

Leader Among Private Hospitals in Nepal in Safe, Sustainable and Environmentally-Friendly Practices

Norvic International Hospital, Kathmandu, Nepal

GGHH Agenda Goals

- Leadership
- Waste
- Chemicals

Hospital Goals

- Be a leader among the private hospitals in the promotion of safe, sustainable and environmentally-friendly practices.
- Implement safe and sustainable health care waste management.
- Substitute mercury-based equipment with safer alternatives.

Progress Achieved

A proper and safe health care waste management system was implemented in 2012 with technical support from Health Care Foundation Nepal (HECAF) and Health Care Without Harm (HCWH)

- Norvic International Hospital is the first private hospital in Nepal to become a member of the Global Green and Healthy Hospitals (GGHH) Network in 2013.
- A safe health care waste management system is now implemented throughout the hospital, and managed by the hospital's waste management committee.
- A fully functional waste treatment and storage center has been constructed, with a validated steam-based autoclave installed.
- Safe injection and safe handling of sharps are practiced in the hospital, with needle destroyers and cutters in all hospital wards.
- All members of the hospital staff have received training on safe health care waste management.
- The hospital is a mercury free health care facility.
- Risk waste has been reduced from 69% to 29% of total waste after the implementation of the safe health care waste management system.



- On average, the hospital recycles 15 tons of waste per year generating a revenue of about NPR 252,000 (USD 2,500) annually, which contributes to the maintenance and operation of the waste management system. 7 tons of food waste is generated by the hospital annually, which becomes part of the municipal waste stream.



“We are proud to be the first private hospital in Nepal to initiate safe health care waste management and phase out mercury-based equipment. Through various eco-friendly practices, we are committed to protecting the health of our environment. When the environment is healthy, we are healthy.”

~ *Basanta Chaudhary, Chairman, Norvic International Hospital*

The Issues

Like many hospitals in Nepal, Norvic International Hospital used to burn its syringe waste in a small chambered incinerator or just out in the open. The burning area was located just below the building with VIP and deluxe wards, affecting the health of hospital staff, patients and visitors.

Moreover, the hospital did not disinfect its waste before disposal, affecting the municipal staff, waste scavengers and people residing near the landfill sites.

Sustainability Strategy

At Norvic International Hospital, the strategies used to sustain the health care waste management system include the adoption of a participatory approach to system design and implementation, capacity building for all hospital staff, a good governance structure, and the promotion of positive behavior change.

Behavioral and attitude change is the most critical for ensuring sustainability of the health care waste management system. To bring about this change, all the hospital staff members received orientation and training on health care waste management, and they were involved in each and every step of the system implementation process.

The system was designed and developed based on a diagnostic assessment conducted at the very beginning, and on regular feedback from staff throughout the implementation process.

To oversee the health care waste management

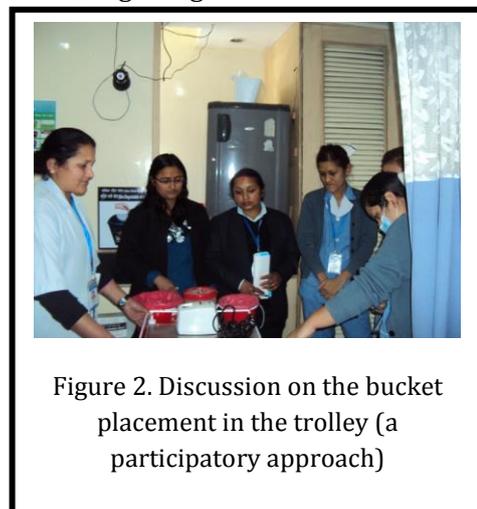


Figure 2. Discussion on the bucket placement in the trolley (a participatory approach)

system at the hospital, a hospital waste coordinator was appointed, and a waste management committee established, as recommended by the World Health Organization (WHO).

The committee, chaired by the director of the hospital, deals with all the issues and decisions related to waste management, and ensures that all new staff members receive training on the waste management system, on segregating waste at source, and on injection safety and safe handling of sharps.

In each ward, a ward waste coordinator is appointed to ensure that waste is properly segregated and managed at the ward level. The ward waste coordinators report to the hospital waste coordinator.

Implementation Process

All the staff members of the hospital, including nurses, doctors, support staff and administrative staff were involved in the design, planning and implementation of the waste management system at the hospital.

As described briefly above, the first steps involved a diagnostic assessment conducted by a team from HECAF. This was followed by a series of orientation and training on waste management for all hospital staff—including both medical and support staff.

Various meetings were conducted with staff members from different wards to increase staff participation. Suggestions on the location of bins for waste segregation in the wards (see Figure 1), the design of medication trolleys (see Figure 2), and the type of needle destroyers required were discussed and taken into account.

Before implementing the system throughout the entire hospital, a model ward was selected and the system was implemented there. Only after the waste management system was successfully implemented in the model ward, was it replicated to other wards and units in different phases. It took one year to implement the system in all wards and units of the hospital.

A waste treatment and storage center was developed inside the hospital premises, and an autoclave (Figure 3) was procured to treat its infectious waste, and the hospital no longer has to burn its waste.

On average, the hospital treats 31 kg of infectious waste and 3 kg of syringes waste daily.

To ensure that the autoclave is functioning effectively, the integrator and biological indicator or spores test is conducted weekly.

General waste like paper, plastic, glass and disinfected waste is sold to local scrap dealers to generate some income.



Figure 3. Autoclave used for treatment of infectious waste

Tracking Progress

The hospital tracks progress through:

- Records of the amount of infectious waste autoclaved;
- Results of the regular efficacy testing of the autoclave;
- Records of maintenance of the autoclave; and
- Records of waste sold for recycling, and income from the sale (after transportation costs are deducted).

These record sheets for data collection were developed with support from HCWH.

Challenges and Lessons Learned

Behavior change is the primary factor that determines the sustainability of the established health care waste management system. The hospital has found that the success of the system depends heavily upon staff behavior and their attitude towards the system.



Figure 4. Waste transportation trolley

Next Steps

The hospital is planning to install a biodigestion plant for the management of biodegradable and pathological waste.

About Norvic International Hospital and HECAF

Norvic International Hospital was established in 1994 by Chaudhary Group, one of the most prominent corporations in Nepal. Norvic International Hospital is the first private hospital that obtained an ISO certification 9001-2008, and is renowned for its critical and cardiac care facilities. It is a 137-bed hospital and is in the process of adding 163 more beds, to total to a 300-bed multi-specialist general hospital. For more information see <http://www.norvichospital.com/>.

At the request of the hospital, HECAF started implementing a health care waste management system at the hospital in 2012.

HECAF, established in 1994, is a national non-governmental and not-for-profit organization with a mandate to work in three core areas: (1) health care, (2) environmental health and (3) emergency health. HECAF established the National Kidney Center in 1997, offers technical support in developing a safe and sustainable health care waste management system, and provides capacity development and training in emergency management and disaster risk reduction. For more information see <http://www.hecaf.org>.

Annex: Old vs New Waste Management System

Old Waste Management System	New Waste Management System
1. <u>SEGREGATION SYSTEM FOR GENERAL PUBLIC</u>	
	

Old Waste Management System	New Waste Management System
2. <u>SEGREGATION AT SOURCE (MEDICATION TROLLEY)</u>	
	
3. <u>SEGREGATION PRACTICE IN WARDS</u>	



4. ONSITE WASTE TRANSPORTATION SYSTEM



Old Waste Management System	New Waste Management System
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5. WASTE TREATMENT SYSTEM



6. WASTE STORAGE

