

RISK OF ERRORS RELATED TO DEFICIENCIES IN UNIT DOSES IDENTIFICATION

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INTRODUCTION & OBJECTIVE

An erroneous dispensing of a drug can lead to an administration error if subsequent checks do not permit to detect it before it reaches the patient. The main causes of non-detection are human failures and deficiencies in the identification of unit doses of drugs, leading to difficult or impossible controls.

Objective: To measure the feasibility of controls, taking into account the frequency of use of each drug, and to estimate the increased safety that would be provided by the comprehensive identification of unit doses.

METHODS

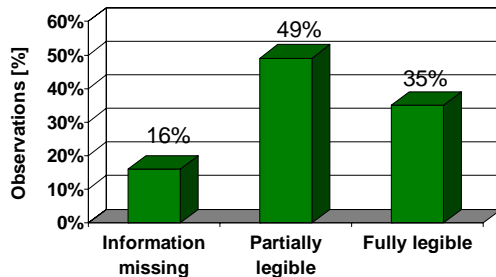
1. Information readable on each unit dose prepared in trays was transcribed in detail.
2. A fault tree analysis (FTA) was built to estimate the drug administration error rate.
3. Data were extrapolated to calculate the expected number of serious adverse events and costs. The gain that could be provided by the complete identification of each dose was estimated.



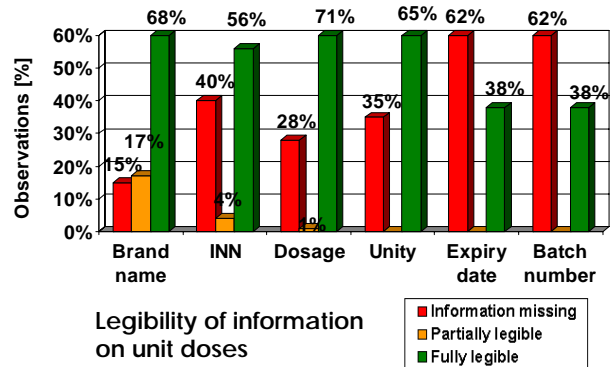
RESULTS



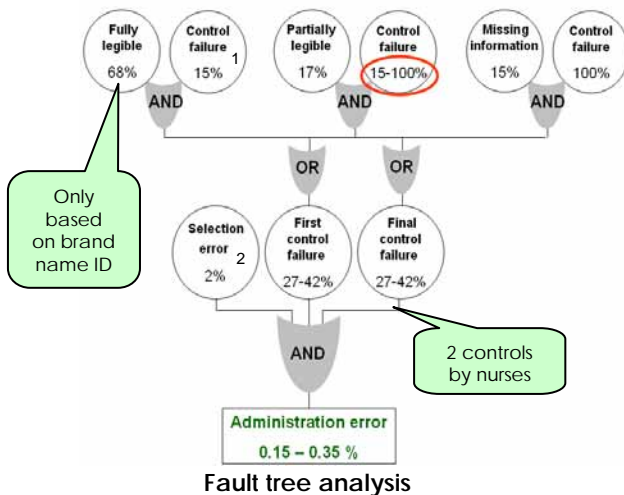
5108 observations
60 wards
366 drugs
57 manufacturers



Global analysis of information available on unit doses (5 items)



Legibility of information on unit doses



	Actual situation	Full identification
Administration errors [%]	0.15 – 0.35	0.05
Administration errors / year [n]	30'000 – 70'000	10'000
Adverse drug events / year [n]	300 – 700	100
Cost / year [Euros]	1'125'000 – 2'625'000	375'000

Extrapolation to the hospital (2'000 beds)

Avoidable cost
750'000 – 2'250'000
Euros / year

- References: 1 Facchinetti NJ, Med Care 1999;37:39
2 Garnerin Ph, Eur J Clin Pharmacol 2007;63:769
3 Bates D, J Gen Intern Med 1995;10:199
4 Leape L, JAMA 1999;281:267.

CONCLUSION

It is urgent that the industry improves the identification of drugs by printing the brand name, the INN and the dosage on each unit dose, and in the long term also the expiry date, batch number and a GS1 datamatrix.

In hospitals, the drug and therapeutic committees must favour products that meet these requirements.

