DEVELOPING A MANAGEMENT STRATEGY FOR MEDICATION UNITS FREE OF SECONDARY PACKAGING IN A HOSPITAL PHARMACY

C. SKALAFOURIS, J.L. PONS, F. PLASSART, J.M. DESCOUTURES

Centre Hospitalier Victor Dupouy, Hospital pharmacy, 69 rue du Lieutenant Colonel Prudhon 95107, Argenteuil, France

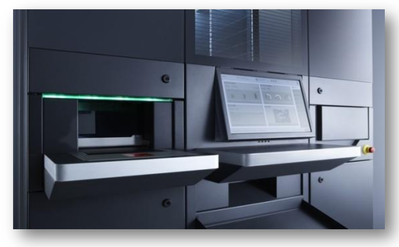
christianskalafouris@hotmail.fr

BACKGROUND

The pharmacy of Argenteuil hospital has recently purchased an automated storage and dispensing system (Rowa VMAX, ARX).
This system is limited to the distribution of boxes of drugs and offers a greater safety and a better management of pharmaceuticals.
However, automated globalized distribution encounters limits: drug units and bulky pharmaceuticals cannot be stored in this type of robot inducing the loss of benefits of the automation.

AIM

Such a system is not suitable for the management of **Medication Units Free of Second Packaging (MUF-SP)** when returning from the wards to the pharmacy. We present an original management system of the MUF-SP and measure its economic impact.



MATERIAL AND METHODS

- We developed a software permitting to print a specific DATAMATRIX label for each drug reference.
- Boxes were purchased allowing the **Recycling of Drug Units (RDU)** and were identified by their label to join the conventional automated circuit of globalized distribution.
- Eligibility criteria for the RDU are represented in **table 1**.

During one month, the costs of the units eligible for the RDU and the whole process were estimated.

Unit price (€)	< 0,50	0,50 - 4,99	> 5,00
Conditions for Recycling the Drug Units (RDU)	No	For the references distributed at least once a week	Systematically recycled
	All antibiotic drugs, whatever their unit price		

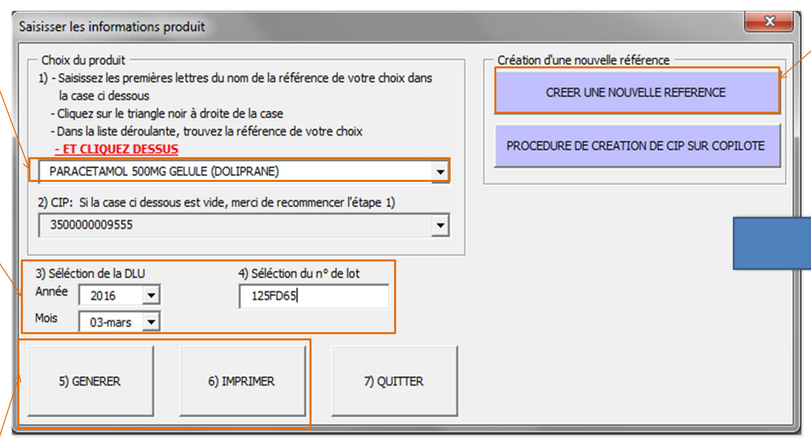
Table 1: Eligibility criteria for the RDU

WHAT ARE WE TALKING ABOUT ?

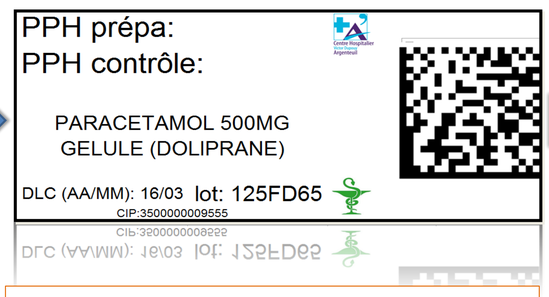
1) The pharmacy technician first chooses the drug reference for which he wants to create a label inside a list.

2) Then he specifies the expiry date and the batch number.

3) Finally the software automatically generates a DATAMATRIX code according to the filled fields and the technician prints the label.



If the drug is not recorded in the preconfigured database, it is possible to create a new reference to refresh the drug list.



The label mentions the drug reference, its expiry date and the batch number.

The technicians who generated the label and controlled the filled box sign the label permitting a traceability of the process.

RESULTS

Figure 1: Nature of drugs returned from the wards

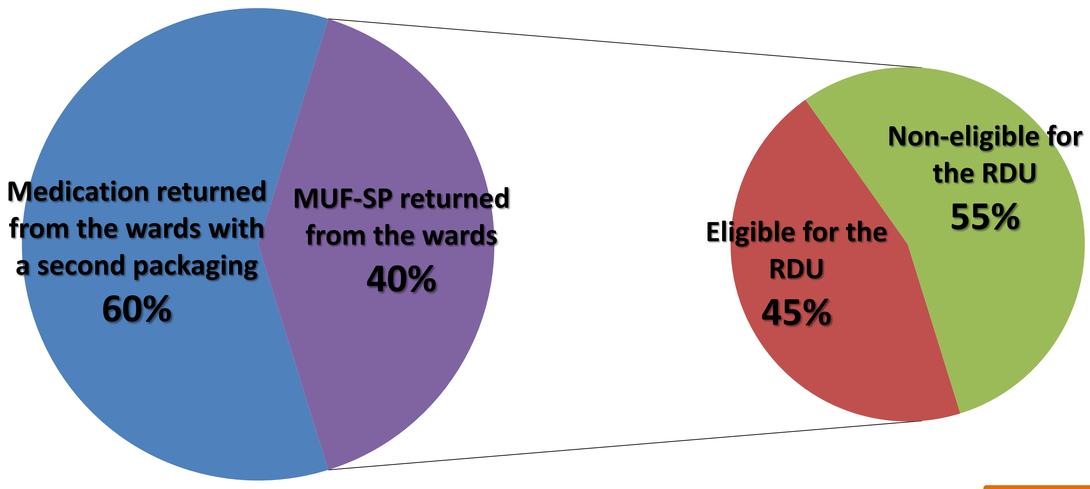


Figure 2: Time required for each step of the recycling of a drug

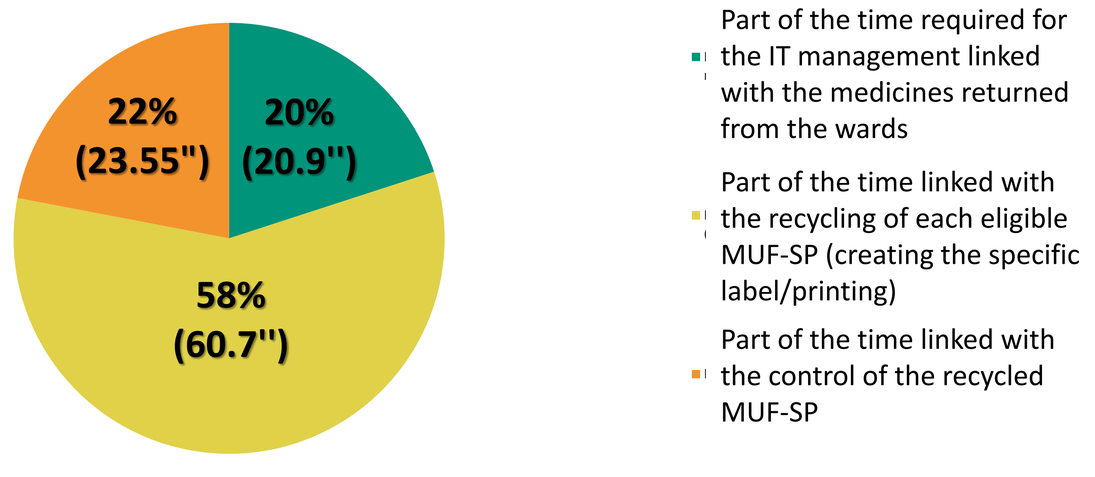


Table 2: Cost of the drugs returned from the wards

Nature of drugs	Quantity	Cost (€)
Eligible for the RDU	288 (45%)	615,43 (86%)
Non-eligible for the RDU	352 (55%)	100,18 (14%)

- 936 drug units were returned to the pharmacy from the wards during one month. 40% were free of second packaging and 45% (**figure 1)** of these were eligible for RDU (**table 2**).
- 22 references were recycled among which 19 were antibiotics.
- The cost of the recycled drug units represented 86 % of the total cost of the MUF-SP.
- The estimated average time required to generate the whole system was 105.15 seconds per reference (**figure 2**) and cost 0.84€ (including staff and consumable costs).
- The total cost of the process achieved 19.14€.

CONCLUSION

The considered eligibility criteria allowed significant savings in relation to the described process costs. The recycled antibiotics also permitted a better appreciation of the use of these molecules in accordance with the national sanitary requirements. Moreover this system is suitable for the manufactured drug boxes free of DATAMATRIX code. Besides the pharmacy technicians found the developed tool easy to use.

This solution enables savings, better safety and management. Such a method could reasonably be extended to other hospitals using the same technology.

Abstract Number: DD-005