

Case Study

Good waste management practices in healthcare establishments

Dr. Roque Sáenz Peña Hospital in Rosario (Argentina)

GGHH Agenda Goal:

- Waste. Reduce, treat, and dispose of hospital waste in a safe manner.

Date of the case study: September 2012.

Benefits

- Cost savings of approximately \$25,000 (US) per year¹, due to the implementation of good waste segregation practices that divert 21,000 kg of waste from the hazardous waste stream.
- Reduction of infectious and bio-hazardous waste from 44,421 kg per year to 23,610 kg per year (using a base year of 2004) due to the implementation of waste classification throughout the institution.
- Reduction of accidents involving sharps.
- The creation of a participatory, collaborative management group. In order to deal with major obstacles, a space was created to encourage discussion among all the staff involved, including management and operating personnel.
- Raising awareness of the issue in all departments of the hospital.

The Issue

Hospital waste constitutes an acute issue if not properly segregated and adequately treated.

In order to address this, we started a work project in conjunction with the Secretary of Public Health of the municipality of Rosario, the Secretary of Public Services, and the Rosario Waste Project (GTZ). Through this partnership, we created an Internal Committee on Waste Management, which has the support of hospital management.

Goals

- Reduce environmental contamination.
- Increase bio-security.

¹ Estimated value. The quantity of waste diverted from the bio-contaminated (infectious) waste stream because of waste segregation: 21,000 kg/year. The cost of treating bio-contaminated waste: \$5.50 (AR) per kg. The official exchange rate: \$1 US = \$4.60 AR. Therefore: 21,000 kg/year x \$5.50 (AR) per kg ÷ \$4.60 (AR) / \$1 (US) = \$25,108 (US) per year.

- Reduce costs.
- Implement training programs and lasting education.

Methods

1. Survey stage:
 - a) We assessed the situation by conducting an institution and organization wide analysis.
 - b) Survey of medical services.
 - c) Study of the generation of bio-contaminated (infectious) waste.
 - d) Study of the composition of bio-contaminated (infectious) waste.
 - e) Planning workshop.
 - f) Set rules.
2. Implementation stage:
 - a) Workshop on the classification of hospital wastes.
 - b) Elaboration of classification rules and conditioning of hospital wastes.
 - c) Approval of the rules by hospital management. Confirmation of the rules from October 2004.



Signs indicating waste segregation posted in hallways and other areas.

Implementation process

The Committee provides general guidelines on waste according to legislation. Each department upholds these guidelines to the best of its ability. This project was undertaken in all hospital departments.

The classification rules emerged from a workshop where a consensus was reached on the classification criteria.

We conducted days of training for all personnel, including on site trainings. Currently, we are conducting annual trainings and keeping a record of the trainings.

We created “*Orientation Talks for New Personnel*”, that consist of:

- Bio-security concepts
- Workplace accidents
- Waste classification

- Vaccine surveys

Given that this is a research hospital, there are residents, students enrolled in their final years, new doctors, students from the Rosario National University Nursing School, interns, and fellows in each department. Training is provided for all of these people, in addition to all new personnel that enter the hospital, regardless of their position.

Facilities modifications:

- Placement of the containers to separate regular solids from bio-contaminated (infectious) waste. Provision of sand containers for cigarette disposal.
- Placement of special containers (commonly called Bear containers) that are a larger size and are easily transportable, adequate for both their primary site and intermediate storage areas.
- Improving the final deposit area for bio-contaminated (infectious) wastes.
- The creation of a new deposit area for hazardous chemical wastes.
- Placement of receptacles for recyclable waste.
- Creation of different collection routes for each category of waste.
- The use of carts for collection and internal transport of each type of waste.
- Creation of procedures.
- The use and placement of signs.



Challenges and lessons learned

Factors that complicated this process:

- Initial lack of knowledge in this area.
- Resistance to change.
- Lack of commitment from certain members of the hospital staff.
- Intermittent inputs to the system.

Factors that contributed to process success:

- Commitment from the hospital management.
- Support from the Nursing Department.
- Commitment from hospital personnel.
- Study of the generation and composition of bio-contaminated (infectious) wastes.



Signs and different containers for waste: red for bio-contaminated waste, black for regular solid waste, and white for serum bags to be recycled.

From the beginning, the management has been participatory and collaborative, which led to more lasting involvement. It is a space to offer proposals that are evaluated for applicability by everyone together.

This also allows for working on national and international projects, sustaining periodic meetings, and contributes to permanency of committee members. There were periods of great enthusiasm along with periods of inactivity and discouragement, which were overcome by having a consolidated working team.

These years of uninterrupted work have led to the recognition of the hospital as a leader in waste management.

Next steps

We are working on:

1. Improving some of the intermediate deposit areas for bio-contaminated (infectious) waste.
2. Conditioning of the final deposit area for hazardous chemical substances.
3. Cleaning and maintaining the containers used in intermediate storage areas.
4. Revising the procedures.
5. Updating the classification rules.

Demographic information

Dr. Roque Sáenz Peña Hospital is located in the region south of the city of Rosario (Santa Fe province, Argentina), with a zone of influence including two of the six districts of the city – south and southwest – with 20 primary attention centers. It is a second level complexity and multifunctional hospital with 98 beds.

Key words/topics:

Integrated waste management – trash – rubbish – waste – pathogens – bio-infectious – infectious – hazardous – bio-contaminated – red bag – recycling – minimization – separation – segregation – pathological – storage

Contact information

Carlos Marinozzi

E-mail: cabenozzi@hotmail.com