

Project Title

Recycling Disposable Metal Instruments in ED

Project Lead and Members

Project lead: Lim Siew Lian

Project members: Heather Lau, Yan Jun, Minthu, Karen Joyce Riel, Regena, Ker Yok Tin, Kathleen, Quek Loo Lian, Kristin Hsiao, Christine Tang, Jia Yun, Sun Yong Yuan, Eileen Ng

Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group(s) Involved in this Project

Nursing, Medical, Healthcare Administration

Applicable Specialty or Discipline

Healthcare Administrators, Infection Diseases, Surgery

Project Period

Start date: May 2023

Completed date: Aug 2023

Aims

To recycle 20kg/month in the first year.

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

1. Environmental impact: recycling minimizes waste, conserving resources and reducing pollution
2. Sustainability: recycling promotes long term ecological balance and responsible consumption.
3. Economic benefits: reduced the number of sharp boxes usage in Ed/save money for department
4. Positive contribution: Foster awareness amongst ED staff and individual's effort collectively contribute to a greener future.

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign

Operational Management, Sustainability, Recycling

Keywords

Disposable Metal Instruments, Recycling, Sustainability

Name and Email of Project Contact Person(s)

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RECYCLING DISPOSABLE METAL INSTRUMENTS IN ED

- SAFETY
- PRODUCTIVITY
- QUALITY
- COST
- PATIENT EXPERIENCE

MEMBERS: LIM SIEW LIAN; ED GO GREEN GROUP- HEATHER LAU, YAN JUN, MINTHU, KAREN JOYCE RIEL, REGENA, KER YOK TIN, KATHLEEN; CSSD- SISTER QUEK LOO LIAN, KRISTIN HSIAO; ENVIRONMENTAL SERVICE- CHRISTINE TANG, JIA YUN; INFECTION CONTROL- SUN YONG YUAN, ED OPS- EILEEN NG

Define Problem, Set Aim

Problem/Opportunity for Improvement

Disposable CSSD metal instruments (approximately 200 sets of standard suture sets + 50 micro suture sets per month) in ED are thrown into sharp boxes as biohazard waste after one-time use. The sharp boxes are sent to incinerator for disposal and charged to NTFGH according to their weight.

Opportunity for Improvement

The team learnt that SGH has been recycling their disposable CSSD items. This inspired our nurses to work out how to make this happen in NTFGH ED! By disposing these metal instruments through our recycling vendor, this can reduce the weight of disposing the sharp boxes. We will also help to save the environment as we recycle these metals.

Aim

To recycle 20kg/month in the first year.
(As there is no baseline data, above target was based on an estimate of the suture sets we dispose per month)

Why is this important?

Why is it important to recycle metal?

Metal is infinitely recyclable and it will never deteriorate or lose its properties and qualities

Metal recycling emits less CO2 and other pollutants compared to metal mining

Recycling just 1 metal can could save sufficient energy to run a 100watt light bulb for 20hours

Using recycled scraps to make aluminium cans uses 95% less energy that making cans from raw materials

Establish Measures

Before intervention:

0kg of metals were recycled from ED

Plan post-intervention:

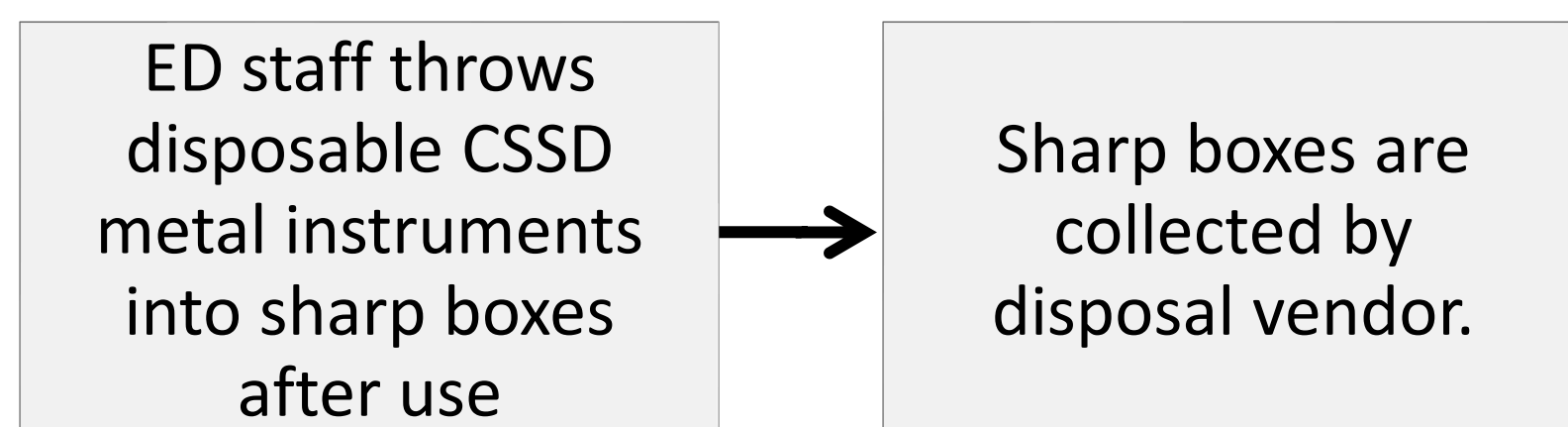
Use checklist to measure no. of kg of metals recycled from ED based on monthly collection by vendor

Analyse Problem

Staff is generally unaware of the impact it causes to the environment when they throw disposable metal equipment away instead of recycling. Environmental consciousness and active push for sustainability is not a prevalent culture in ED.

As such, there was a need challenge current processes which have been around from the very beginning. The team also have to build environmental awareness and help staff understand how these metals can be recycled instead.

The **current process** before intervention was just to throw the instrument after use.



In order to drive efforts to save our environment, ED needed to add process steps to consciously pick out disposable metals to recycle and seek stakeholders buy-in.

Preparation for Change

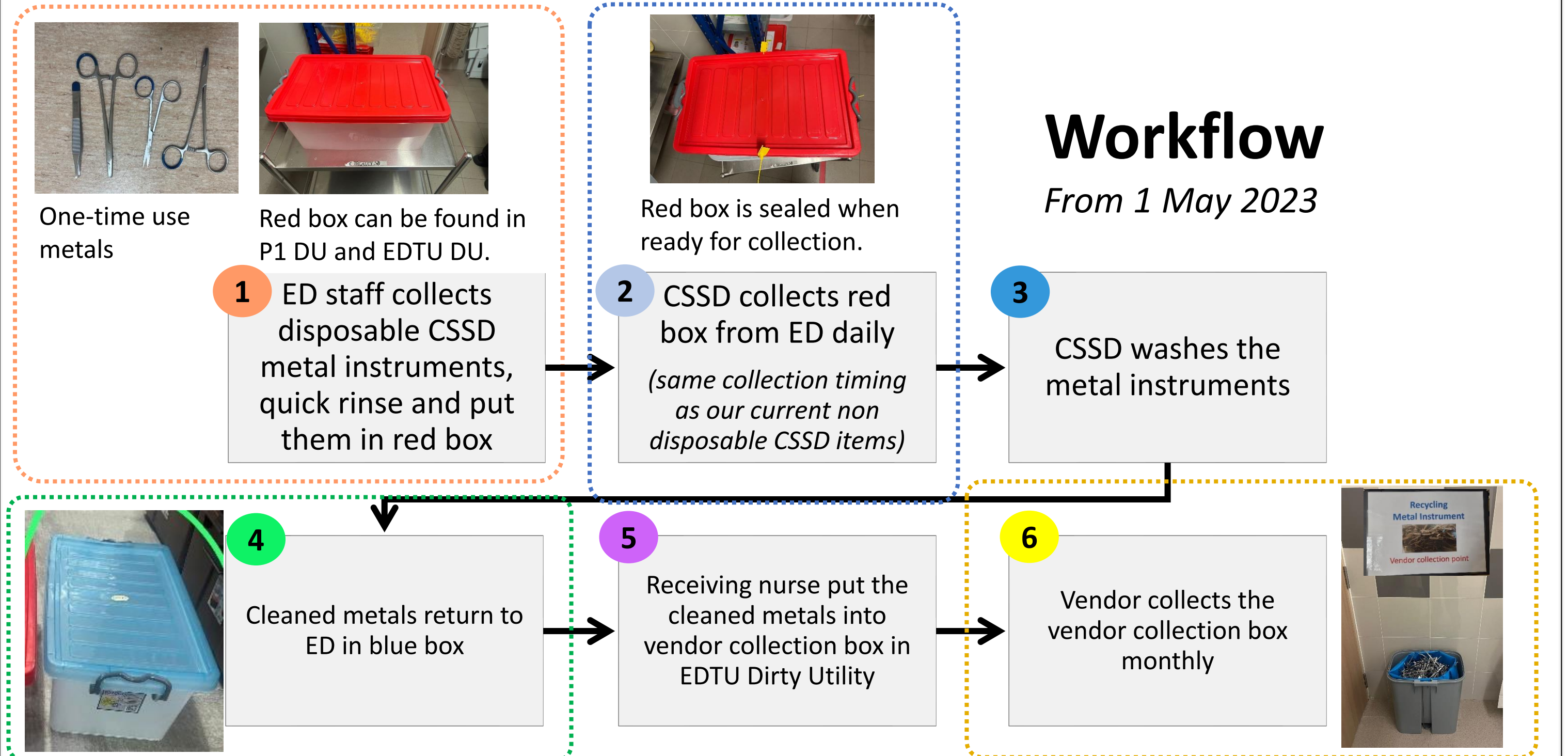
Stakeholders engagement

- Strong support from **Environmental Service (ES)** team
 - Helped to find vendor to collect the recycled metals from us monthly
- **Infection Control** shared that metals have to be washed before recycling.
- **CSSD** agreed to support and wash the metals.

Change Management

- Staff Comms & Education: Recycling initiative shared with doctors & nurses
- Current practice: Throwing disposable metal instruments into sharp box (which everyone has been doing all along)
- Workflow change: Put disposable metal instruments into a dedicated red box at Dirty Utility

Test & Implement Changes



PLAN

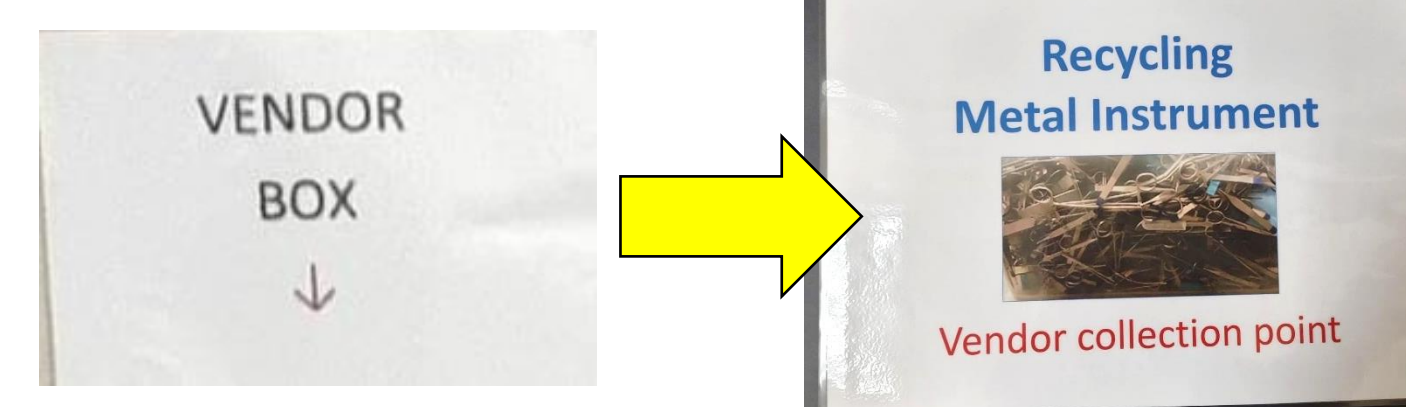
Engaged stakeholders (CSSD, ES, Infection Control) to iron out the processes. Introduced new workflow to recycle disposable metals in ED. Refer to new workflow above.

DO

The change in workflow was successfully rolled out with the support of the different stakeholders.

Positives- A few changes made on ground with the help and support of ES team.

Clear sign



Additional bin deployed when full

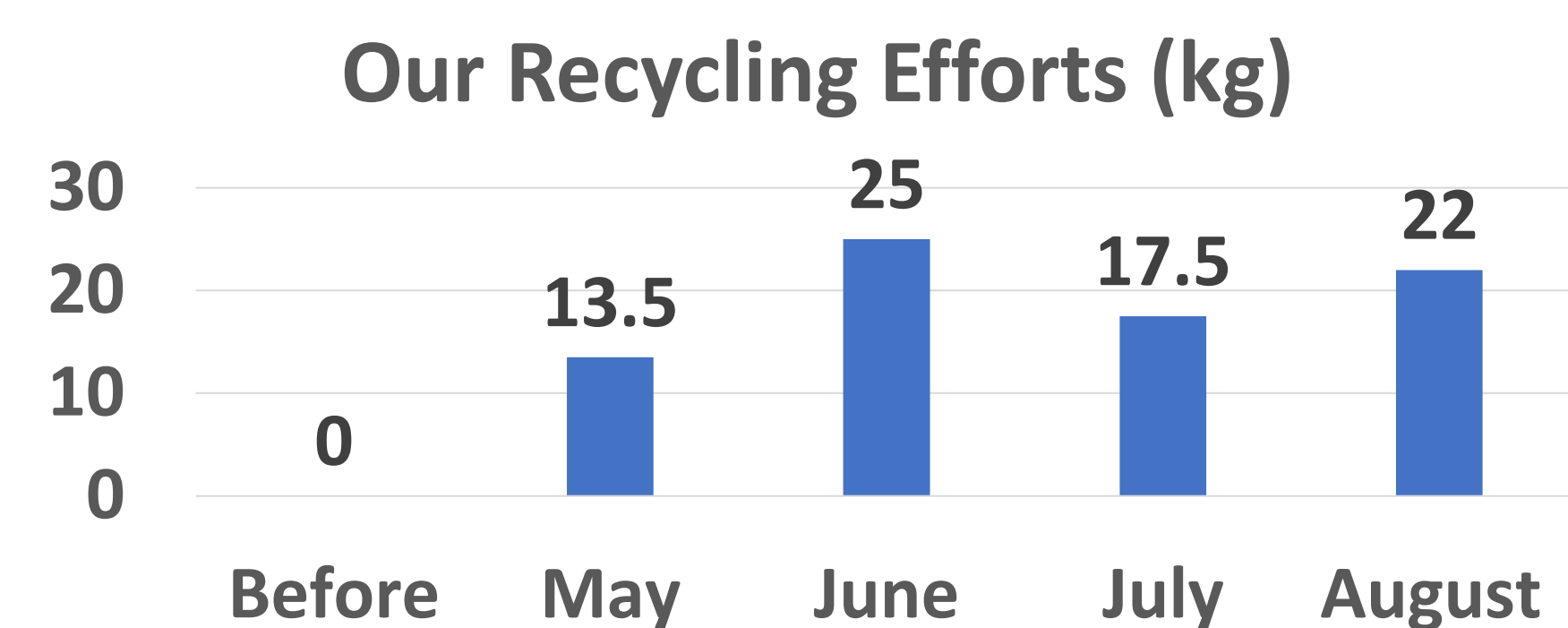


Area for improvement- Some metals are still being thrown into the sharp boxes.



STUDY

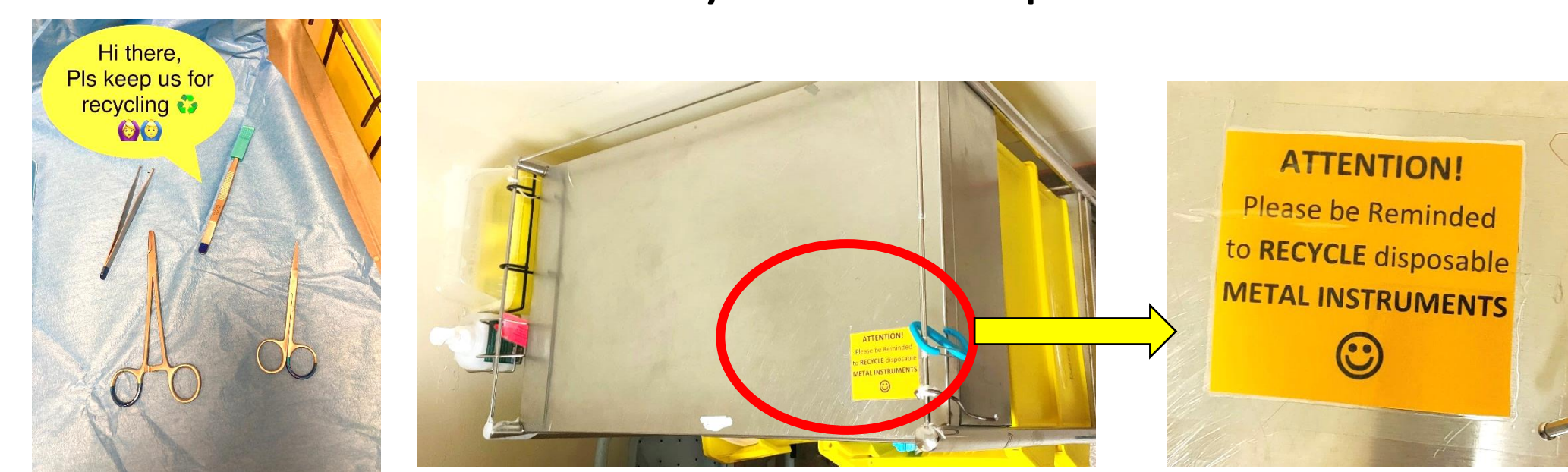
Refer to table (Our Recycling Efforts) on amount collected for recycling each month.



ACT

Adopt the workflow and monitor the trends. To educate the ground on the new workflow.

- Reminders through communication channels to Drs and Nurses
- Add visual cues on trolleys where disposable metals are commonly used



Spread Changes, Learning Points

Strategies to spread change after implementation

- a) Education and awareness: Conduct meetings/presentations to stakeholders about the project's benefits and importance. The team has shared with ICU on our implementation. They are keen to start doing likewise. ES will be sharing our initiative with the wards as well.
- b) Result sharing during Green Committee meeting: Share statistics and data showcasing the positive environmental impact, encouraging others to join the movement.

Key Learnings

1. Environmental impact: recycling minimizes waste, conserving resources and reducing pollution
2. Sustainability: recycling promotes long term ecological balance and responsible consumption.
3. Economic benefits: reduced the number of sharp boxes usage in Ed/save money for department
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