

Effective Health Care Waste Management Practices Lower Umfolozi War Memorial Regional Hospital

GGHH Agenda Goals

- Waste Management
- Energy

Hospital Goal

- To promote a safe, clean and healthy environment.
- To prevent and minimize environmental pollution.
- To reduce high expenditure spent on medical waste disposal.
- To promote waste reduction, re-use and recycle.
- To generate and increase Facility revenue.
- Compliance with environmental hygiene standards.
- To reduce incidents of needle stick injuries through improper disposal of sharps.

Progress Achieved

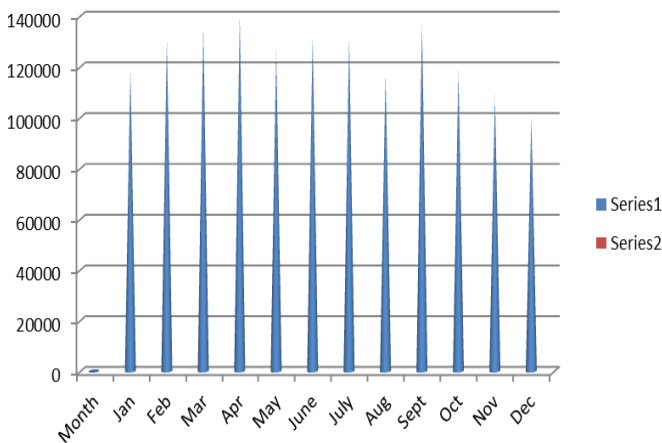
- Revenue generation through successful recycling project initiative, approximately +- R1500 amount generated and average of 4877 kg per month from recycling.
- Cost reductions on medical waste monthly disposal (see graph 1 versus graph 2).
- Cost reduction on municipal waste disposal, hence the total of 2 municipal skip bins were removed out of 3 bins due to effective recycling project, the Facility is generating more recyclables materials, pictures attached below.
- Approximately +- R136 000 per month spent on medical waste disposal in previous years, but in 2017 going forward the facility is spending +-R50 000 per month.
- Reduction of air pollution through overflowing of waste.
- Less cases of needle stick injuries caused by improper disposal of sharps and that result no staff members will claim for injury on duty (compensation fund).
- Appointments of Waste management Departmental Representatives to ensure compliance and report all issues that need the attention of Waste Management Officer on a daily basis.
- Effective committee of waste management to ensure all waste related issues are discussed and resolve by the committee on a monthly basis.
- Staff ownership and accountability.
- Ongoing trainings, indaba, campaigns, etc.
- In 2016, the Facility was recognized and awarded certificate of compliant HCRW storage as per SANS 10248:2008 by Department of Environmental Affairs at King Cetshwayo District.

Medical waste monthly expenditure graphs

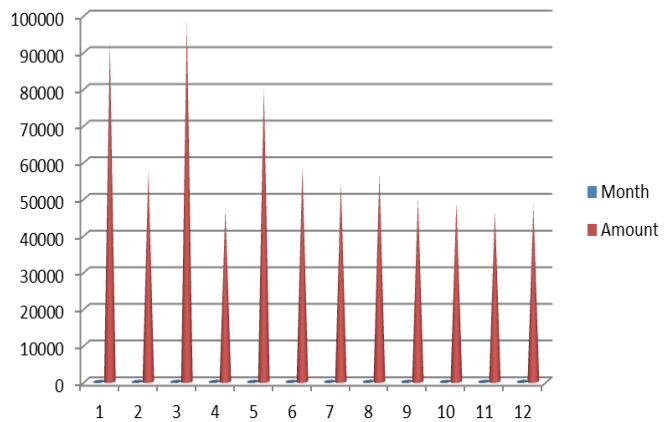
Months	2017	2016
▪ January	:R92 593.31	R118 911.37
▪ February	:R57 384.34	R130 799.40
▪ March	:R97 979.34	R135 606.51
▪ April	:R47 130.59	R139 699.21
▪ May	:R80 400.34	R126 504.50
▪ June	:R58 712.55	R132 067.12
▪ July	:R54 241.78	R131 284.40
▪ August	:R56 903.08	R117 260.21
▪ September	:R50 118.83	R137 051.37
▪ October	:R48 864.85	R118 263.95
▪ November	:R46 601.44	R108 817.26
▪ December	:R48 200.33	R100 124.44



Graph: 1 (2016)



Graph: 2 (2017)



- Poor segregation of waste that was contributing to high expenditure on waste disposal, i.e mixing of infectious waste with non-infectious waste.
- Improper use of waste receptacles that was contributing to fruitless expenditure.
- High number of needle sticks injuries caused by improper disposal of sharps.
- Unavailability of recycling project-no revenue generation.
- Lack of system in place to reduce expenditure of medical waste.
- Poor implementation of waste management policy.
- High amount of general waste generated that goes to landfill site.
- Recyclables generated in the hospital were sent to the landfill site for disposal.

Sustainability Strategy Implemented

- Teamwork is the best strategy to sustain the effective waste management in a health care facility.
- The system was initiated based on the improper management of waste in all wards, particularly waste segregation.
- An Indaba Awareness was conducted in collaboration of Infection Prevention and Control, Health and Safety and Waste Management whereby all staff, both clinical and non-clinical staff were trained.
- Departmental trainings are continuously conducted to all staff involve in waste management.
- Ongoing orientation and induction are conducted to newly staff members.
- Findings of all inspections are presented to the committee and hospital management for further actions and support.
- Recycling company (Mpact) conducted training to all staff by the time of initiation.
- Waste Management Officer do attend the service providers during collection of all waste to verify total number of bags collected to avoid being overcharged or undercharged.

Implementation process

- Staff is continuously trained by Waste Management Officer to segregate waste correctly to avoid increase of waste expenditure.
- GGHH is an agenda item in our monthly committee meetings.
- There is task team in place that consists of hospital management for support in implementation process.
- Support from our service providers, compass waste services, Mpact Recycling and the Municipality for offers.

- The implementation process is coordinated by Waste Management Officer working together with Departmental Representatives/Champions and Heads of Components in ensuring compliance of effective waste management.
- Consultation with different stakeholders.
- Initiation of paper recycling project- Mpact recycling company.
- Initiation of food remains project.
- Monitoring of revenue generation from recycling projects.
- Packaging strategy of medical waste bags. Attached pictures below.
- Monitoring of monthly invoices for medical waste.
- The recycling project started in 2016 whereby only cardboards and papers were recycled; the project was further extended in 2017 whereby the recycling company provided the hospital with 2 Sorters to ensure that all recyclables are not taken to the landfill site.
- Sorters are sorting all recyclables and only dispose the remaining non-recyclables materials to the municipal skip bin. See pictures below.
- Packaging strategy of medical waste red plastic bags- It was discovered that red plastic bags for infectious waste were charging high amount on the monthly invoices and again the hospital was sending high number of red plastic bags to Compass waste for disposal, hence compass waste is charging per bag instead of per weight.
- Hospital Waste Collectors were trained on proper way of packaging waste into red plastic bags to reduce number bags sent for disposal.

Before and after implementation process



Incorrect use of waste containers/poor segregation

Before



After



Poor monitoring of waste packaging result high expenditure

Before



After



Proper packaging of waste



Bracket for sharps container



Lockable freezer for anatomical waste in Labour ward

Before



After



All waste bins are labelled for proper waste segregation



Waste chart used during trainings

Recycling initiatives



Temporary storage of paper



Cardboard cage



Recycler box distributed in all Departments

Tracking Progress

- Waste Management Officer is monitoring progress through daily walkabout to enforce compliance and conduct scheduled ongoing trainings.
- Monitoring of service providers, witnessed all waste collected and sign to confirm correct collection that will reflect in the monthly invoices.
- Keeping records of health care risk waste from point of generation to final disposal.
- Monthly meetings to discuss all waste related issues with the committee.
- Compliance with NCS.
- Positive results/feedback from outside Auditors.
- Revenue generation from recycling and the spreadsheet is sent monthly to monitor the project.
- All the above is achieved through teamwork and ownership.

Challenges and lessons learned

- Uncooperative staff.
- Rotation of staff.
- Lack of knowledge on waste management programme.
- Resistance to change, continuous sensitization was emphasized.
- Involvement, ownership, commitment and mutual understanding of the project.

Next Steps

- The facility is working to achieve zero waste (municipal waste) for the next coming years.
- The facility has recently engaged into a project of selling food leftovers or remains for the purpose of reducing waste going to the landfill site and revenue generation.
- There is a valid Memorandum of Understanding (MOU) for this project in place and monitored.

- The service provider has started to pay the facility for all food remains collected as per the MOU; the payment is done on monthly basis.
- Based on cost effective there will be cost reduction for municipal bill and revenue generation, going forward the facility is focused to maintain and sustain the best waste management practices.

Demographic information

Lower Umfolozi War Memorial Regional Hospital is situated under King Cetshwayo District, town of Empangeni in KZN Province. It is a maternal hospital with 369 beds. Outpatient visits average about 200 per day and it is operated by Government, Department of Health. It has 887 employees.

Key words/Topics: Waste management- Recycling- Segregation- Storage- Disposal- Waste bags

Submission date: January 2018