Republic of the Philippines
Department of Health
OFFICE OF THE SECRETARY
Bldg. No. 1, San Lazaro Compound, Rizal Avenue, Sta. Cruz, Manila 1003
Tel. Nos. (632) 711-95-02, 711-95-03; Telefax No. (632) 743-18-29

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ADMINISTRATIVE ORDER
No. 2008 - 0021

SUBJECT: Gradual Phase-out of Mercury in all Philippine Health Care Facilities and Institutions

I. RATIONALE / BACKGROUND

Mercury is a naturally occurring heavy metal. At ambient temperature and pressure, mercury is a silvery-white liquid that readily vaporizes and may stay in the atmosphere for up to a year. When released to the air, mercury is transported and deposited globally. Mercury ultimately accumulates in lake bottom sediments, where it is transformed into its more toxic organic form, methyl mercury, which accumulates in fish tissue.

Mercury is highly toxic, especially when metabolized into methyl mercury. It may be fatal if inhaled and harmful if absorbed through skin. Around 80% of the inhaled mercury vapor is absorbed in the blood through the lungs. It may cause harmful effects to the nervous, digestive, respiratory, immune systems and to the kidneys, besides causing lung damage. Adverse health effects from mercury exposure can be: tremors, impaired vision and hearing, paralysis, insomnia, emotional instability, developmental deficits during fetal development, and attention deficit and developmental delays during childhood.

In 1991, the World Health Organization (WHO) concluded that a safe level of mercury exposure, below which no adverse effects, has never been established.

Several European countries Sweden, France, Denmark and Norway, have also banned mercury-containing thermometers from as early as 1991. A European wide resolution on the issue of mercury is pending.

In the United States, hospitals have significantly reduced the amount of mercury found in facilities and are demonstrating a clear preference for safer alternatives. Many hospitals across the country have taken steps to address the issue, including labeling mercury-containing devices and phasing out their purchase in favor of safer, equally effective alternatives. More than 1,000 hospitals across the US have pledge to virtually eliminate mercury medical device and more than 90% of pharmacy chains have stopped selling mercury fever thermometers. Three of the five largest healthcare group purchasing organizations in the US now have mercury-free purchasing policies..

On 25 January 2006, at the opening of the first Southeast Asian Conference on Mercury in Health Care held at the Philippine Heart Center, the Department of Health pronounce the gradual elimination of mercury-use in the Philippine health care system.

The Department of Health (DOH) provides the following policies and guidelines for the gradual phase-out of mercury in all Philippine health care facilities pursuant to, among others, the following laws, rules and regulations:

- "Toxic Substances and Hazardous Nuclear Wastes Control Act of 1990" (Republic Act 6969);
- Procedural Manual for Title III: Hazardous Waste Management;
- Management of Chemicals and Toxic Substances (Implementing Rules and Regulation for Title II, DENR A.O. 92-29);
- "Chemical Control Order for Mercury and Mercury Compounds" (Implementing Rules and Regulations under DENR A.O. 97-38);
- Clean Water Act of 2004, (Republic Act No. 9275);
- "Policies and Guidelines on effective and proper handling, collection, transport, treatment, storage and disposal of health care wastes", (Joint DOH-DENR Administrative Order No. 02 s 2005)
- "Revised Rules and Regulations Governing the Registration, Licensure and Operation of Hospitals and other Health Care Facilities in the Philippines" (DOH Administrative Order 70-A as amended);
- Hospital Licensure Act (Republic Act No. 4226)

The Consumer Act of the Philippines of the Department of Trade and Industry (DTI), covering various chemicals, Article 10-Injurious, Dangerous & Unsafe Products (RA 7394)

II. SCOPE AND COVERAGE

These policies and guidelines shall apply to all Health Care Facilities as defined by this document.

III. DEFINITION OF TERMS

1. Health Care Facilities mean any of the following:

a. HOSPITALS - places devoted primarily to the maintenance and operation of facilities for the diagnosis, treatment and care of individuals suffering from illness, disease, injury or deformity or in need of obstetrical or other medical and nursing care. The term "hospital" shall also be construed as any institution, building or place where there are installed beds or cribs or bassinets for twenty-four hour use or longer by patients in the treatment of diseases, diseased-condition, injuries, deformities or abnormal physical and mental states, maternity cases, and sanitorial or sanitarial care infirmities, nurseries, dispensaries, and such other means by which they maybe designated.

b. INFIRMARY – a health facility that provides emergency treatment and care to the sick and injured, as well as clinical care and management to mothers and newborn babies.

c. BIRTHING HOME – a health facility that provides maternity service on pre-natal and post-natal care, normal spontaneous delivery and care of newborn babies.

d. CLINIC – shall mean a place in which patients avail of medical consultations or treatment on an out-patient basis and shall include the following:

d.1 Medical
d.2 Ambulatory
d.3 Dialysis
d.4 Health Care Centers and Dispensaries
d.5 Surgical
d.6 Alternative Medicine
d.7 Dental
d.8 Other clinical facilities not mentioned above that require a license/certification/accreditation from DOH.

2. Mercury- means any substance containing element mercury, either in its pure form, as metallic salts or organometallic compounds.

3. Mercury Audit- A mercury audit aims to identify all the uses and sources of mercury, and the amount present in the facility.

4. Alternatives to Mercury-containing devices/products- mercury-reduced and mercury-free products that are considered to be viable replacements for mercury-containing devices/products.

5. Hospital Waste Management Committee (HWMC)- means a group in the Health Care Facility with the overall responsibility of ensuring that health care wastes management plan are promoted and implemented.

6. Waste Management Officer (WMO)- means a person in the Health Care Facility responsible for the day-to-day operation and monitoring of the waste management system. In cases where the Health Care Facility has no HCWM, the WMO shall be the person to assume the responsibility of ensuring the health care waste management plan of the facility as promoted and implemented.

7. Mercury Minimization Program- means a gradual phase-out plan for MDEP by a Health Care Facility in accordance with Section V and following the management plan describe in Annex B of this Administrative Order.

IV. GENERAL PROVISIONS

Recognizing the unnecessary risks posed by the continued use of mercury containing products in the healthcare system, the DOH hereby orders that:

1. All Hospitals shall immediately discontinue the distribution of mercury thermometers to patients through the distribution of hospital admission/ discharge kits.
2. All Hospitals shall follow the guidelines for the gradual phase-out of mercury in health care facilities described in this document in the timeline specified.
3. All new Health Care Facilities applying for a License to Operate shall submit an inventory of all mercury- containing devices that will be used in their facilities and a corresponding mercury elimination program.
4. All other Health Care Facilities other than hospital shall make a Mercury Minimization Program based on the guidelines set by this administrative order.

V. GUIDELINES FOR THE GRADUAL PHASE-OUT OF MERCURY IN HEALTH CARE FACILITIES

1. In order to ensure safety and contamination control, steps taken towards mercury elimination in facility must be consistent and predetermined. It is therefore a must to involve the whole facility in a dedicated Mercury Management and Minimization Program, with the goal of:

a. Raising awareness on the dangers posed by mercury and mercury- containing devices in all health care facilities and institutions.
b. Developing a clear preference for the use of Alternatives to Mercury- containing Devices among health care personnel.
c. In the short term, preventing the further release of mercury to the environment through proper disposal.

2. All Health Care Facilities are hereby tasked to designate a dedicated Mercury Management Team within 2 months from the issuance of this order. This team should be directly under the Hospital Waste Management Committee.

For the first 6 months from their inception, the Mercury Management Team should have:

a. Conducted a Mercury Audit of their facility (Refer to Annex "A" Sample Mercury Audit Form). This should include an assessment of the costs of switching to alternatives to mercury-containing devices.
b. Developed and managed a Mercury Minimization Program for their facility (Refer to Annex "B" Sample Mercury Minimization Program)
c. Drafted and implemented a purchasing policy that requires vendors to sign a mercury-content disclosure agreement (Refer to Annex "C" Sample Vendor Product Mercury-Content Disclosure) covering products intended for purchase. A clear preference for Alternatives to Mercury-containing Devices where applicable should be in effect. Efforts should be made to communicate with suppliers about an eventual mercury-free purchasing policy and to work with staff on finding Alternatives to Mercury-containing Devices.
d. Conducted a facility-wide information campaign and employee education on the consequences of continued mercury-use. Personnel training on preventing and proper handling of mercury spills should also be accomplished (Refer to Annex "D" How to Handle Mercury Spills)
e. Identified and removed unnecessary practices that promote the use and distribution of mercury-containing medical devices.

3. Within 24 months from the effectivity of this order, all hospitals should have accomplished the following:

a. Fully implemented the Mercury Minimization Program developed for their facility.
b. Switched to alternatives from mercury-containing devices.
c. Developed and implemented a program of waste segregation and recycling to further reduce the mercury waste stream in cases where no alternative products exist. For instance, mercury containing batteries and fluorescent light bulbs should be collected and processed for recycling or should be properly stored.
d. Identified a dedicated mercury collection area within the facility.

e. Developed a proper temporary mercury storage room in the facility inaccessible to the public (Refer to Annex "E" Guidelines for setting up a Proper Temporary Mercury Storage Area).
f. Incorporated a mercury management module in their training program for new personnel.
g. Information materials on mercury are displayed and/or available in their facility for the benefit of their patients and the general public.

VI. EFFECTIVITY

This order shall take effect 30 days after publication in the Official Gazette and major newspapers and shall supersede all issuance inconsistent therewith.

FRANCISCO T. DUQUE III, MD, MSc
Secretary of Health

ANNEX "A"
Sample Mercury Audit Form

Medical Facility Mercury Survey

This checklist is provided as a sample. A checklist can be useful tool to help medical facility staff identify sources of mercury in their workplace.

Type of facility (hospital, clinic) _____
Size of Facility (number of beds, number of Patient visits) _____
Contact Name _____
Title _____
Phone _____

MERCURY SOURCES

Please indicate the following mercury sources located or used in your facility.

_____ Fever thermometers (including home-care visits and those sent home with new borns)
_____ Sphygmomanometers
_____ Commercial Manometer
_____ Gastrointestinal diagnostic equipment
_____ Feeding tubes

Chemicals

_____ Zenker's solution
_____ Histological fixatives

Staining solution and preservatives

_____ Mercury Chloride
_____ Mercury (II) chloride
_____ Mercury nitrate
_____ Other
_____ Mercury (II) oxide
_____ Mercury (II) sulfate
_____ Mercury iodide

Lamps

_____ Fluorescent _____ Metal halide _____ High pressure sodium ____Ultraviolet

Batteries

_____ Mercuric oxide
_____ Button batteries
_____ Thermostat
_____ Barometers
_____ Switches (relay, tilt, silent)
_____ Other possible mercury sources- please list here any other materials that should be a concern for mercury pollution.

Have you considered mercury-free alternatives for any of the products listed above?
_____ Yes _____ No

FACILITY PRACTICES

Complete the following section on facility practices. Additional pages may be attached if needed.

Safety Practices

Is staff training provided on the health and environmental concerns of Mercury?
_____Yes _____ No
Is staff training provided on mercury spill prevention or management? ____Yes _____No
If yes, indicate the departments that have this training and the frequency.
_____
Is there a mercury spill clean-up tool kit on site? _____ Yes _____ No
Have there been any mercury spills within the last ten years? _____ Yes _____ No
If Yes, indicate the source of the spill(s) and the clean-up method:
_____

Purchasing Practices

Does your facility have a policy on purchasing mercury-containing products? ____ Yes _____No
If yes, please attach policy.
_____
Does your purchasing department currently require a disclosure by your vendors of mercury concentrations in chemicals/ reagents? _____Yes _____ No

Disposal Practices

What is the current procedure for disposal of medical waste?
_____Autoclave _____Other
Have your sewer drain traps or catch basins been cleaned to remove mercury?
_____ Yes _____ No
If yes, list the area of the facility and dates._____
_____
Was mercury discovered? _____ Yes _____ No
Are any mercury products in your facility currently recycled? ____ Yes _____ No
Are there other facility practices that you think should be a concern for mercury pollution? List here:
_____
_____
_____
_____

Source: "Reducing Mercury Use in Health Care"
www.Sustainable Hospitals.org
Original document developed by Western Lake Superior Sanitary District.

ANNEX "B"
Sample Mercury Minimization Program

There are several "best management practices" for mercury elimination; these are the procedures that have been found by experience to effectively prevent the release of mercury into the environment. By implementing and effective mercury elimination program now, the health care facilities can help avoid the need for increased regulations in the future. For most mercury-containing products in the health care facility, they preferred best management practice is to replace the item with mercury-free product.

However, it may not be possible to replace all of the health care facility's mercury products at once and, in a few cases, there may not be a substitute that is considered to be reliable and cost effective. For these products, best management practices are effective procedures for handling and environmentally safe management of mercury containing products. Proper mercury recycling facilities, unfortunately, is not yet widely available in the country. Given this fact, proper disposal of mercury should be done through contracted services from the Environment and Natural Resources (EMB-DENR) accredited hazardous waste treaters.

Mercury-containing products can be found almost anywhere in a health care facility. They range from medical instruments and clinical laboratory chemicals to electrical equipment and cleaning solutions.

The following are some of the common mercury containing products in the hospital that can be replaced with mercury-free products available in the market.

FEVER THERMOMETERS

Take-home thermometers; most health care facilities send mercury thermometers home with their patients through their "patient's kit", instead of handing out mercury containing thermometers, hand out mercury-free thermometers instead. The take-home thermometer might be digital or chemical strips. The use of mercury-free alternatives shall prevent the release of mercury to the environment.

If an alternative has not yet been evaluated and chosen, and mercury thermometers must be distributed prior to the stated phase-out dates under this Administrative Order (AO), educate patients on how to safely clean-up (see Annex D) and temporarily store broken mercury thermometers (see Annex E). This can be done easily by handling out written information together with the "patient's kit" or made easily available at the health care facility's pharmacy and information desk.

Keep mercury thermometers out of yellow bags and sharps containers;
Mercury volatilizes easily. When mercury thermometer has been placed in a yellow bag or sharp container that is incinerated or autoclaved, the mercury becomes a gas and enters the air. Mercury that has vaporized in autoclave may also condense along with the steam and enter wastewater. Mercury thermometers should not be placed in yellow bags or sharp containers, even the temporary mercury storage area. The health

care facility's policy or guidelines for the temporary storage area should follow suggested storage procedures.

Collection and Retrieval of mercury-containing thermometers
Develop a policy or guideline for collecting and retrieving used/discarded mercury-containing thermometers. The used/discarded thermometers could be placed at a specified collection station that is safe and convenient for nursing personnel. The container at the designated collection station shall be properly marked and labeled. The container could be emptied or picked up on a regular basis or on an as-needed basis, according to the instructions of the waste management coordinator.

SPHYGMOMANOMETERS

If it is not yet feasible for the health care facility to replace all of its mercury sphygmomanometers, make sure there is a policy or guideline for its safe use and handling. The policy or guideline might include the following instructions:

1. Check the sphygmomanometer for possible mercury leaks before and after use.
2. Mark the casing or box of sphygmomanometer with: "CONTAINS MERCURY."
3. After every use, safely return the sphygmomanometer to its proper storage.
4. Wear appropriate protective clothing and work within a hood to provide ventilation.

Temporary storage of mercury-containing sphygmomanometers
Develop a policy or guideline for the preparation of mercury sphygmomanometers for temporary storage that is consistent with (EMB-DENR) regulations and other pertinent standards. Contact your waste management committee or officer for details about packaging, labeling and transporting that are specific to your facility. A suggested policy or guideline might include the following instructions:

1. Place the sphygmomanometer in a clear plastic bag and seal the bag. Do not use a yellow bag or biohazard bag.
2. Mark the bag: "CONTAINS MERCURY."
3. Place the bag in a plastic basin to contain any spills during transport to the designated hazardous waste collection point.

Inquire with the health care facility's suppliers for alternatives to mercury sphygmomanometers, they might have exchange programs and may be willing to take responsibility for one sphygmomanometer per one unit of alternative device purchased from them.

GASTROINTESTINAL TUBES

Temporary storage of mercury-containing gastrointestinal tubes
Gastrointestinal tubes typically have expiration dates, after which its use must be discontinued. Make sure the health care facility has a policy or guideline for the handling and temporary storage of mercury-containing tubes that is consistent with standards set by the DENR and other pertinent standards. Contact your waste management committee or officer for details about packaging, labeling and transporting that are

specific to your facility. A suggested policy or guideline might include the following instructions:

1. Place the tube(s) in a clear plastic bag and seal the bag. Do not use red bags or biohazard bags.
2. Mark the bag: "CONTAINS MERCURY."
3. Place the bag in a plastic basin to contain any spills during transport of the tubes to the designated hazardous waste collection point.

DENTAL AMALGAM

Many health care facilities do not have dental facilities. However, some health care facilities do have a clinic within the health care facility or as part of another facility with which they are affiliated. For the benefit of dental clinics and health care facilities that have dental clinics, below are some guidelines to follow.

How mercury from dental amalgam can get into the environment?
There are many ways that mercury from dental amalgam can get into the environment:

- If the liquid residues/wastes from dental procedures are directly connected to a septic system, amalgam particles become part of the sludge in the septic tank, which is eventually pumped out and transported to a wastewater treatment plant or land spread. Any mercury from the amalgam that becomes soluble will end up in groundwater.
- Placing an item that contains amalgam particles in a yellow bag allows mercury from the amalgam to be released into the air if the waste is autoclaved. The volatilized mercury is then re-deposited to the ground or a waterway.
- If items that contain amalgam particles are discarded with the ordinary trash, there is the potential for mercury from the amalgam to leach into groundwater when the trash is placed in a landfill not designed to handle hazardous waste.
- In an older dental clinic, pure bulk mercury from past practices may have settled in sink traps. The mercury is gradually released into wastewater for many years after the use of bulk mercury has been discontinued.

Amalgam storage and handling
Stock your amalgam materials in a good choice of capsule sizes, in order to better select the right amount of material for a particular restoration. This will minimize waste.

Dental scrap amalgam should be collected and stored in two designated, tightly closed, wide mouth plastic containers. One container should be labeled CONTACT AMALGAM (amalgam that has been in the patients' mouth). The other should be labeled NON-CONTACT AMALGAM.

Amalgam capsule handling
Collect and store the entire contents of broken or unusable capsules with your non-contact scrap amalgam. Even if empty dental amalgam capsules contain no visible amalgam materials, they should be placed in the non-contact scrap amalgam.

If there is a spill of mercury from a capsule, contain it and clean it up immediately. Keep

mercury clean-up materials for treatment and proper disposal. A trained staff member in proper spill clean-up shall always be available in the health care facility. (See Annex D for Managing Small Mercury Spills).

Renovations
Alert renovators to the possibility of mercury contamination in carpets, in floor cracks, behind moldings and other areas where bulk mercury may have been used, or where amalgam capsules may have been spilled. Have them consult with your Health Care Facility Waste Management Committee or Officer if you have questions about disposal of renovation debris.

FLUORESCENT LAMPS

Mercury in vapor form is contained in fluorescent lamps. The mercury that is enclosed in these lamps can be emitted into the atmosphere when they break, are disposed in landfills or incinerated.

Health care facilities generate a considerable amount of spent and broken fluorescent lamps. In the absence of a fluorescent lamp recycling facility in the country, proper disposal measures become the priority to eliminate mercury emissions from this source. Busted and broken fluorescent lamps are considered as hazardous wastes and should be stored temporarily within the health care facility premises or disposed through the EMB-DENR's recognized treaters of hazardous wastes.

Collection/Retrieval of Mercury-Containing Lamps
There should be designated collection points for spent/busted lamps within the health care facility. Spent/busted lamps from the designated collection points shall be taken by the waste management officer to the health care facility's designated temporary storage area. Collected lamps can be disposed through the EMB EMB-DENR's accredited treaters. CAUTION: DO NOT BREAK OR CRUSH THE LAMPS.

In case the lamp is accidentally broken in the health care facility, inform immediately the health care facility waste management officer for proper guidance.

Managing Broken Fluorescent
- Ventilate area where breakage occurred.
- Take usual precautions for collection of broken glass.
- Do not use a standard vacuum cleaner. Place materials in closed container to avoid generating dust.
- Keep broken lamps in a secure location away from patients and staff, separate from the intact tubes.

Storage Option 1:
Put used lamps in original boxes with no packing material. Make sure you completely seal the box to prevent leaks from bulb breakage. If you are combining used lamps with new ones, mark the used lamps with a piece of tape or a permanent marker (be sure that a marker is located next to receptacle.)

Storage Option 2:

- Never leave spent lamps unattended or in a compromising position (leaning against a wall or in an area where they can be easily broken).
- Do not tape lamps together.
- Store boxes/containers in a dry place.
- Clearly identify containers of used lamps. For example, "used fluorescent lamps for proper disposal" and the accumulation start date. **You cannot store the used bulbs for longer than one year.**

Energy efficiency of mercury-containing lamps

Fluorescent lamps, high-intensity discharge (HID) lamps and ultraviolet lamps (used in biosafety cabinets) are among the few mercury-containing products within health care facilities for which adequate non-mercury substitutes do not exist.

Fluorescent and HID lamps are efficient sources of white light, typically 5 times more efficient than incandescent lamps. Since fossil fuels contain mercury, power generation releases mercury and other pollutants to the environment, and these releases are greater when less efficient lamps are used. Considering both mercury emissions from power generation and mercury contained in the lamps themselves, incandescent lamps put more mercury into the environment than do fluorescent lamps.

Know the mercury content of fluorescent and HID lamps and purchase those with relatively low mercury content. In recent years, lamp manufacturers have been reducing the amount of mercury in fluorescent lamps, like in the case of compact fluorescent lamps (CFL). Some lamps are low enough in mercury content to be considered non-hazardous for waste recycling and disposal purposes.

ANNEX "C"
Sample Vendor Product Mercury-Content Disclosure

Hospital Name: _____

Name of Hospital Purchasing Agent: _____
Address: _____
_____

Telephone: _____ Fax: _____

The above-named Hospital has the policy of minimizing the use of mercury in products purchased for the Hospital. Such products may include:

Barometers	Lamps
Batteries	Pharmaceutical products
Cleansers and soaps	Sphygmomanometers
Electrical relays	Switches
Gastrointestinal tubes	Thermometers
Laboratory chemicals	Thermostat probes
Laboratory manometers	Thermostats

Vendor name: _____
Name of vendor's agent: _____
Address: _____
_____
Telephone: _____ Fax: _____

The above-named vendor agrees to:

Assist _____ Hospital in obtaining manufacturers' disclosures about the mercury content of their products.

Assist _____ Hospital in selecting products that are virtually free of mercury content.

_____ _____
Signature of vendor's agent Date

SOURCE: Reducing Mercury Use in Health Care, www.SustainableHospitals.org

ANNEX "D"
How to Handle Mercury Spills

A Mercury Spill Cleanup Kit can be used to clean up small mercury spills in hospitals. Ideally, for medical facilities, one kit should be available for every 20 beds. A Mercury Spill Kit can be purchased or created in-house. The contents of the kit should include:

4-5 zip lock bags
Trash bags (2-6 mm thick)
Rubber or latex gloves
Paper Towels
Cardboard Paper
Syringe (without needle)
Masking or duct tape
Flashlight
Powdered sulfur (optional)
Marker for labeling trash bags and zip lock bags
Small sealable containers for waste mercury. (i.e. empty photo film canister)

Cleanup Instructions

1. Remove all jewelry from hands and wrists so the mercury does not combine (amalgamate) with the precious metals. Change into old clothes and shoes that can be safely discarded should they happen to become contaminated.

2. Remove everyone from the area where cleanup will take place. Shut door of impacted area. Turn off interior ventilation system to avoid dispersing mercury vapor.

3. Mercury can be cleaned up easily from the following surfaces: wood, linoleum, tile and any other like surfaces. If a spill occurs on carpet, curtains, upholstery or other like surfaces, these contaminated items should be thrown away in accordance with the disposal means outlined below. Only cut and remove the affected portion of the contaminated carpet for disposal.

4. Put on rubber or latex gloves.

5. If there are any broken pieces of glass or sharp objects, pick them up with care.

6. Place all broken objects on a paper towel. Fold the paper towel and place in a zip lock bag. Secure the bag and label it.

7. Locate visible mercury beads. Use a squeegee or cardboard to gather mercury beads. Use slow sweeping motions to keep mercury from becoming uncontrollable. Take a flashlight, hold it at a low angle close to a darkened room and look for additional glistening beads of mercury that may be sticking to the surface or in small cracked areas of the surface.

   Note: Mercury can move surprising distance on hard-flat surfaces, so search thoroughly.

8. Use the eyedropper to collect or draw up the mercury beads. Slowly and carefully squeeze mercury on to a damp paper towel. Place the paper towel in a zip lock bag and secure. Make sure to label the bag.

9. After you remove larger beads, put shaving cream on top of small paint brush and gently "dot" the affected area to pick up smaller hard-to-see beads. Alternatively, use duct tape to collect smaller hard-to-see beads. Place the paint brush or duct tape in a zip lock bag and secure. Make sure to label the bag.

10. OPTIONAL STEP: Use powdered sulfur to absorb the beads that are too small to see. The sulfur does two things: (1) it makes the mercury easier to see since there may be a color change from yellow to brown and (2) it binds the mercury and suppressed the vapor of any missing mercury.

    Note: When using powdered sulfur, do not breathe in the powder as it can be moderately toxic.

11. Place all materials used with the cleanup, including gloves, in a trash bag. Place all mercury beads and objects into the trash bag. Secure trash bag and label it.

12. Remember to keep the area well ventilated to the outside for at least 24 hours after your successful cleanup. The trash, zip bags and all other materials used in the cleanup should be stored and contained in a safe place.

Unfortunately, all we can do right now is to contain the mercury. There is no program yet in the Philippines for its ultimate disposal. You may want to talk with other health care centers, your local government unit, or the Department of Environment and Natural Resources to address this issue of temporary storage and ultimate disposal of mercury.

If you need more information, see:
http://www.epa.gov/epaoswer/hazwaste/mercury/faq/spills.htm or the website of the Mercury in Health Care SE Asia Conference:
www.mercuryfreeHealth Care.org.

ANNEX "E" Guidelines for setting up A Proper Temporary Mercury Storage Area

Mercury-containing products not in use must be stored in non-breakable containers with tight-fitting lids. The containers must be clearly labeled as to their contents. Rooms where mercury-containing items are stored shall be tested periodically using a mercury vapor sniffer. Even after most uses of mercury have been discontinued in the hospital, mercury-containing products may still be in storage from past uses. All Health care facilities shall check storage areas for old, damaged or outdated equipment. If mercury-containing products are found, contact the hazardous waste management coordinator. After the removal of the mercury-containing products, the areas shall be checked with the mercury vapor sniffer.

Health care facilities shall keep a permanent record of all materials brought in and out of the mercury temporary storage area.

Specific Storage Requirements and Standards

Storage areas for Mercury and Mercury Compounds or Mercury-bearing or Mercury-contaminated wastes items must meet the following conditions:

1. The storage area shall be marked or delineated clearly by fencing, posts, or walls in order to limit access to it.
2. A recording system on the condition of the storage area shall be established, details of which shall include the observations, name of inspector, date inspected, etc.
3. The dates when the mercury and mercury-containing materials were placed in the storage area shall be indicated on the container and duly recorded.
4. The storage area shall have adequate roof and walls to prevent rain water from reaching the mercury anti-mercury-containing material.
5. There shall be no cracks or openings of any kind in the containment floor or walls that could allow the flow of mercury outside the area.
6. Floor of the storage area must be constructed of impervious material such as concrete or steel, and if mercury is in liquid form, shall be surrounded by a bund wall to contain spills.
7. Visible warning signs and notices must be placed in conspicuous areas in the premises.
8. Drainage facilities shall be installed in premises where mercury and related compounds are used and handled to contain possible spillage or releases.
9. Emergency showers and eyewash units with adequate water supply shall be made available in premises where mercury and related compounds are used or handled.
10. Fire-fighting facilities shall be in place for use in case of fire/s.
11. Access to mercury and its compounds shall be restricted to those authorized and with adequate training for such purpose.
12. A copy of the material Safety Date Sheet shall always be available in the area.
13. Segregation, adequate ventilation and ideal condition for storage of the chemical shall be maintained in the area.
14. Adequate security sitting and access to the area shall be observed.
15. Project loading or unloading of containers shall be observed.

16. A workable emergency plan must be in place and implemented immediately in case of accidental spillage and other emergencies.
17. Only trained personnel shall be handling containers in storage as well as in the transport of such substances of mixtures.