



DELIVERING SUSTAINABLE EYE CARE THROUGH GREEN-TINTED GLASSES
– EYE TREATMENT CENTRE (ETC) TEAM, 2019

TEAM MEMBERS: Taurai Matare (Senior Nurse), Miss Sudeshna Patra (Consultant Eye Surgeon & Network Director), Paweena Kane, Vera Kwateng-Asumang, Rosa Hernandez, Brenda Jones (Theatre Nurses), Lucy Sattar (Technician), Dr Mishank Jain, Dr Andrew Williams (Consultant Anaesthetist) and Dr Gomathy Kandasamy (Consultant Anaesthetist)

****WINNERS****



'The Green Ward Competition has opened my eyes to how devastating plastic is to the environment. Since the project started, I have also changed my lifestyle and removed most of the plastic in my home. I am so conscious about what I use and how I dispose of plastic.'

**Taurai Matare, Senior Nurse,
Eye Treatment Centre**

Taurai, Vera, Paweena, Brenda, Lucy & Rosa (left to right)

The Eye Treatment Centre (ETC) team carried out 4 sustainable healthcare initiatives as part of the competition:

1. Keeping Patients Awake and Safe for Cataract Surgery: To (a) reduce unnecessary general anaesthesia (GA) (b) minimise the use of intravenous (IV) sedation.
2. Saying No to Plastic: Abolish the use of all polystyrene/plastic cups, plates and cutlery in the department.
3. Patient Flow Facilitator: Minimise interruptions to frontline staff to improve patient flow.
4. Unwrapped Creations: Using clean theatre equipment wraps for creating decorations, bunting etc to reduce waste & generate income.

Project 1: Keeping Patients Awake and Safe for Cataract Surgery

Background:

- Approximately 85% eye surgery cases are carried out under local anaesthetic (LA) alone, the remainder are carried out using intravenous (IV) sedation or a general anaesthetic (GA).
- Most weeks a small number of cases were being converted from GA to IV sedation or LA alone.
- The late conversion led to waste of resources, a negative environmental impact, and poorer patient experience due to unnecessary visits to hospital for investigations and pre-op assessment, un-addressed patient anxiety, delayed listing for surgery and the effects/risks of GA.



- Late conversion may be the tip of the iceberg; there may be more inappropriate GA listings that are not converted.
- Causes of the inappropriate listings included:
 - misconceptions amongst surgeons of the indications for GA.
 - lack of knowledge amongst surgeons of techniques that anaesthetists could use to make surgery possible under local anaesthetic.
 - surgeons not considering the risks of GA in a frail, elderly population. ○ the consent process in clinic, including how options were presented and lack of exploration of patient concerns/anxieties.

Approach:

- The project was run over 6 weeks.
- To avoid the unnecessary use of GA or IV sedation, all clinical staff were encouraged to ask 'Why GA' at 3 crucial stages in the patient's cataract surgery pathway: 1) before proceeding with a general anaesthetic (GA) or intravenous (IV) sedation, 2) during informed consent, 3) at pre-assessment & during re-consent on the day of surgery.
- The clinicians were asked to improve the quality of engagement with the patient during consent conversations & to spend some time discussing all anaesthetic options and their relative risks with the patient.
- The Trust cataract surgery patient information leaflet was updated to include guidance about anaesthesia
- Teaching sessions were scheduled to increase the understanding of anaesthetic risks in patients undergoing eye surgery.

Outcome measures used:

- number of conversions from GA to LA (with or without sedation) on the day of surgery.
- Relative financial cost procedure with GA or LA (with or without sedation). This included cost of additional equipment used during a GA or IV sedation compared to LA, cost of disposal of single use equipment, reduced need for anaesthetic staff, avoiding additional investigations & pre-assessment visits and improved flow through theatres.
- Relative carbon footprint of procedure under GA and LA (with or without sedation).

Results:

Over 6 weeks, 9 cases were converted at a late stage from GA to LA (with or without sedation). The approach outlined above was implemented.

Environmental benefit	Potential to save 1910 kgCO₂e annually due to reduced use of equipment and anaesthetic gases. When the changes made are sustained and patients are not unnecessarily listed for a GA then there will be a further saving of at least 1 hospital visit for pre-operative assessment/further investigations. This would be a further saving of 1,794 kgCO ₂ e every year.
Social sustainability; benefit to patients, staff and community	Patients: potential (not measured) to improve waiting times as more patients will be able to be added to each list, fewer disruptive visits to hospital for pre-operative assessments, able to leave hospital earlier as no time needed in recovery after GA. Staff: different members of MDT (nurses, anaesthetists, surgeons) working together to reduce GA (improved team working and understanding of each other's roles and concerns about patient care), more thoughtful approach to practice encouraged in team.



Financial benefit	<p>For each case converted £24 of extra equipment and the sessional cost for the anaesthetist (£500/session) was saved. This is a total of £4,716 over 6 weeks, equating to £40,872 over 1 year.</p> <p>Once the new patient information leaflets, education, use of the 3 'whys' and improved consent conversations have effect and patients are not inappropriately being listed for a GA in the first place then there is the potential for the following further savings due to; 2 more cases could be added to a list (loss of tariff of 2 x £700 when a GA case is listed), and there would be a saving at least 1 additional pre-op investigation/assessment (£150). So, each case under GA costs an additional £2,074. If these patients were not listed for GA inappropriately then the saving would be £18,666 over 6 weeks, £161,772 over 1 year.</p>
Clinical outcomes	Reduction in patients exposed to risk of GA, potential to improve waiting times, improved information offered to patients in leaflet form, which may reduce anxiety.

Project 2: Saying 'no' to plastic

Goal:

To achieve zero use of plastic cups, plates & cutlery, reduce costs & the carbon footprint and change staff attitudes and behaviour towards the use of single use plastics.

Background:

There was a high use of plastic and polystyrene cups and plastic spoons by both staff and patients in the ETC. This had been commented on by several members of staff, but no action had been taken to change the practice.

Approach/intervention:

Plastic and polystyrene cups were removed from the department, staff were encouraged to use reusable items (a supply of reusable cups were bought by the ETC sister for staff to buy) and non-plasticised paper cups were ordered in for patients. In addition, pharmaceutical representatives were requested to bring paper plates, cups and cutlery when sponsoring lunch.

Results & discussion:

Pre-project they used **16,500 polystyrene and plastic cups per month**, data taken from purchase orders (average Jan-Feb). By the **end of the project** they had switched to paper cups and were using fewer disposable cups overall, only **2,250 paper cups (86% reduction) per month for patient's hot drinks** (use for cold water not considered) and staff were using reusable cups (we did not take in to account washing of reusable cups as it was not clear where this washing would happen, in the hospital or at home).

Environmental benefit	Save 58 kgCO2e per month, anticipated saving in one year 697 kgCO2e
Social sustainability; benefit to patients, staff and community	For those staff and patients concerned about the environment this project improved their ability to live in accordance with their values when at work/ in hospital as well as at home. Living in accordance with values improves wellbeing.
Financial benefit	Potential to save £160 per month, £1,926 per year
Clinical outcomes	Not applicable.



Steps taken to ensure lasting change: the order was changed so that this change in procurement would continue.

Project 3: Unwrapped Creations

Goal: To reuse and reduce waste & develop a circular economy.

Background:

The ETC staff used clean theatre wraps to make party decorations for their department and the Green Ward Competition Awards Ceremony. This initiative was an opportunity to showcase the creativity and hidden talents of the staff.

The weekly weight of clean theatre equipment wraps was 30 kilos of recyclable waste disposed of as RDF (refuse derived fuel). The team used a small proportion of this to make their creations.

Environmental benefit	Not quantified; this project involves reusing a small amount of plastic waste.
Social sustainability; benefit to patients, staff and community	Recognising and valuing the artistic skills of several members of the team. Helped foster a positive team spirit, a sense of pride and wellbeing amongst the staff working on the project and create an atmosphere of celebration at the awards ceremony, which was a gift to all those attending. Some of the creations were for patient use; small bags and 'superhero capes' were made for the children to help to make their visit to the hospital more enjoyable.
Financial benefit	Not quantified.
Clinical outcomes	Not applicable.

Project 4: Introducing a Patient Flow Facilitator (PFF)

Goal: To reduce interruptions to frontline staff during outpatient clinics, respond to queries, improve clinic flow increase patient satisfaction and reduce staff frustration.

Background: The ETC is a busy eye centre & around 350 patients per day attend the department. The frontline nursing staff are faced with constant interruptions to their workflow and deal with a range of enquires from patients, doctors & visitors to the department. The idea was that a member of the team be nominated as a single point of contact for all tasks which would qualify as an 'interruption' to frontline staff. This had been trialled and piloted successfully but could not be sustained without funding and no data had been collected to support a case to fund a facilitator on a regular basis.

Approach:

The team of PFF's during the 4-week initiative consisted of 5 Ophthalmic Technicians (band 3). They wore hi-vis jackets so they could be easily identified. One PFF was allocated to each 4-hour session (morning or afternoon).

The PFF's each maintained an activity log for all tasks or 'interruptions' & recorded the start time of the AM & PM clinic.

Outcome measures: the type of task or 'interruption', the frequency with which it was performed & the mean time taken for each task, start of the AM & PM clinics and patient feedback.



Results: The PFF logged 455 'interruptions' during the 4-week pilot with a daily mean of 40.5 'interruptions'. The mean time spent on each task was 5.6 minutes totalling of 226.8 mins or ~4 hours per day. The PFF's work allowed frontline staff to complete their tasks efficiently and are likely to improve patient safety (there is an extensive literature on the detrimental effect of interruptions on efficiency and patient safety). The work of the PFF also maintained prompt clinic start times and flow.

Environmental benefit	No direct impact.
Social sustainability; benefit to patients, staff and community	Potential to reduce the frustration, stress of nursing staff and increase staff job satisfaction. The technicians reported enjoying their new role as a PFF.
Financial benefit	Time spent dealing with interruptions equated to 40 hours per week, 1 wte. It is cheaper by at least £10,000 over 1 year to employ a band 2/3 healthcare support worker to prevent interruptions rather than band 6/7 nurses dealing with queries.
Clinical outcomes	Potential to improve patient safety.