

## 2015 Barema & AAGBI Environmental Award winner

RecoMed trial at Queen Victoria Hospital NHS (presented by Ms Jane Gardner, Axion Consulting)

A BMJ article highlighted the issue of waste in operating theatres, recommending that 40% of waste (~2.3t/year) could potentially be recycled. RecoMed is helping anaesthetists increase recycling and reduce waste costs in theatres through a recycling scheme for single use PVC medical devices. PVC is a high quality plastic and is used in 40% of medical devices and a large proportion of it is used in anaesthetic facemasks, post-operative oxygen masks and associated tubing.

RecoMed was first trialled at Queen Victoria Hospital NHS Trust Foundation, East Grinstead. When developing the recycling scheme members of staff from a variety of departments including clinical teams, hotel services, environmental services and infection control were consulted. The team worked with Dr. Tim Vorster (Consultant Anaesthetist) to identify the volume of PVC devices that were suitable for recycling. These items are usually disposed of via clinical waste bins or in post-operative recovery units. RecoMed recycling bins are provided free of charge along with educational posters, stickers, training sessions and communication materials. The recycling bins are then emptied during the hospital's normal waste collection rounds and sent from the hospital to the recycler. The PVC is then recycled into 100% recycled products for the horticultural industry such as tree ties. The recycling process is done at temperatures that will denature all biological residues.

The trial project has since been extended to another NHS hospital, Frimley Park, Surrey and other private and NHS hospitals are keen to start recycling too. RecoMed was pioneered by anaesthesia staff, but is applicable beyond the practice of anaesthesia. We intend to promote the success of recycling in anaesthetics in order to encourage recycling of PVC and other plastic devices in more hospital departments. The trial project demonstrates that hospital staff are keen to recycle plastic single use devices as they see it as a tangible way to reduce waste. RecoMed also challenges the perception of waste in the healthcare sector and demonstrates that items that are currently dismissed as waste have a value and can be easily recovered and recycled.

QVH identified that just over 1,000 operations take place in its theatres per month, with each patient receiving an anaesthetic face mask with tubing and a post-operative oxygen mask (~130g PVC/patient). Using RecoMed to recover these items would lead to 1.6tonnes PVC/year being diverted from incineration, saving ~£1200/year in disposal costs. There are over 3000 NHS operating theatres across the UK. If anaesthetists working in these theatres implemented RecoMed up to 2,250 tonnes PVC/year could be recovered from NHS hospitals alone.

We work closely with their specialist recycler to collect accurate data on the tonnage recycled and use this to calculate carbon savings. Each tonne of recycled PVC produced will replace about one tonne of virgin PVC compound used in new products. Using recycled PVC means the carbon impact of new plastic products is reduced. The data can be used by individual hospitals to demonstrate their efforts to reduce their overall environmental impact. The data can also be used to demonstrate the hospital's financial savings as recycling is much cheaper for hospitals than disposal through incineration.

Educating and engaging staff in hospitals is crucial to the successful recovery and recycling of products. It is through the collective efforts of staff that attitudes towards waste change, the volume of material recovered grows and contamination of the collected plastic is minimised.

In order to increase the success of RecoMed in participating hospitals and engage with new hospitals the award will be used to produce an educational video to help hospitals understand how to set up and implement recovery of PVC respiratory devices effectively and efficiently. The video will be 3 to 4 minutes long and would be designed to complement posters, leaflets and training sessions.

The proposed video would include interviews with staff at hospitals that are already recycling PVC through RecoMed to reassure staff considering taking part in that if other hospitals are recycling medical devices it is possible for them to implement the system at their hospital.