

Phasing out mercury products from the health sector: Evidence from Winneba Trauma and Specialist Hospital, and Eastern Regional Hospitals

Eastern Regional and Winneba Trauma and Specialist Hospitals- Ghana

GGHH Agenda Goals

- Chemicals

Hospital Goal

- Reduce the release of toxic substances into the environment
- Ensure proper waste segregation

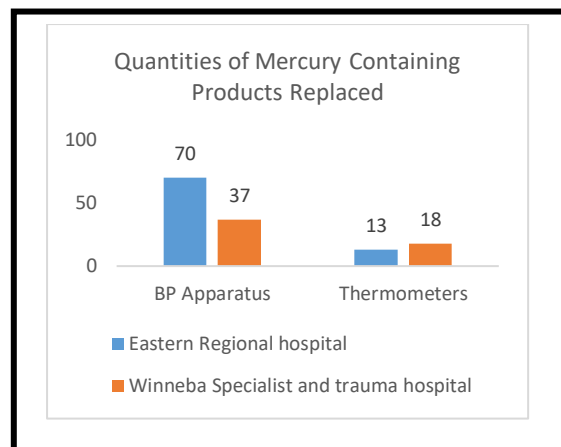
Progress Achieved

- Environmental benefit: Reduce the release of toxic substances into the environment
- Human health benefit: reduction in mercury devices and possible mercury spillages in and around the hospital

The Issue

Mercury containing thermometers and sphygmomanometers have been used extensively by the health sector of Ghana for measuring temperature and blood pressure (diastolic and systolic) of patients. The mercury containing products have been susceptible to frequent breakdown and leakage resulting in the release of mercury into the environment. In the event of a thermometer break, health workers were not following any standard procedure for dealing with the mercury waste. Often the broken thermometer and mercury is put with general infectious waste for disposal without treatment.

Mercury and its related compounds are known to cause several health problems including nervous system disruption, kidney disorder, nausea to exposed populations such as health workers, patients and the general public. Environmentally, they have been found to be persistent, stable, and bio-accumulative in animal tissues. Ghana has signed on to the Minamata Convention, which means steps are to be taken to phase out the use of mercury containing products from the health sector. UNDP through the GEF funded health care waste management project on “reducing the release of UPOPs and Mercury from the Health Sector of Africa” supported the Ministry of Health to implement the mercury phase out programme in five pilot facilities.



Sustainability Strategy Implemented

- MoU signed to commit facilities to become mercury free
- Support of hospital management members to phase out mercury containing products.
- Awareness and education for staff on dangers of exposure to mercury and the need for them to be safe in their work place.

- Incorporation of mercury free devices in their procurement list and avoid future procurement of mercury containing products.
- Replacement of mercury containing products through exchange so that they will not fall back to use them again in case of breakdown or failure of the mercury free products.

Implementation process

An inventory of mercury containing devices (thermometers and sphygmomanometers) used by the health facilities was conducted to provide a baseline of the extent of usage and for planning for procurement of alternatives for replacement programme. Procurement processes of UNDP was followed to select a supplier. The supplied mercury free devices were calibrated by the Ghana Standard Authority and the cost was borne by the Ministry of Health as part of the counterpart funding for the project.

Awareness and education was done for the staff of the two project facilities to cover the forms of mercury and mercury compounds as well as the health and environmental effects of mercury exposure. Advocacy for alternatives to mercury containing devices was done among the top management members of the two hospitals including the unit heads. The phase out strategy was one-to-one replacement of mercury containing devices for mercury free devices which the facility managers accepted. The project liaised with the Environmental Protection Agency for storage of mercury containing devices collected during the exchange at their regional laboratory until an interim storage facility is available.

Tracking Progress

In all, a total of **138** mercury containing sphygmomanometers and thermometers were replaced in the two health facilities. This amounted to a reduction of **8.57kg** of mercury that could potentially be released into the environment.

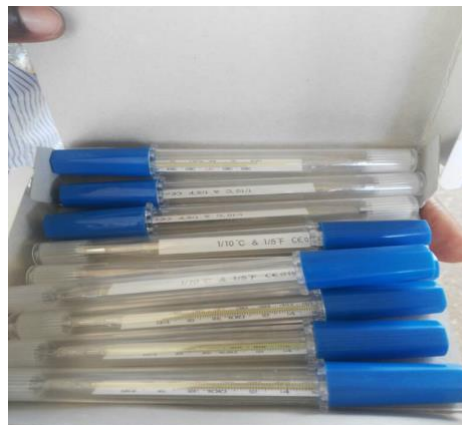
The cost of the mercury free products was \$9,500 excluding clearance and procurement process fees. Calibration cost was approximately \$3,000.

Challenges and lessons learned

- Signing MoU with model facilities made it possible to replace mercury containing devices
- Advocacy to get the participation of Hospital Management and staff in a replacement programme is key to the success of phasing out mercury devices from HCFs.



Sample digital automatic blood pressure apparatus used for the exchanged programme.



Mercury containing thermometers exchanged.

- Use of short videos helped in making the training more interactive and generated discussions and interest from staff for the need to phase out mercury products.
- Hospital staff were skeptical about the reliability of results from digital mercury free devices. However, using videos for awareness creation and calibration of the digital devices by the standard authority provided an assurance to staff that the devices will work to produce acceptable results for their patients.
- Replacement is the best way to phase out mercury containing sphygmomanometers from health facilities.
- Procuring mercury free devices with single cuff will not serve the purpose and should be avoided.

Next Steps

- The project is planning to work with stakeholders to develop national strategy for phasing out mercury containing products from the health sector.
- There are discussions and proposal for extra funding to expand the intervention in other facilities focusing more on sphygmomanometers and institutional reforms for mercury free products.
- There are plans to engage procurement officers to focus on mercury free devices which should be integrated into their policy.

Demographic information

Eastern regional Hospital, bed capacity = 350, about 800 staff, regional hospital, training of nursing students

Trauma and Specialist hospital, bed capacity = 150, about 360 staff, regional hospital, specialized with general services, training of nursing students

Links

Please add links to relevant documents referred to on this case study.

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Quotes:

It's a dream come true, we started the project in 2016 with the expectation that our mercury devices would be replaced and in December, 2017 all our mercury containing devices have been replaced, we are free from mercury, thank you UNDP and all those who supported the process" (Francisca Akofa Adika, Project Focal person for Eastern Regional Hospital,)

We did not know much about the health risk of mercury but through the UNDP medical waste project now we are aware and all our mercury products have been replaced with mercury free ones, this will make our work easy" (Justice Abeka, Project Focal Person for Trauma and Specialist Hospital, Winneba).

Keywords / topics: Mercury phase out, mercury free devices, Minamata Disease

Submission date: 25th July 2019