Demonstrating and Promoting Best Techniques and Practices for Reducing Health-Care Waste to Avoid Environmental Releases of Dioxins and Mercury

FINAL MEASUREMENTS

3.0 Mercury

I. Mercury Awareness-Raising and Training on Safe Handling, Clean-up and Disposal of Mercury Waste

Viet Duc Hospital

- Date and location of the training: 26- 28 Dec 2011; 4-5 Jan 2012 at Viet Duc Hospital
- Target audience: Viet Duc Hospital's Staff (Management; Doctors; Nurses) and Staffs from ICT Company (Outsourcing for collectors and transportors healthcare waste and clean at Viet Duc Hospital)
- Duration of the training (total hours): 9 hours
- Person(s) who conducted the training: Local consultant of Component 4- Dr. Dang Kim Chi
- Number of persons trained, or if available, the list of names and job titles of persons trained: 1,447 persons (100%)
- Topics covered during the training: Healthcare waste management
- Results of training evaluation: 100% participants are statisfied and feel happy because they have a chance to learn more about the harmful effects of mercury on health and the environment. They wish to use the devices non- mercury (thermometer and sphygmomanometer)

Viet Duc issued policies/commitment on mercury.

II. Mercury waste equipment and storage

Mercury clean-up equipment such as mercury spill clean-up kits, stored mercury provided by project and deliveried to Viet Duc Hospital and Ninh Binh General Hospital: 4 mercury waste equipment storage; 20 mercury spill clean-up kits.


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III. Replacement with non-mercury alternatives

List of non-mercury devices (thermometer and sphygmomanometer) provided by the project and deliveried and used for replacement with mercury devices at Viet Duc Hospital and Ninh Binh General Hospital

No	Types of non-mercury devices	Brand name, model number	Brief description	Number of devices provided	Per unit cost in US dollars
1	Automatic Blood Pressure Monitor	HEM 7111-Omron		40	87.8
2	Automatic Blood Pressure Monitor	SEM-1 Omron		35	97.6
3	Automatic Blood Pressure Monitor	HEM 7203-Omron		35	107.3
4	Automatic Blood Pressure Monitor	HEM 7200-Omron		30	136.6
5	Automatic Blood Pressure Monitor	HEM 7211-Omron		25	161
6	Automatic Blood Pressure Monitor	HEM 907-Omron		5	683
	Thermometers				
1	Digital **T**hermometer	MC 246 Omron	digital thermometer with flexible probe For oral, rectal and underram temperature measurement	100	7.8
2	Digital **T**hermometer	MC 341 Omron		80	8.8
3	Digital **T**hermometer	MC 343 Omron		70	9.76
4	Digital **T**hermometer	MC 510 Omron	digital thermometer with flexible probe: instant ear	50	36.7

Average per unit cost in US dollars of mercury devices (mercury thermometers and mercury sphygmomanometers) originally used at Viet Duc Hospital and Ninh Binh General Hospital:

mercury thermometers: 0.73 US dollars/unit

mercury sphygmomanometers: 14.62 US dollars/unit

Hospital	**Number of mercury devices regular in use from 2008-2010**		**Note**
	thermometers	Sphygmomanometers	
Viet Duc Hospital	4,500	330	50% replacement with blood pressure meter does not contain mercury
Ninh Binh General Hospital	600	0	Replacement with blood pressure meter does not contain mercury

Hospital	**Number of non mercury devices regular in use at 2012**				**Note**
	thermometers		Sphygmomanometers		
	Provided by Project	Hospital bought	Provided by Project	Hospital bought	
Viet Duc Hospital	200	300	100	210 -blood pressure meter does not contain mercury	85% mercury devices will have been replaced
Ninh Binh General Hospital	100	300	70	300- blood pressure meter does not contain mercury	100% mercury devices will have been replaced

Using Automatic Blood Pressure Monitor at Viet Duc Hospital

IV. Evaluation of mercury-free devices

Viet Duc Hospital and Ninh Binh General Hospital healthcare facilities should have standard procedures for validation testing, calibration, and maintenance of mercury-free devices. (This also applies to mercury devices although it has been often ignored.) Appendix E provides sample procedures for testing and calibration of non-mercury thermometers and sphygmomanometers. In addition to ensuring that the devices remain accurate during use, the test data can also be used for identifying devices of low quality to guide future procurements. Testing, calibration and maintenance could be done every six months.

Ninh Binh hospital, which is using all the non mercury devices delivered, bought additional 300 thermometers for the complete replacement of mercury thermometers: 100% Hospital's staff prefer to use the device does not contain mercury as safe for health and the environment. However, they concerned if thermometers being lost they must pay (due to the price moderately expensive)

Although Viet Duc Hospital's Top management committed using non-mercury Sphygmomanometers but Viet Duc hospital not yet fully acquainted with the use of non-mercury Sphygmomanometers: Viet Duc is a surgical hospital, patient is heavy ill, In the operating room they want to use mercury Sphygmomanometers. For non mercury thermometers, 100% Hospital's staff prefer to use the device does not contain mercury as safe for health and the environment. However, they concerned if thermometers being lost they must pay (due to the price moderately expensive).

4.0

- National workshop on Mercury minimization was held in Hanoi, 30 Oct 2012

75 Participants from Ministry of Natural Resources and Environment; Ministry of Health, Ministry of Industry and Trade; Department of Natural Resources and Environment; Department of Health from Cities/Provincial: HaNoi, Ninh Binh, Nam Dinh, Thai Binh, Thanh Hoa, Ho Chi Minh, Quang Ninh,

Thai Nguyen, Bac Giang , Bac Ninh, Vinh phuc, Phu Tho, Lang Son, Institute/Universities, NGO, Enterprises and Press Media

Timing	Agenda	Resources
08:00-08:30	Registration	PMU
08:30-08:45	Welcome speech	Nguyen Hoa Binh – Deputy National Project Director; Director - Waste Management and Environment Improvement Agency
08h:45- 09:10	Mercury Safety Management: Process to develop international legislation tool and activities in Vietnam	Mr. Nguyen Anh Tuan – Pollution Control Department
09:10- 10:00	Assessment implementation Report: Component 4 at Viet Duc Hospital and Ninh Binh General Hospital	Dr. Dang Kim Chi- Local Consultant
10:00-10:15	Tea break	
10:15-11:00	Impact of Mercury to Healthy and Environment	Mr. Hoang Anh Tuan – Expert
11:00-12:00	Situation and Direction on mercury management in healthcare facilities	Dr. Nguyen Lien Huong – Deputy Director – Department of Health Environment Management – Ministry of Health
12:00-13:30	Lunch	
13:30- 14:40	Circular No. 12/2001/TT-BTNMT on Hazardous	Mr. Do Tien Doan – Vietnam Environment Administration

	waste management	
14:40- 15:40	National Technical Regulation on threshold for hazardous waste	Mr. Phan Thanh Giang
15:40-16:00	Tea break	
16:00-17:00	Plenary Discussion and Closing	

Through this national workshop, the all participants and expert have to share experiences and learn more the impact of mercury to healthy and environment. Especially, they get mercury waste management and clean-up mercury at Viet Duc Hospital and Ninh Binh General Hospital; And they recommended mechanism and plan to replacement non mercury devices.


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HỘI THẢO QUỐC GIA
VỀ GIẢM THIỂU THỦY NGÂN TRONG BỆNH VIỆN
Hà Nội, 30/10/2012
BAOSON INTERNATIONAL HOTEL


3.1. Bệnh viện Việt Đức – Thông tin về thiết bị
Nhiệt kế chứa thủy ngân
Trong 3 năm qua cơ sở đã mua
4.500 cái
Số lượng nhiệt kế thủy ngân bị hỏng vỡ
3000 cái/3 năm
Giá tiền:
5.500 VNĐ/cái
Nguyên nhân hỏng vỡ:
Bị rơi vỡ do bệnh nhân
Phương pháp xử lý:
Quét cho vào lọ thủy tinh buộc vào túi nilon
Máy đo huyết áp thủy ngân
Số lượng máy đo huyết áp thủy ngân mua trong 3 năm qua:
330 cái
Số bị hỏng vỡ:
230 cái/3 năm
Giá tiền:
265.000 đồng/cái
Nguyên nhân hỏng vỡ:
Tần suất sử dụng nhiều; rơi vỡ
Sửa chữa và phương pháp thải bỏ:
Cho vào rác y tế
Các loại thiết bị khác chứa thủy ngân:
Đèn huỳnh quang; đèn cực tím
Thái độ của người sử dụng
Mong muốn sử dụng nhiệt kế không thủy ngân và máy đo huyết áp không thủy ngân.
VIỆN
BAOSON INTERNATIONAL HOTEL