MANAGE WASTE ECONOMICALLY



In a report launched on February 21 by an international coalition of environmental health advocates, four Manila government hospitals were documented to have adopted local best practices in their waste management, belying the claim that proper healthcare waste management is difficult, expensive and impractical.

The documented practices were from the survey conducted by Health Care Without Harm of the waste management systems of the Phillipine Heart Centre, San Lazaro Hospital, Phillipine Children's Medical Centre and Ospital ng Muntinlupa.

The waste management practices outlined in the report were developed by a cross-section of hospital personnel. It revealed that when waste from hospitals are segregated and recycled, income generated from the sale of recyclables could finance the waste management system of the hospital and even offset the cost of outsourcing the treatment of the hospital hazardous infectious waste. ▲

**Source:** The Manila Bulletin online, March 2, 2007

MERCURY AFFECTING 'CHILD BRAIN DRAIN'

THE RESULTS of a small-scale study in 21 countries titled 'Halting the Child Brain Drain: Why We Need to Tackle Global Mercury Contamination' published on January 10, 2007 revealed that 95 per cent of women of childbearing age have detectable levels of mercury in their bodies. This is worrying because several scientific reports have shown conclusively that low-level exposure to mercury in the womb could cause brain damage in children.

The report revealed that some of the women taking part in the survey were particularly worried because they were exposed to mercury at work. However, close examination of the sample results showed that women who regularly eat various kinds of fish tended to have higher levels of mercury in their hair than those who work with mercury. ▲

**Source:** www.goundwork.org

EPA HELPS HOSPITALS CLEAN UP

A grant of \$78,500 has been awarded to the Pennsylvania Department of Environmental Protection (DEP) by the US-Environment Protection Agency (EPA) to team up with two local healthcare organisations in helping Philadelphia hospitals prevent environmental pollution.

The participating hospitals will reduce their waste, increase recycling and make positive changes to reduce the use of toxic materials in medical care and cleaning products. During the next two years, four workshops will be held to train hospital staff to reduce waste and how to use priority chemicals and toxics, increasing recycling and green purchasing and improving facilities management.

Sixteen local hospitals have already joined the national partnership – Hospitals for a Healthy Environment (H2E).



By becoming an H2E partner, a hospital commits to setting priorities and goals to reduce its environmental impact on patients, workers and the surrounding community.

Partners and champions work together on a wide array of environmental issues, including eliminating mercury, reducing regulated medical waste, recycling and green cleaning. ▲

**Source:** USEPA

FRENCH STUDY CONNECTS WASTE INCINERATORS TO CANCER

THE FRENCH National Institute of Health Monitoring (INVS) presented a study on waste incineration confirming that people living close to an incineration plant are at greater risk of developing cancer. This is the largest ever epidemiological study carried out in France on the impact of incinerators. The report confirms the legitimacy of the fight of hundreds of NGOs against incineration. ▲

**Source:** Health Care Without Harm

## Government support important for green healthcare

Ingrid Eckerman of Swedish Doctors for the Environment on green hospitals, mercury and the Bhopal gas tragedy

**What has been your experience of working with non-mercury equipments? How safe are they compared to mercury instruments?**

When I started as a young doctor, we all used aneroid sphygmomanometers. When we changed to mercury devices, it was regarded as an important quality reassurance. So, when we went back to the aneroids, there were a lot of discussions about quality, including size of cuff. So we got new models that were more appropriate than the old ones. Concerning thermometers, its mostly nurses who use them. The digital ones are easier to handle, especially with children and patients. At time for change, a system for collecting batteries as well as electronic devices was built.

**What are your thoughts on 'green hospitals'? How much possibility is there for establishing an ecologically friendly hospital in India?**

I can see that it is a much greater challenge in India, because there is no support

from society. In Sweden when the authorities said we are not allowed to throw batteries in the household waste, they also arranged a waste collecting system for batteries. So support and planning of the government authority is important.

**How serious is the issue of chemicals and health in context of the present world scenario?**

The greatest threats to human health today, apart from epidemics, are climate changes and the toxification of our globe. All babies, around the world, without exception, are today born already toxicated. They contain a mixture of different chemicals, including mercury and pharmaceuticals. The chemical concentration will increase, as the concentrations in the environment and parents are rising. The composition might change over time, depending on phasing out old chemicals and introducing new ones. This will affect our ability to reproduce, our ability to have healthy babies and the possibility of living a healthy life.



**"If we use more lifestyle interventions instead of pharmaceutical interventions, we would get less hazardous side effects and fewer pharmaceuticals in the environment."**

**You have authored a book 'The Bhopal Saga' on the Bhopal gas disaster. How did you get involved with the campaign for Bhopal gas victims?**

In 1992, I joined the Swedish Doctors for the Environment. An invitation to participate in an International Medical Commission on Bhopal reached us. I had at that time started a complementary education in Public Health with international focus, so I decided to join. We were about 13 doctors from 12

countries and spent three weeks in January 1994. The same year, I got a scholarship for two months to work in that area and also adopted a local family. I also got involved with the NGO Sambhavna working for the rehabilitation of the victims.

**What are your views on 'lifestyle and health' and how do you plan to propagate it?**

Of course, if we use our feet more, we would need less of cars and motorcycles. We would use less resources and let out less carbon dioxide. If we eat less junk food, more vegetables and fruit and less meat, we would gain better health and reduce the stress on our environment. If we use fields to grow food or energy crops instead of tobacco or opium it would be good for health and the environment. And if we use more lifestyle interventions instead of pharmaceutical interventions, we would get less hazardous side effects from pharmaceuticals. This is why healthcare people should put lifestyle changes as the first treatment for many patients. ▲

*Sejuti Sarkar De*

## HEALTH NETWORKS LAUNCH CAMPAIGN AGAINST MERCURY

Two major European health networks – Health Care Without Harm and Health and Environment Alliance – announced the launch of an anti-mercury campaign with a series of factsheets for citizens and health professionals.

“Mercury is a toxic chemical, yet many people are unaware of its health impacts, particularly to those most at risk such as pregnant women and young children,” said Génon Jensen, Executive Director of Health and Environment Alliance. He added that the campaign aimed to get facts on mercury out to a wider audience and mobilise public opinion.

The first factsheet describes the routes through which the human body absorbs mercury and the relative toxicity of different forms of mercury. The message is that even low levels of pre-natal exposure can produce attention deficits and language and memory problems in children.

Other factsheets address mercury pollution in the healthcare industry, mercury and fish consumption, mercury and vaccination and mercury in dental fillings. ▲

*Source: Health Care Without Harm*

## EVENTS

### Regional workshop on bio-medical and solid waste management

Toxics Link, in coordination with Nav Bharat Jagriti Kendra, Ranchi organised a two day ‘Regional Workshop on Bio-medical and Solid Waste Management: Perspective and Challenges’ on February 8-9, 2007. Civil society groups and healthcare professionals participated in the workshop. R.K. Srivastava, Secretary, Urban Department and Tilaswar Sahu, Chairman Jharkhand Pollution Control Board inaugurated the workshop.



The first session focused on the introduction and status of bio-medical waste management in Jharkhand, Bihar and Uttar Pradesh. The issue was new to the region and there was a serious lack of awareness among participants as well as practitioners. The State Pollution Control Board requested training on bio-medical waste. The presentation of government bodies reflected that incineration was the preferred solution to bio-medical waste disposal. NGOs involved in door-to-door collection of waste highlighted the mixing of municipal and bio-medical waste in Jharkhand and Bihar. Both states have a poor compliance rate and only few private agencies have received notices for non-compliance. The two centralised facilities (in Patna and Ranchi) are operating below 10 percent capacity. ▲

### WORKSHOP ON BIO-MEDICAL WASTE IN CHENNAI

Toxics Link, Chennai is organising a two-day workshop at Chennai on May 14-15, 2007.

The workshop will focus on following key areas:

- ▲ Information dissemination on bio-medical waste rules
- ▲ Regional overview on medical waste management
- ▲ Role and responsibilities of stakeholders
- ▲ Appropriate technology
- ▲ Share knowledge on best practices
- ▲ Develop region specific strategies for effective waste management practices.

## HUMAN AFFAIRS

You can be a part of the Health & Us – Medwaste Action Network (HuMAN) by becoming an Active Member (involved with HuMAN on a regular basis) or a Member in Principle (no active participation but endorsing HuMAN principles). Contact us at the Delhi address given below, and provide us with the following:

1. Name
2. Occupation and designation
3. Address, phone, fax and e-mail
4. Past experience of / interest in medical waste

Once we have this information, we will send you details on membership.

*If you have suggestions or require information, please contact:*

**Toxics Free Healthcare Team at  
info@toxicslink.org**

### Srishti / Toxics Link – Delhi

H2 Jungpura Extension (Ground Floor)  
New Delhi 110 014.

T: +91-(0)11-24328006/24320711

E: srishtidel@vsnl.net,  
tldelhi@toxicslink.org

### Toxics Link – Chennai

9/5, Second Street  
Padmanabha Nagar  
Adyar  
Chennai 600 020.

T: +91-(0)44-24914358/24460387

E: tlchennai@toxicslink.org

### Toxics Link – Mumbai

Garage No 2, Plot No 4,  
Baba Nanak Sahib Cooperative Housing  
Society Ltd,  
Laxmi Colony, RC Marg, Chembur,  
Mumbai 400 074

E: tlmumbai@toxicslink.org

**Website: www.toxicslink.org**