

An investigation into the impact of a Clinical Ward Pharmacist on the volume and cost of in-patient medication returned to Pharmacy for re-use or destruction.

O'Connor S†, Byrne S*, Stack C†, Leahy M†, Finnegan K#, Fleming A*,
†Pharmacy Department, Bon Secours Hospital, Tralee, Ireland, *School of Pharmacy, University College Cork, Ireland,
#Clinical Nurse Manager, Bon Secours Hospital, Tralee, Ireland.

INTRODUCTION

The Bon Secours Hospital, Tralee is a private hospital with 130 in-patient beds. Medication is dispensed to patients on an individual basis.

The disadvantages of this system are:

A. Clinical considerations:

- Delays starting new medicines while awaiting supply from Pharmacy.
- Risk of "mis-returns", where items were returned incorrectly to Pharmacy stock.

B. An overall increase in workload:

- High volume of dispensing for individual patients, with many items required for the 10am drug round.
- Return of unused items to Pharmacy by ward staff following patient discharge.
- Return of unused items to Pharmacy stock by Pharmacy staff (both physically & electronically) or their disposal, as appropriate.

C. High level of waste as the following items are not returned:

- Blister packed items without a full expiry date & batch number or <5 tablets.
- All loose tablets/capsules.
- Items damaged during transport.
- Inhalers, liquids, all topical preparations with broken seals.
- Fridge items, where cold-chain is not guaranteed.
- Photo-labile items removed from original packaging.

This prompted Pharmacy staff to review the existing system, by investigating the volume and cost of medication returned.

AIM & OBJECTIVES

- To investigate the volume and cost of medications returned to Pharmacy where patients medicines are dispensed on an individual basis.
- To look at the extent to which returned medicines are destroyed or re-entered into Pharmacy stock after return.
- To estimate the impact of a Clinical Ward Pharmacist on the return of dispensed medications to Pharmacy.
- To recommend changes to the existing dispensing system, to reduce the volume and cost of returned medicines.

METHODOLOGY

- St Teresa's Ward is an in-patient mixed medical/surgical ward with no Clinical Ward Pharmacy service.
- St Patrick's Ward is of a similar size and patient classification, and has had a Clinical Ward Pharmacy service for 8 months prior to the study.
- This study examined the medication returned from both wards on a weekly basis during a four week period 25 April - 22 May 2013.
- Items were returned to Pharmacy stock with reference to the "Non-controlled Drug Returns" Pharmacy Policy & Procedures Manual (page 33).
- All single unit oral medication (i.e. capsules, tablets etc.) were classed as "Oral" returns.
- All other returns were classed as "IVs" including a small number of other formulations (e.g. topicals, multidose oral medications).
- The cost prices paid by Pharmacy were applied in all instances.
- The cost of returning an item to Pharmacy stock was set at €2.60. This was calculated as the dispensing fee set by the Irish Pharmacy Union (€3.60) minus €1, as no medication review was conducted. Where multiple units dispensed were labelled individually, a fee of €1 was charged for the return of each.

RESULTS

A. Returns which were not re-usable ("Waste")

(a) Number of "waste" items destroyed on return to Pharmacy

- 77% (471/611) of the medicines returned were destroyed (all oral).
- There were significantly more returns for destruction from St. Teresa's Ward compared to St. Patrick's ward (Pearson's Chi squared = 10.78, p = 0.001).
- Only 20.8% (98/471) of all returns destroyed came from St Patrick's Ward.
- Pharmacy received an average of 68 additional returns per week from St Teresa's Ward, where no Clinical Ward Pharmacist was present.

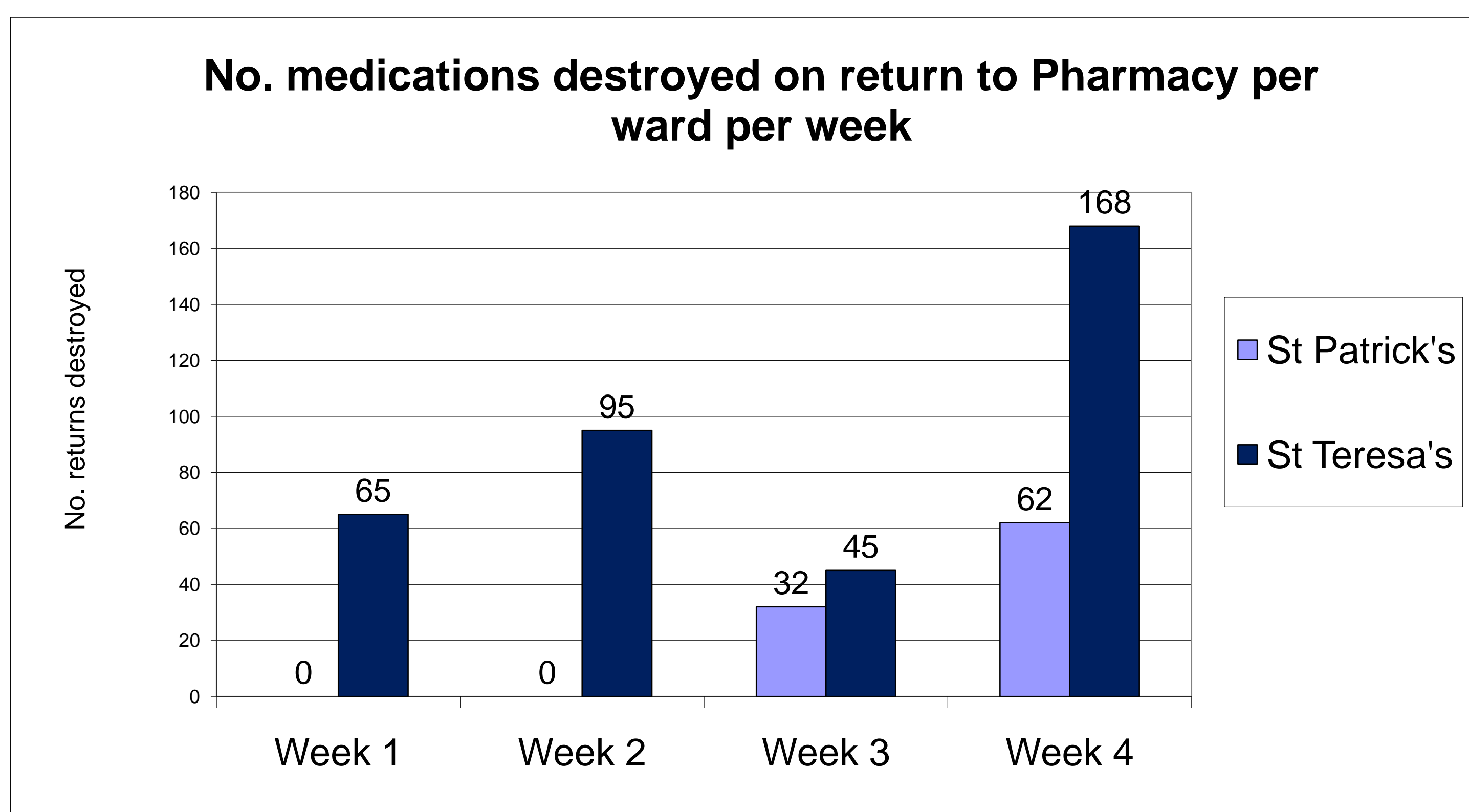


Figure 1: Number of medications destroyed on return to Pharmacy per Ward per week

With thanks to Pharmacy Department & staff on St Teresa's Ward and St Patrick's Ward, Bon Secours, Tralee. Please send any comments to sroconnor@bonsecours.ie

(b) Cost of "waste" items destroyed on return to Pharmacy

- Returned oral medicines which were destroyed represented 77% of all returns by volume but only 26.9% (€774.56/€2875.81) of all returns by cost.
- Only 20.2% of this loss (€156.29) was associated with St Patrick's Ward, where a clinical ward pharmacist was present.
- St Teresa's Ward's waste returns cost an average of €115.50 per week more than those from St Patrick's Ward.

(Note: actual disposal costs were not included and no return fee was added, as these items were not re-entered into stock. However, the resources required for their return and disposal should not be ignored).

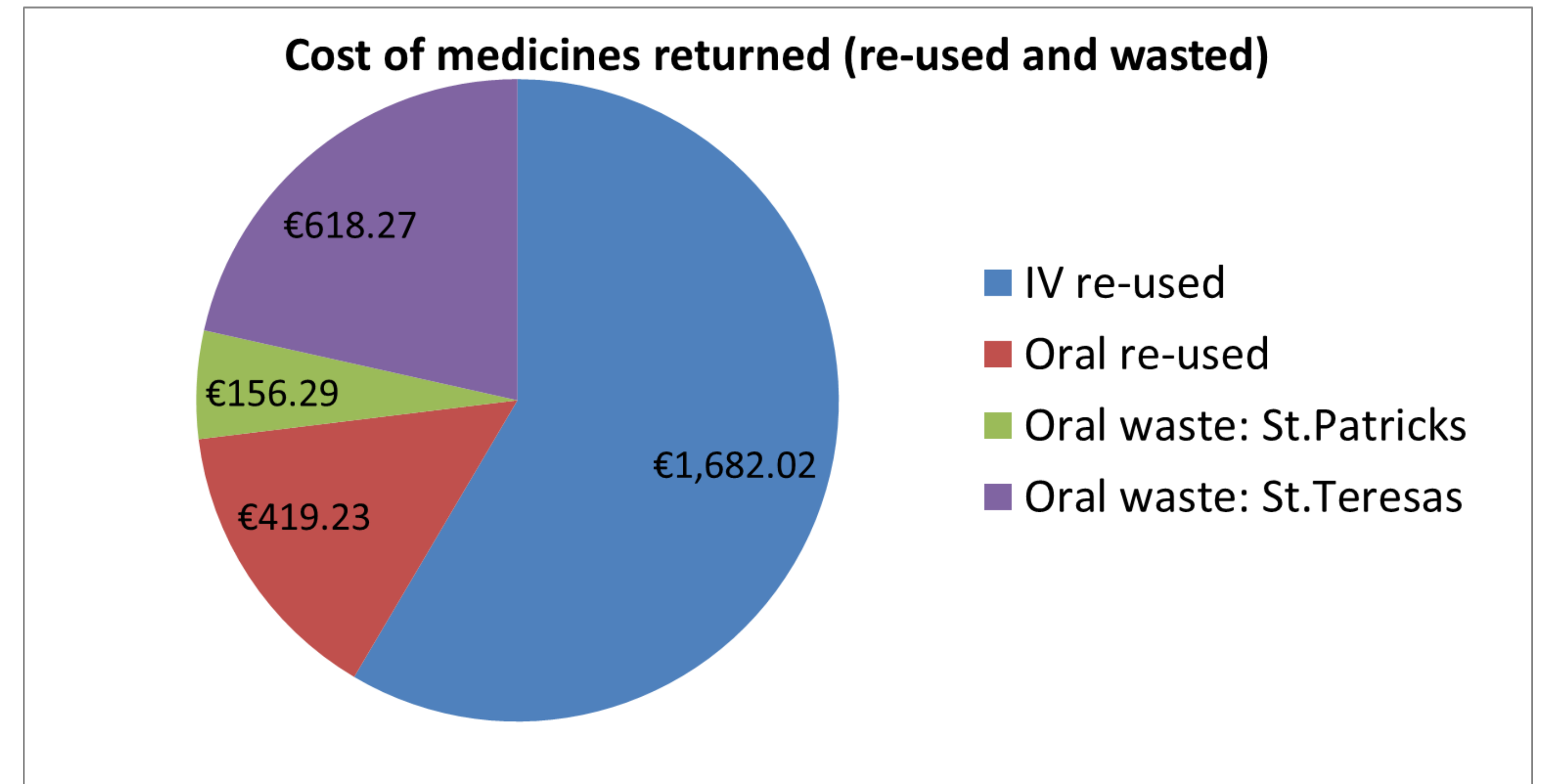


Figure 2: Cost of medications re-used or destroyed on return to Pharmacy. (St Patrick's ward has a Clinical Pharmacy ward service, St Teresa's ward does not).

B. Returns re-entered into Pharmacy Stock

- All undamaged oral, parenteral and topical items were returned to Pharmacy stock (all injectable items, inhalers, eye drops and topical applications, which were in date, sealed and had been stored appropriately).

(a) Total Number of Items returned to Pharmacy Stock

- 140 items returned during the study period were re-entered into Pharmacy stock.
- 65.7% (92/140) were from St Teresa's Ward, where no Clinical pharmacist was present.

(b) Costs and Savings made by returning Stock to Pharmacy

- When the arbitrary fees described earlier were applied the return of IV medicines resulted in significant savings.
- The lower value of oral medications returned resulted in proportionately lower gains from their return to stock.

Table 1: Costs/Savings associated with returning items to Pharmacy Stock (IV and Oral).

	St Patrick's Ward	St Teresa's Ward
Total value of re-usable returns (%)	€586.75 (27.9)	€1,514.50 (72.1)
Value of re-usable ORAL returns (%)	€98.71 (23.5)	€320.52 (76.5)
Cost of returning stock (no. items)	€49.40 (19)	€148.20 (57)
Net savings (as % of drug cost)	€49.31 (50)	€172.32 (53.8)
Value of re-usable IV returns (%)	€488.04 (29%)	€1,193.98 (71%)
Cost of returning stock (no. items)	€95.40 (29*)	€113.00 (35**)
Net savings (as % drug cost)	€392.64 (80.5)	€1,080.98 (72.8)

* 20 multi-labels fees applied

** 22 multi-label fees applied

- A limited number of expensive oral medicines were identified. Their return to Pharmacy should be recommended to nurses, in accordance with hospital policy e.g. Combodart® and Fosavance®.
- Frequently dispensed, inexpensive medicines which could be included in ward stock were identified e.g. Magnesium Verla®,esomeprazole.

CONCLUSIONS

- The introduction of a Clinical Ward Pharmacist can reduce the volume and costs of returning un-used medications supplied using an individual patient dispensing system.
- Quantities dispensed should be matched as closely as possible to the length of stay.
- IV medication should always be re-entered into Pharmacy stock.
- The low cost of many oral medications means their return to stock is not economically justified.
- Oral medications which are expensive should be labelled "Please return to Pharmacy if not used on Patient Discharge" and re-entered into Pharmacy stock.
- Wards should carry a wider range of high frequency, inexpensive oral medications as stock, to reduce the necessity to dispense for individual patients.

REFERENCES:

Pharmacy Policy & procedures including Pharmacy induction Policy, Bon Secours Hospital, Tralee