



REDUCTION OF CARBON FOOTPRINT BY IMPLEMENTING AUTOMATED MEDICINE DISPENSING SYSTEMS IN HOSPITALIZATION UNITS

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Background and Importance

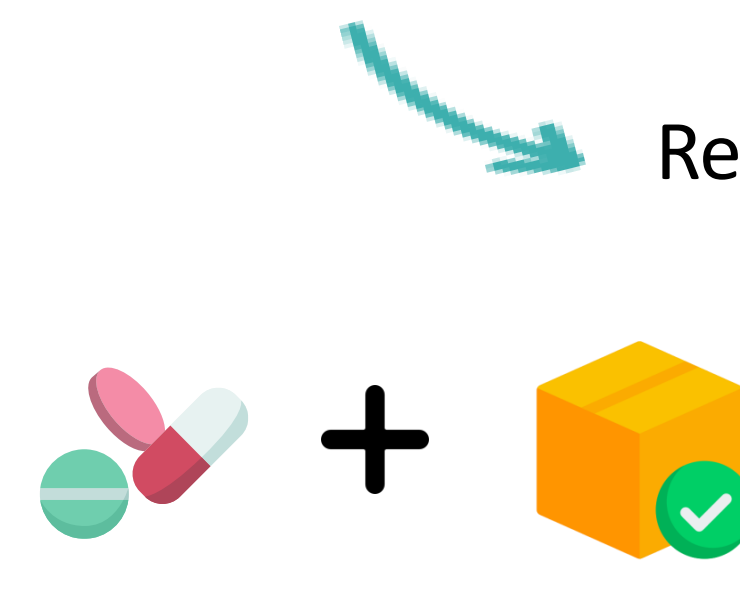
The Pharmacy Service (PS) has modified the method of distributing medication for hospitalized patients.

Unit dose dispensing system required preparing New Treatments (NT) in individualized plastic bags for each patient



NEW

Automated Medicine Dispensing System (AMDS) in Hospitalization Units (HU) facilitates access to New Treatment



Reducing the distribution of medication in plastic bags

Inclusion of previously stock-requested medication

Aim and Objectives

Compare the impact of carbon footprint in a Pharmacy Service before and after the implementation of AMDS in HU.



Materials and Methods



3 months post-implementation of the AMDS **VS** **3 months** of the previous year in **6 Hospitalization Units**

Reduction in the number of New Treatments prepared by the Pharmacy Service was analysed:



All of a patient's daily NT were grouped into **1 bag**



1 bag was used per request for the preparation of stock medications.

Impact on the carbon footprint is calculated by measuring the reduction in **greenhouse gases (kg CO₂)**.

Average weight of a bag was calculated to convert it into kg CO₂.

Results

BEFORE

AMDS implementation



AFTER

AMDS implementation

15,434 NT were distributed using **5,939 bags**

3,499 NT were distributed using **2,749 bags**

Hospitalization Unit	Kg CO ₂	Reduction (%)
1	0.16 vs 0.09	48.49
2	0.16 vs 0.08	51.59
3	0.13 vs 0.07	49.61
4	0.12 vs 0.02	85.59
5	0.10 vs 0.07	29.47
6	0.14 vs 0.07	55.80

Median reduction=
50.6%

Reduction of **11,935 NT** and **3,190 bags**

0.43 kg CO₂

TOTAL

3,867 bags have been reduced

0.63 kg CO₂

Expected annual reduction:

2.54 kg CO₂

avoided in waste management

Considering impact of bag manufacturing:
240.96 - 421.88 kg CO₂.

918 stock medication were prepared in **918 bags**

241 stock medication were prepared in **241 bags**

Reduction of **677 bags**

0.21 kg CO₂

Conclusion and Relevance

Implementation of AMDS reduces the consumption of plastic bags for medication dispensing in all HU analysed, thereby reducing carbon footprint of the PS.

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