DEVELOPMENT OF A STRUCTURED CONTROL PANEL TO HELP FOLLOW AND INCREASE THE QUALITY OF DRUG PRESCRIPTIONS

BONNABRY P., DOMMEYER A.

Pharmacy, University Hospitals, Geneva, Switzerland

Introduction

Owing to the large utilisation of drugs and the associated costs, it seem very useful to promote a global approach of drug consumption analysis, not only in a perspective of cost containment but also to increase the quality of prescriptions.

Objective

The objective was to develop a computerised management tool («control panel») to help follow the use of drugs in the hospital. Resulting data must be useful for:
• global management;
• pharmacoeconomic analysis;
• the application and evolution of formulary policy;
• the improvement of prescription practice.

Design and method

• The control panel is filled by the pharmacist; a written report is transmitted every 3 months to the medical staff with comments and suggestions for quality improvement.
• In the absence of electronic prescription, statistics are extracted by the use of a specific program (Business Objects®) from computerised ward consumption data.
• Analysis can be applied to every structural level (whole hospital, medical department, specific ward) and a pilot study was performed in the wards of geriatric departments.

Main outcome measures

Following analyses were included in the control panel, for total drug consumption and specifically for non-formulary drugs:
• global expense related to hospitalisation days (Figure 1);
• classification of drugs by costs (Figure 2) and by quantity used («TOP50»);
• longitudinal follow-up of the consumption of problematic drugs (Figure 3);
• prescription profiles for specific drug families (studies of prescription prevalence) (Figure 4);
• quantitative (Figure 5) and qualitative comparative analysis of prescription practice for each physician.

Results

Comparisons over time, detection of most costly drugs (Pareto law), detection of prescription deviance (warning signal) and evaluation of the homogeneity of practice are examples of results obtained from the control panel.
Following the report, corrective measures can be introduced by the physicians:
• limitation of drug prescription (written guidelines, teaching);
• introduction of new drugs in the formulary;
• price negociation.
The results of interventions can be followed over time, in accordance with the concept of continuous quality improvement.

Conclusions

We suggest our tool can be very useful at multiple levels, such as understanding the evolution of expanse, designing institutional policy, identifying hazardous prescribing trends, and giving individual physicians insight into their own prescribing habits.
In the future, the use of this control panel will be generalised in our hospital and its impact on the evolution of drug consumption will be measured.
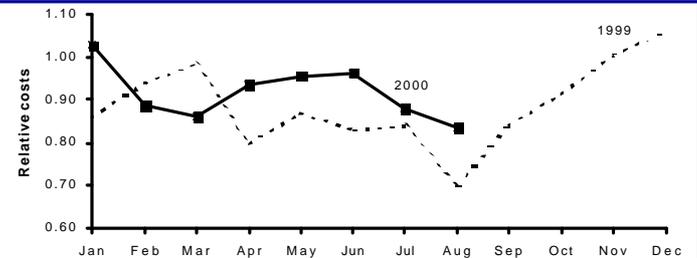

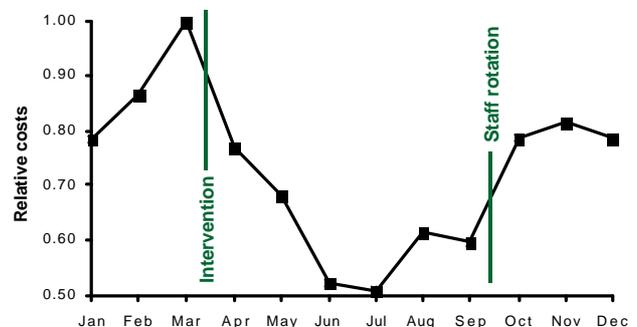**Figure 1.** Total expanses follow-up (geriatric hospital, 1999-2000).

Figure 3. Longitudinal follow-up of omeprazole consumption (geriatric hospital, 1999); intervention=written guidelines.
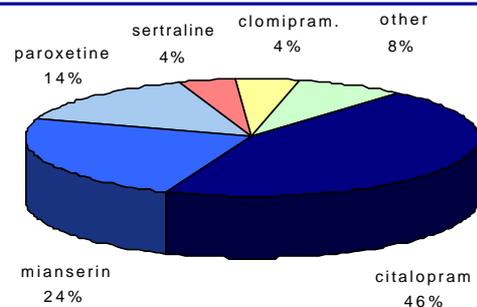

Figure 4. Prescription profile of antidepressants (geriatric hospital, may 2000). Total prevalence = 32% of patients.

Drug	% costs
1. ceftriaxone	7.5%
2. nadroparine	5.8%
3. omeprazole	4.1%
4. cefepime	3.1%
5. citalopram	2.3%
6. co-amoxiclav	2.3%
7. pamidronate	2.2%
8. frangula+lactulose	2.2%
9. imipenem	1.6%
10. calcium-vit D	1.3%
TOTAL	**32%**

Figure 2. TOP50: Classification of drugs by costs (geriatric hospital, jan-aug 2000).
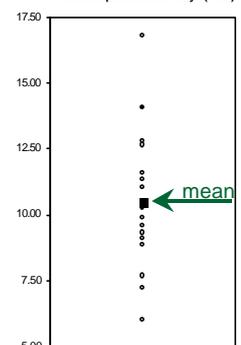

Figure 5. Comparison of expanses for each physicians (geriatric hospital, jan-mar 2000).