

Rasca AF, Meier B, Bonnabry P

Pharmacy, University Hospitals of Geneva (HUG), Switzerland

INTRODUCTION

When a global distribution system is used the doses prescribed for the patients are prepared using drugs available from ward stocks. Different factors (such as stockroom ergonomics, stock presentation etc..) play an important role when the drugs are prepared, and can represent a risk factor (latent error) within the drug dispensing process. The **object** of this study was to validate an evaluation grid (fig.1) used to measure the quality of drug stocks in ward pharmacies within the HUG and then to evaluate the Internal Medicine wards (IMW).

METHOD

Validation:

16 different wards in the HUG were visited by two pharmacists who simultaneously filled in a form allocating points (0,1 or 2 points: maximum 150) concerning the following criteria:

- ❖ ergonomics (stock room)
- ❖ general organisation
- ❖ stock presentation
- ❖ means of control

Evaluation:

12 IMW's were visited for evaluation by one pharmacist.

APSC Department Pharmacy, HUG QUALITY INSURANCE

HUG Hôpitaux Universitaires de Genève

EVALUATION OF DRUG STOCK QUALITY

Ward: _____ Date: _____
 Service: _____ Grid filled in by: _____

ERGONOMICS (STOCK ROOM)	2	1	0
Size of stockroom	Big	Correct	Small
Product separation (IV's, Oral, Narcotics...)	Yes	Partially	No
Space for IV stands	Sufficient	Correct	Insufficient
Space for oral drug stocks	Sufficient	Correct	Insufficient
Space for narcotic stock	Sufficient	Correct	Insufficient
Space for parenteral drug line preparation	Sufficient	Correct	Insufficient
Separation from the circulation (counters etc...)	Good	Average	Bad
Noise in the stock premises	Not much	Normal	Too much
Lighting in the stockroom	Sufficient	Correct	Insufficient
Room temperature (min 22°C), according to nurses judgement	Normal all the year round	Normal except in summer	Very often hot
Patent accessibility	Impossible	Difficult	Easy

GENERAL ORGANISATION	2	1	0
Separation of current and reserve treatments	Always	Partially	No
Separation of oral and IV drugs	Completely	Partially	No
Separation of drugs for internal and external use (creams, liquids etc...)	Completely	Partially	No
Separation of infusion fluids	Compartment per drug	Compartment for several drugs	No compartment
Tablets separated by compartments	Individual	For several drugs	No compartment
Amphipiles separated by compartments	Individual	For several drugs	No compartment
Oral doses separated by compartments	Strict	Variable	Risk of confusion
Separation of confusable doses	Strict	Variable	Risk of confusion
Method of restocking	Stock control tool	Empirical system	No system
Written procedures for obtaining drugs out of pharmacy hours	Yes	No	No
Knowledge of whereabouts of nearest emergency drug trolley	Yes	No	No
Recent drugs stock compendium available	Yes (0-1 year)	Yes (over 1 year)	No

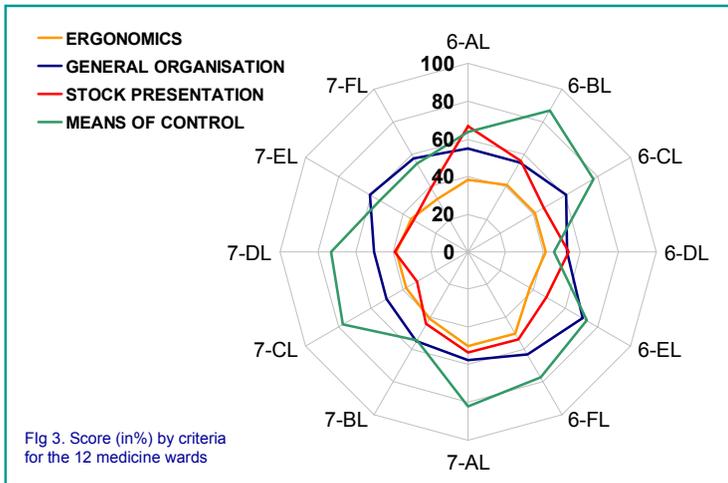
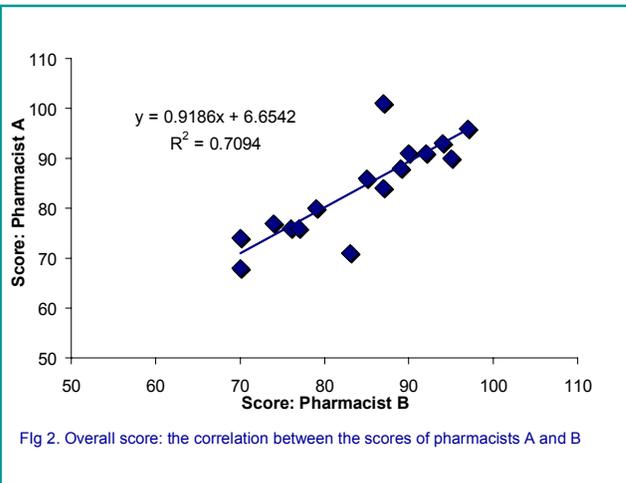
Fig 1. Evaluation grid for stock quality

STOCK PRESENTATION	2	1	0
Stock taping up level considering surface available	Reasonable	High	Excessive
Alphabetical order	Strictly respected	Some exceptions	Frequent exceptions
Date of first use (oral liquids)	Always	Sometimes	Never
Date of first use (creams and external liquids)	Always	Sometimes	Never
Date of first use of multidosage vials	Always	Sometimes	Never
Out-of-date drugs	None	One	Several
Narcotic stock	Conform with regulations		Does not conform
Presence drugs in the fridge that should not be there	No		Yes
Space used for current oral drug treatment	Reasonable	High	Excessive
Space used for oral treatment stock	Reasonable	High	Excessive
Original packages kept for sterile stock drugs	Always	In principal	Not necessarily
Directions for use (labelled for IV's)	Always	In principal	Not necessarily
Identifiable expiry date	Always	In principal	Not necessarily
Identifiable batch number	Always	In principal	Not necessarily
Patients name on drugs not in official HUG list	Always	Sometimes	Never
Products other than drugs in the fridge	No	No food products	Food products
Emergency eye rinse solution	Yes	No	No
Overall orderliness	Good	Average	Bad
Overall cleanliness	Good	Average	Bad

MEANS OF CONTROL	2	1	0
Patient tray preparation	Double control	Identifiable labels	Risk labels
Identification of IV products (label, other...)	Always	Sometimes	Never
Responsibility for stock control	Formally defined		Not formally defined
Control of pharmacy deliveries	Always	Sometimes	Never
Frequency of stock rearrangement	Monthly	Less frequently	Unspecified
Frequency of narcotic stock control	Monthly	Less frequently	Unspecified
Frequency of expiry date control	Monthly	Less frequently	Unspecified
Frequency of control of returns to the pharmacy	Monthly	Less frequently	Unspecified
Written notification of controls	Always	Partially	Never

RESULTS	Points	%
Ergonomics (stock room)	24	
	110	
General organisation	32	
	8	
Stock presentation	32	
	22	
Means of control	8	
	14	

RESULTS



Validation: the correlation between the pharmacists A and B was 0.709 ($p=0.888$) for the overall score (fig.2).

Evaluation: the average quality index was 77/150 (51.3%) \pm 8.15 (SD) (min 66, max 88) for the 12 IMW's (fig.3).

CONCLUSIONS

- ❖ The agreement between the results obtained during the evaluation by the two pharmacists permitted the validation of the evaluation grid used to test the stock quality in the wards.
- ❖ Even though the wards tested had a similar functional structure certain significant differences were seen and a considerable potential for improvement of these weak points is possible.
- ❖ These visits have permitted the establishment of a collaboration between the pharmacists and the nurses with the aim of improving the drug supply processes and the realisation of a simple tool for stock control to increase the awareness of the staff concerning good methods for stocking drugs.
- ❖ This form could be used as a routine tool to measure and improve stock quality, with the ultimate aim of reducing the risk of errors in storage, preparation and dispensing of drugs at the ward level.