OFFICE OF WASTE REDUCTION SERVICES
State of Michigan • Departments of Commerce and Natural Resources

Butterworth Hospital, Grand Rapids, Michigan

WASTE REDUCTION: Rx FOR A HEALTHY ENVIRONMENT

QUESTION:.. What do dancing coffee mugs, "dumpster diving" “de-junking” all have in common?

ANSWER: All are key ingredients found at Butterworth Hospital's award-winning waste reduction program in downtown Grand Rapids.

In less than two years, the 539 bed, acute care, teaching hospital has got 90 to 95 percent of its departments involved in examining ways they can reduce waste and implement recycling programs.

Butterworth Hospital had been recycling old corrugated containers for nearly ten years, when its overall waste reduction program really took off, prompted by the start-up of the Kent County Municipal Solid Waste Incinerator. The first year the incinerator began operation, solid waste disposal costs jumped 20 percent - and then another 24 percent a year later.

While solid waste disposal costs sharply escalated, municipal recycling programs in Michigan were gaining more visibility, momentum and widespread acceptance. Determined to implement environmentally friendly programs within the hospital, a volunteer group of hospital staff formed the “BEAT” committee - the “Butterworth Environmental Action Team.” Dan Stickles, Director of Butterworth’s 145 person Environmental Services Department, chairs this 30-member committee.

Through the staff efforts at Butterworth, the hospital’s solid waste stream has already been reduced by over one-third. Heaping 30 cubic yard containers that required trash service six days of the week are now serviced four times per week. These achievements alone are saving Butterworth thousands of dollars annually in avoided disposal costs -- but efforts do not stop there. Through the ever expanding list of waste reduction initiatives described in this case study, Butterworth employees believe these accomplishments are only the beginning of their waste reduction program.

SOURCE REDUCTION

A critical subset of the BEAT group is the nine person “Reusable/Disposable Committee,” chaired by Randy Sportel, Butterworth’s Manager of Purchasing. Mr. Sportel and committee members continually research ways to lessen the amount of packaging material in shipments received, and identify a host of durable, reusable and recycled products. Any cost-effective changes that result in the lessening of the volume or toxicity of the waste stream are fair game for this committee to pursue. The Reusable/Disposable Committee’s ideas are often quickly implemented, since Mr. Sportel has educated hospital buyers in waste reduction and thinking “green” in their evaluations and purchases.
**HOSPITAL PROCEDURES**

A change in the hospital practices involves several waste reduction activities and purchasing accomplishments, such as:

- Acquisition of durable pressure-relief mattresses that have eliminated the need for disposable “egg crate pads,” saving $40,000 per year.
  
  *(NOTE: As regular hospital mattresses become worn, they are sent to nursing homes and then to area missions.)*

- Recycled paper is now used for stationery and letterhead, saving $8,260 annually over virgin stock.

- Purchasing paintless pencils has saved over $200 annually. These are regular pencils, but without the yellow painted coating.

- Recharged toner cartridges are now used throughout the hospital, saving $32.95 per cartridge over new cartridges. The hospital uses approximately 120 cartridges per year, and a savings of $3,954 per year is projected. In order to obtain a refurbished cartridge, employees must first exchange a spent cartridge, which will then be recycled.

- Vendors are often selected based on services provided. For example, the hospital uses lead acid gel cell batteries in its cardiac monitoring equipment, and has selected a vendor that “backhauls” spent batteries after delivering a new supply. The batteries are then recycled.

- Repackaging the unopened products in personal hygiene kits that a patient receives upon admission. For years, the kits (consisting of shampoo, facial tissue, aspirin, bar soap, baby wipes, diapers, etc.) were discarded after a patient was discharged, even if the kits had not been opened. Now, with nursing staff approval, unopened kits are reused and unopened products within a kit are combined with others to make “new” kits.

  "not only are we conserving precious paints and pigments [by using paintless pencils] thereby conserving resources, but the hospital saved over $200 on this purchase alone. I wonder if anyone has stopped to ask whether the paint is actually necessary?"
  
  Randy Sporle, Director of Purchasing

- The disposable slippers are washable and reusable at least 3-5 times before they need to be discarded. Incorporating this minor change in housekeeping practices saved $5,000 last year.

- The Maintenance Department uses concentrated, environmentally-safe cleaning compounds that are mixed only as needed. Bulk quantities are purchased, saving a myriad of glass and plastic packaging waste. Additionally, instead of using disposable dust mop heads, the maintenance staff now uses washable and reusable heads.

- After a series of tests, the Respiratory Department began reusing Nelcor Sensors, which are used to monitor patients’ oxygen levels. After the first use, they are returned to the manufacturer, sterilized and marked with a yellow dot. This allows them to be used one more time.

- Butterworth Hospital has also implemented a battery recovery program for the estimated 15,500 spent batteries it produces annually. Staff place spent batteries directly into a converted garbage receptacle painted to resemble
an actual battery. In the first three months, alone, the hospital collected 500 lbs. of batteries. (Since the urea relies on a municipal incinerator for solid waste disposal, removing batteries’ lead, mercury and cadmium from the solid waste stream is especially important.)

**REUSE**

Durable items that are cleaned or sterilized are also reused, which saves money. These items include bed pans and fracture pans that are autoclaved or steam-sterilized and respiratory equipment and underpads that are reused. Reusing plastic fracture pans saves the hospital 300 pans/month, or $2,160/year. This procedure has also reduced the amount of material to be landfilled by 720 pounds, saving disposal fees. Other reuse activities at the hospital include:

- Volunteer teen groups called "Volunteers" collect blemished or discarded paper from copier and printing areas to assemble sketch or note pads. Employees are also encouraged to use or print on both sides of paper.

- Butterworth’s laboratory recently joined the waste reduction program by installing a distillation system (still) for reclaiming xylene and alcohol. In the last six months, the unit has been used to recover 100 gallons of xylene. Since it costs approximately $6/gallon to purchase new solvent and $125/drum to dispose of the spent solvent (at 1992 rates), the project has already saved $850. (New applications for the still are being tested by other departments for recovery of thinners and mineral spirits.)

The BEAT group even established a way to recover and reuse wire twist-ties which, in a facility this size, results in an annual savings of between $90-100.

Damaged wooden pallets used in the storeroom or left over from deliveries are repaired when possible or sent to a vendor that grinds them for landscaping mulch to be used around trees and shrubs.

**DE-JUNKING**

Last year, 3,300 employees participated in a spring cleaning event called “De-Junk Week.” De-Junk coordinators were appointed, and employees attended de-junking training in the hospital auditorium, where a meal consisting of “junk food” was served. As a result of each department in the hospital cleaning out its offices and work areas, employees found enough unneeded items to fill four 40 foot semi-trailers!

Prizes were awarded for the “weirdest” junk and also for the most junk. Interestingly,
some departments located equipment that had been loaned to other departments years ago. Also, during this event, a mini-waste exchange of sorts took place, where one department needed an item or piece of equipment that was being discarded by another. This process resulted in substantial direct savings to the hospital, since it prevented many unnecessary new acquisitions. Finally, arrangements were made to ship the remainder of the items stored in the trailers to needy third-world countries.

**DUMPSTER DIVING**

Some wise person once said “You can always judge the health of an organization by looking in its dumpster.” Things at Butterworth are looking pretty lean these days as evidenced by a team of individuals known affectionately to their colleagues as “Dumpster Divers.” Select volunteers from departments throughout the hospital don surgical scrubs, face masks, puncture proof gloves, slippers and safety glasses. Armed and suited for the occasion, these individuals tear into what constitutes a representative sampling of that day’s trash. Bags are opened and contents are examined. Reusable, returnable, recyclable and other articles that do not belong in the trash are categorized and noted. These items may be used at a later date for show and tell purposes or for future in-service training sessions. They may also appear in a display at the hospital during Earth Week, for example.

**OTHER ACCOMPLISHMENTS**

In 1991, Butterworth Hospital was honored with the “Recycler of the Year Award” from the Michigan Recycling Coalition. Other recycling related accomplishments at the hospital include:

- An aggressive old corrugated containers (OCC) recovery program that has been operating for many years. The program is presently recovering an average of 8-10 tons/month of OCC.

- After the hospital’s baler broke down eight years ago, a 30-yard compactor box was used to collect old corrugated cardboard. Staff began breaking down boxes, and a 3-4:1 compaction ratio was achieved. This saved additional staff time, equipment and space needed to operate and house the former baling operation.

- Mixed file stock office paper recycling is another popular program at Butterworth. Tonnages diverted from the program have grown steadily as participation rates increased and as new departments came on line. Most recently, an excess of 11 tons of mixed office paper per month have been diverted. Program participation rates continue to remain high, and much of this success is attributed to the vendor servicing the office paper account.

  The vendor regularly provides reports about the recycling rates and equivalent environmental conservation benefits—such as trees and landfill space saved, gasoline, kilowatt hours, etc.

- A pilot glass recycling program is also under way in the Neonatal Unit of the hospital where three-ounce formula bottles are rinsed and placed in separate containers for recycling. Over the last year, 30 tons of the glass formula containers were recycled.

- Butterworth also recycles telephone books. In 1991, the first year of the
Butterworth’s newest program is called “Operation Muck.” The Food and Nutrition Department that operates the hospital’s cafeteria grinds and collects 300 pounds of food waste that is produced each day. The hospital’s solid waste hauler transports this material to its compost site in the northern portion of Kent County as part of an experimental food waste composting project. Although a disposal fee is paid for the material to be composted, it is only half the cost of incineration. The hospital expects to save $4,000-5,000 this year in disposal costs if the experimental program proves successful.

**KEYS TO SUCCESSFUL WASTE REDUCTION**

“The key to a successful waste reduction program is to educate all staff about the program and then publicize program accomplishments. Peer pressure is another key ingredient that enhances widespread employee participation,” says Mr. Stickles. “This approach is much more successful than simply a friendly reminder from housekeeping staff. It builds ownership, acceptance and fosters pride in the program. Also, while developing and implementing a program, you absolutely must involve staff every step of the way. Butterworth people are clearly the driving force in many of our efforts and deserve a lot of credit for the programs now in place, and for the ones we have planned for the future.”

Dan Stickles also likes to remind visitors that hospitals are often highly stressful places and that employees are frequently faced with life and death decisions. He believes that a positive sense of humor and a little levity can lighten that load and make waste reduction something interesting and rewarding for hospital staff.

**PROGRAM PROMOTION**

For employee promotion and publicity purposes, the BEAT committee has adopted a theme song entitled “We’ve Got the Beat.” Hospital cafeteria patrons are likely to see a promotional video featuring dancing reusable plastic hot and cold beverage mugs emblazoned with “I’ve Got The BEAT.” The mugs are sold by the Food and Nutrition Department for $2 each. They have become very popular with hospital staff as an alternative to using disposable paper or foam cups. An additional incentive for employees to use these mugs is the discount they receive on beverages each time the mug is used. Soft drinks are discounted five cents, while coffee prices remain the same - although the BEAT mug holds a larger quantity than the conventional cups. So far, over 1,000 of the BEAT mugs have been sold.

The bi-monthly hospital newsletter--the “Beeper”--regularly runs environmental articles about BEAT activities and waste reduction efforts at Butterworth. A daily information sheet called the “Update” publicizes and promotes specific activities occurring within the hospital.
FUTURE PROGRAMS AND ACTIVITIES
Soon the hospital will dedicate the “BEAT Hotline”–an electronic mail messaging system that employees can call for answers on environmental matters at Butterworth, as well as specific waste reduction and recycling information.

Butterworth is also in the midst of a major expansion project: the Helen DeVos Women and Children’s Center, expected to be completed in July 1993. Stickles eagerly awaits the opening of this center, since he and his staff worked closely with the architects and designers to include waste reduction and recycling features in the new facility. Examples include built-in paper recycling bins and loading dock modifications that better facilitate recycling.

OTHER ACTIVITIES
Waste reduction doesn’t stop at the hospital property line. Butterworth frequently publicizes the location of the Kent County recycling drop-off centers, the closest of which is across the street from the hospital. Staff are encouraged to bring in recyclables from home. Butterworth staff participates jointly with the Kent County recycling staff on the west Michigan “Business and Industry Team for the Environment” (BITE) committee. The BITE committee includes more than 35 business and industry representatives whose mission is to assist business and industry to effectively manage waste streams and encourage reduction and recycling through education and resource sharing.

Butterworth also participates in the Michigan Department of Transportation’s Adopt-a-Highway Program, and sponsors clean-ups for two miles of Michigan’s I-196.

For Earth Day 1992, staff developed displays and showed recycling videos in the hospital auditorium. Over 1,000 scotch pine seedlings were given to employees and their families to celebrate the occasion. “It’s another way of saying thanks for participating in the waste reduction program” adds Stickles.

With hospital staff and administration struggling these days to curtail the high costs of health care, “Less is More.” In this case, less solid and hazardous waste means more savings for everyone. More savings in the sense of reduced costs to patients–as well as saving hospital jobs and boosting employee morale through program support and participation. When the financial benefits of waste reduction are all totaled together, Butterworth’s program managed to save the hospital an estimated $66,374 last year alone!