PVC Recovery – The Dunedin (SDHB) Experience

1 May 2019

Background

Craig Mckenzie pharmacist at Dunedin hospital (SDHB – Southern District Health Board) was approached by Baxter healthcare about establishing PVC (Polyvinylchloride – grade 3 plastic) recycling. This was based on a successful model used in Australia (set up by Baxter, healthcare staff and vinyl council of Australia). A working group was established consisting of representatives from management, clinical, waste, procurement, infection control and pharmacy. Baxter agreed to provide logistical support to transport the PVC from Dunedin hospital to the recycler (Matta plastics in Otaki) - the rest was up to us.

The amount of PVC used in each area of the hospital was assessed (from procurement data) and recycling was deemed to be viable. Savings due to diversion of PVC would be minimal due to the minimal levy on sending general waste to landfill. However the costs of recycling would be negligible:-

1. orderly staffing would not change as they would still be moving the same amount of waste, with the same frequency, to the same location it would just be in separate bags.

2. Baxter was subsiding the cost of transporting PVC to recycler.

3. Recyling bins were either re-purposed from existing SDHB stock or subsidised by Baxter.

Pilot

After several meetings it was decided to run a 6 mth pilot from august 2014 till January 2015 in dialysis/ED/theatres (theses areas were deemed to be “easy” low hanging fruit due to high volume of PVC, constrained geographical areas and consistent staffing). Key stake holders were included in discussions about the set up and logistics. Education packages and posters were developed and rolled out. The pilot proceeded with an interim assessment at 3mths and in January 2015 was deemed to be a success.

PVC recycling Process

The process was similar to that used in Victoria Australia (see additional info below for posters and other resources)

1. Only oxygen tubing, oxygen masks, PVC fluid bags, nasal prongs to be recycled
2. Staff in the area prepare the material (as per poster below) for recycling
3. The PVC is collected in a 80L or 240L flip lid/labelled recycling bin
4. When full the staff member in the area designated to look after waste ties off the bag (we used clear plastic so staff knew contents was PVC for recycling) and places with general waste and general recycling for collection

5. The hospital orderly service then collect and take to waste collection area where are large cardboard pellet (provided by Baxter) is used to collect. When full Baxter are notified and arrange pick up.

The Next step

The success of the pilot generated considerable interest in other areas of the hospital. PVC recycling has been expanded to include ICU, day surgery, cardiology day unit, medical day unit and two trial wards. Future wards will be added in an incremental fashion. The working group is now going to be incorporated into a larger group to look at waste more generally across the DHB.

Tips for success

1. Establish a broadly representative working group with members from key sectors (waste, orderlies, infection control, clinical and management)
2. Run a pilot
3. Education to staff in recycling areas ++
4. Have a "champion" in each area – this is crucial – someone who is in the area where recycling is occurring to monitor process and who is a point of contact for staff on the floor for questions and feedback. This person is also the conduit to the working group.
5. Separate bin – often staff like to set up a small, open bin or container for collecting PVC during the day that is near their work space. At the end of the day they empty this into the main 80 L recycling bin. This step down container is best located near a sink for draining residual bag fluid, has access to scissors for cutting off fluid bag spike and giving set and has a sharps bin and rubbish bin for disposing giving set spike and oxygen mask clips/straps.
6. Clear bag in 80 L bin –this allows the contents to be identified as PVC and not mistaken for general waste.

Links

www.vinyl.org.au/PVCRecovery

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ADDITIONAL INFO

PVC Recovery

What to recover

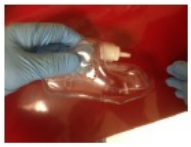
Remove giving set spike from IV bags

Drain fluid bag

Cut blue tip if easier

Remove label as contaminates PVC

Remove elastic strap, metal nose clip and plastic connector from face mask



1. The plastic connector between O2 mask and O2 tubing is not PVC and needs to be removed.

2. Grab hold of mask and connector.

3. Twist and squeeze mask and connector to dislodge.

4. Throw connector in bin and place mask in PVC recycle

IV Fluid Bags

Oxygen masks

Oxygen Tubing

Nasal Prongs

PlayMATTA

Baxter

WORKMATTA

Southern Way

80 Litre PVC recycling bin

Cardboard Pallet for PVC collection in waste area of hospital (for us in Dunedin this is by goods loading dock)

Clear Bin Liner in 80L recycling bin