

Waste: Reduce, Re-use, and Recycle For Our Future Generations Buddhist Tzu-Chi Dialysis Centre

GGHH Agenda Goals

- Leadership
- Waste

Hospital Goal

- To reduce volume of waste generated through education, recycling and conscientious utilization of resources
- To effectively lessen carbon dioxide emission by significantly lowering amount of waste produce
- To motivate employees and patients to participate in waste reduction programs and activities to safe guard Mother Earth

Progress Achieved

Since the Buddhist Tzu Chi Dialysis Center was founded, we have been practicing the use of reusable food containers and implementing recycling programs. Among the generated wastes being recycled are papers, aluminum foils, plastics and packaging used in the clinical areas.

The employees and volunteers abide by the center’s policy. The cooperation of both employees and volunteers had reduced generation and increased diversion of wastes through recycling. From recycling, the total amount of funds is given back to Tzu Chi Dialysis Center Funding. The activity implemented by the Buddhist Tzu Chi Dialysis Center has been awarded 2016 Penang Environmental Sustainability Award.

The wastes that are not sold are fully utilized and reused for teaching purposes or are repurposed for other usage such as shoe racks, files keepers or containers. These activities not only divert waste but indirectly involves volunteers and patients in recycling and reuse programs. Over-all these activities reduces pollution and safe guard our Mother Earth. The table below shows the annual revenue and volume from selling recyclables.



Table 1.0 Annual Volume of Recyclables Collected and Volunteers Participated

Month	Volume of Recyclables (Kg)		Total Active Volunteers	
	2015	2016	2015	2016
January	576103	622244	2143	3237
February	10511905	1088206	2785	1825
March	2294669	1640515	1972	3085

April	2628893	1979058	2099	2934
May	3032259	2319390	2571	2763
June	3390848	2703048	2681	2868
July	3782858	3092711	2727	2938
August	4184222	3503757	2794	2921
September	4598337	3891550	2961	3049
October	4958337		2994	
November	4957138		3016	
December	5447195		3141	

The Issue

Solid Waste reduction and management plays a significant role in the ability of nature to sustain life within its capacity. However, it is one of the major environmental problems experienced in Malaysia. Currently over 23,000 tons of wastes are produced each day in the country. It continues to increase with the growing population and development while only 5% of the generated waste is recycled. This phenomenon leads to environmental pollution due to excessive waste production.

Sustainability Strategy Implemented

Buddhist Tzu Chi Dialysis Centre practices frugality and sustainability with modern and high technologies in equipment and facilities. It ensure all employees and volunteers are aware of their frugality and waste reduction campaign to continuously protect the environment. They have conducted campaigns through orientation and placing posters to educate patients and employees. The activities constantly remind everyone to save the environment.



The dialysis center has upgraded their documentation and recording of dialysis treatment by using Therapy Data Management System (TDMS). It is an effective data management system for their growing number of patients and the rising requirements for documentation of patients. The utilization of the Therapy Data Management System officially started on 17th of February, 2016. Manual management of these data is not ideal as it involves a great deal of administrative work and uses up valuable resources particularly paper and time. This also ensures patients' safety with protection of environment. The table presents the saving the dialysis center are able to acquire through the Therapy Data Management System:

Table 2.0 Savings Acquired from Using the Therapy Data Management System

Paper	Time	Pen	Other Benefits
used/month/patient: 7 pcs (both side printed)	• 1 flow sheet estimated 2 min,	Total staff : 34 Each pen cost: RM 0.70	Space saving: Few cabinets used which allows more

<p>130 patients=910 pcs pcs/month</p> <p>Per Year 10,920pcs</p> <p>If fully utilized the maximum capacity of 240 patients Total Paper Saved: 20,160pcs</p> <p>It takes about 1 tree (11 meters tall) to make about 58 Kg of paper - 1pc of A4 paper = 7 gm</p> <p><i>* 20,160 pieces = 141,120gm (141kg) * 2 mature trees saved *It takes up to 20-40 years for a tree to mature</i></p>	<ul style="list-style-type: none"> • 2min x 40320 pages/ 60min = 1344 hours / year A Staff works 7 hours/day Average staffing / day : 12 <p>Amount of times we can save per person : 16 days</p> <ul style="list-style-type: none"> • Total Time Saved: 1344 hours 	<p>Average usage: 1 pen / month / staff Total pens saved: 408 pens RM 285.60 (USD 64.29)</p>	<p>storage capacity for other usage</p> <p>Data Analysis: Faster, better and more accurate results which allows faster decision</p> <p>Better Document tracing: Easier and faster for document retrieve and making Doctor's round smoother and more efficient</p>
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* Total number of patients as of 31st Oct – 130 individuals

Implementation Process

It has been Buddhist Tzu Chi Dialysis Center policy to practice vegetarianism and use of reusable food container, recycling papers, aluminum foil and plastic at the clinical area. They have regular activities and education program implemented by the volunteers to pass the knowledge on recycling and the importance of environment protection to nurses and patients. They are not only doing recycling at the centers but encouraged them (nurses and patients) to practice it at home and their community. They also have a “recycling” day every month where their patients, volunteers and employees participate in the nearby community to segregate waste.

Recyclable items are sent to Tzu Chi Recycling stations to be sold. Proceeds of the sold recyclables are then used by the Center to fund its dialysis treatments. The fund not only used for the three dialysis centers but also to



subsidized about 200 patients who are doing dialysis treatment at the other hospital or other dialysis centers. As for the TDMS implementation, the center ensures proper professional training for the appointees of the company. All of the nurses have to go through the fundamental training and have their competency evaluated. There were also specially trained nurses who are termed “Super Users”. They will provide support and continuous training to all nurses.

Training & Continuous Support

Tracking Progress

The Buddhist Tzu Chi Dialysis Center do not have any specific tracking system but we continuously encourage and educate all staff, volunteers and patients regarding the waste reduction and the effect of carbon emission. The only data that the center has are the number of volunteer and amount of waste sold at recycling centers. Awareness campaign and support from the management helps in sustaining and maintaining of this project.

Challenges and Lessons Learned

The center needs to identify better and more efficient strategy to reduce generated waste. We need to provide more education and activities to all patients, employees and volunteers. These activities will further create awareness and instill green habits to all and ensure sustainability.

Reducing waste and frugality practices requires behavioral change but personal habits are proven difficult to change. The waste reduction plan may only be implemented through cooperation from different stakeholder. In order to address this concern, continuous communication, education and training will be given to develop good habits.

Next Steps

It is always challenging to do things which the majority is not doing or introducing new rules and regulations. More so, it is difficult to turn them into something that is workable or feasible. There are always people who will disagree or oppose the newly implemented policies and practices.

However, with hard work and perseverance that the dialysis gained through experiences on how to smartly use the data to communicate and to encourage change will surely assist in the implementation. Although tools or modern technology can be very helpful, we human still are the backbone of energy solution and driver for change and betterment of the society.

It is with this rationale that the dialysis center will continue its effort in advocating and encouraging nurses, employees and patients, If possible, further enhance their waste management program.

Other means of monitoring will also be employed to better evaluate the program implementation.

Demographic Information

Buddhist Tzu Chi Dialysis Center was the first dialysis center to provide free hemodialysis treatment, EPO injection, Blood tests and regular specialist checkup for all patients irrespective of race, religion or creed. Presently we have 3 Tzu-Chi Dialysis centers in Malaysia, Penang (PGDC), and Butterworth (BWDC) and in Alor Star (KDC).

As at 31st of October 2016,

- PGDC has 36 Hemodialysis machines, a total of 130 patients and 34 nursing staff
- BWDC has 36 Hemodialysis machines, a total of 97 patients and 21 nursing staff
- KDC has 22 Hemodialysis machines, a total 73 patients and 21 nursing staff

Buddhist Tzu Chi Dialysis Centre also provides free basic screening under the CKD awareness and prevention program

Links

<http://tzuchi.org.my>

Quotes:

Do not let the environment influence our mind. We need to improve the environment with diligence and perseverance. We have to be mindful of each footstep we take is the beginning of our commitment to cherish our planet. (Jing Si Aphorism by Master Cheng Yen)

Keywords / topics:

Waste reduction/ energy consumption and reduction/ carbon emission.

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