

IMPLEMENTATION OF PERSONAL DIGITAL ASSISTANTS IN THE MEDICATION DISPENSING AND RETURN PROCESSES

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BACKGROUND AND IMPORTANCE

Mobile barcode scanning (PDAs) addresses traceability gaps in hospitals. By ensuring data capture at the point of care, this technology enhances patient safety, reduces medication errors, and optimizes both workflows and financial returns.

AIM AND OBJECTIVES

To implement Personal Digital Assistants (PDAs) into the medication distribution (dispensing) and medication return processes.

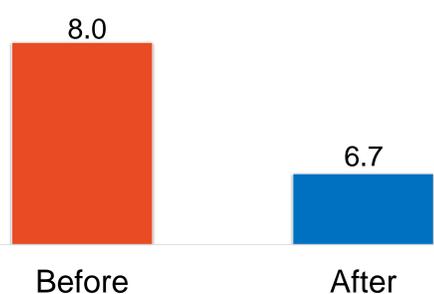
MATERIALS AND METHODS

- Study Design: Evaluated in three phases: planning/acquisition, execution, and evaluation (Jan–July 2025; 551 patient-days).
- Data Collection: Automated system records, pharmacy spreadsheets, and nursing audits.
- Metrics: Time spent on tasks (receiving/distribution/returns), labor/paper costs, and return reasons.
- Analysis: Comparative study using descriptive statistics and multidisciplinary internal validation.

RESULTS

- Time Optimization: Total reduction of 17.9 hours/day (537h/month) in labor across dispensing and receiving.
- Financial Impact: Total savings of €2,837.57 in man-hour costs.
- Returns: 52% faster processing with significantly improved traceability of reasons.
- Sustainability: Paper usage dropped from 81 to 30 packages (63% decrease).

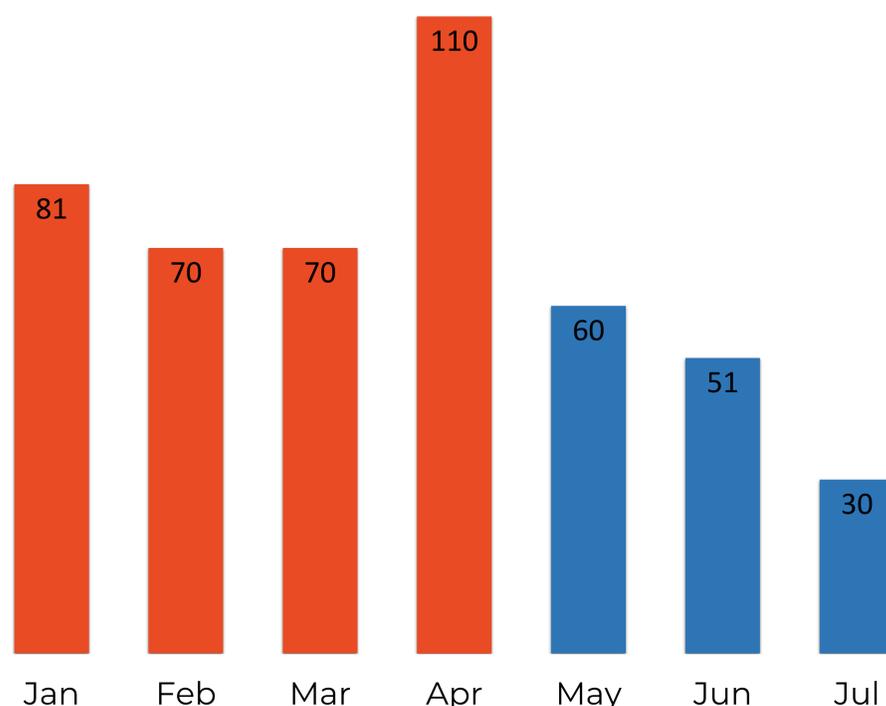
Reduction of processing time – Medication Distribution



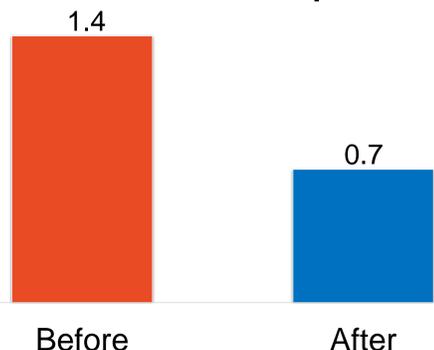
TIME SAVINGS IN MEDICATION DISTRIBUTION
16% REDUCTION

TIME SAVINGS:
11.8h/Day;354h/Month
€1,288.10 SAVINGS
MAN-HOUR COSTS

Paper Consumption (in 500-sheet reams) - Jan-Jul 2025



Reduction of processing time – Medication return process



SAVINGS IN MEDICATION RETURN
50% REDUCTION

TIME SAVINGS:
6.1h/Day;183h/Month
€1,549.47 SAVINGS
MAN-HOUR COSTS

CONCLUSION AND RELEVANCE

The adoption of new technologies, such as PDAs and barcode scanners, promotes the optimization of clinical support processes, resulting in faster patient discharge dispensing, picking verification, and medication receiving. The electronic medication return process performed by the nursing team enhances the accuracy of reasons and streamlines reverse logistics, contributing to more efficient and safer medication management.

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