Retrospective analysis of drug-related incidents voluntarily declared in a General Internal Medicine service

D. Carli 1,2, E. Gerstel 3, S. Le Du 3,4, M. Tarpin-Lyonnet3, B. Guignard 1, P. Chopard1, P. Bonnabry 1,2, A. Perrier 3,5

1 Department of Pharmacy, Geneva University Hospitals, Geneva, Switzerland; 2 School of Pharmaceutical Sciences, University of Geneva, University of Lausanne, Geneva, Switzerland; 3 Service of General Internal Medicine, Geneva University Hospitals, Geneva, Switzerland; 4 Quality of Care Service, University Hospitals, Geneva, Switzerland; 5 Faculty of Medicine, University of Geneva, Switzerland.

Objective
In our institution, incidents without significant consequences are declared voluntarily. In order to gain an overview of incidents related to drugs, we conducted an analysis of cases declared in the General Internal Medicine service.

Method
• Reports between 2000 and 2010 were evaluated retrospectively.
• Keywords used to select reports were: “prescription”, “administration”, “flow rate” and “PresCo” (name of our computerized physician order entry system).
• Duplicates and reports that were not exploitable (improper data) were excluded.
• Incidents were classified according to (1) category, (2) type, (3) effect and (4) drugs involved.

Results
Of the 147 identified incidents, 64 were excluded. In the 83 remaining incidents, classification was possible in:
1. 100% for category
2. 95% for type
3. 93% for effect
4. 87% for drugs involved

Category of incidents
Most reports referred to administration errors.

Type of incidents
Most incidents resulted in the administration of a wrong dosage or a wrong drug.

Effect of incidents
Most errors resulted in an overdosage or a wrong drug.

Drugs involved in incidents
Most drug classes involved were narcotics and anticoagulants with morphine, methadone and heparin being the most cited.

Conclusions
• This study confirms previous reports on medication errors in hospitalized patients (mainly in USA): most reports refered to administration errors.
• Most drugs involved are known to cause clinically significant adverse effects if misused.
• This study will help focus on medication errors which might occur again and for which prevention strategies could be implemented.