

Application and Evaluation of an Instrument for the Documentation of Clinical Pharmaceutical Interventions

Markus L. Lampert

Background: The role of the pharmacist in hospital continues to evolve beyond traditional services. As a clinical pharmacist he can promote the effective, safe and rational use of drugs by the individual patient and by the health care institution. Since clinical pharmacy is not broadly established and accepted in Swiss hospitals, it is important to document and to evaluate pharmacists' clinical activities to obtain additional resources, to justify the cost of such services and to identify systematic problems in the pharmacotherapy process.

Objectives: To document the contributions of a clinical pharmacist (CP) in optimising pharmacotherapy. To evaluate the documentation system in terms of feasibility and suitability in a hospital setting. The documentation should reveal the major topics and thus help to define future activities in the clinical pharmacy service.

Setting: Two medical wards with totally 77 beds in a university hospital.

Methods: Suggestions or contributions of a clinical pharmacist to the optimisation of pharmacotherapy during ward rounds with senior physicians or during review of the case notes with nurses and junior physicians were documented and classified as drug related problems (DRPs) using the PCNE scheme (Pharmaceutical Care Network Europe), version 5.00. This classification system has a hierarchical structure which allows coding for the problem, its cause, the intervention and the outcome.

Results: During 70 observation days 213 problems were documented of which 128 were detected by reviewing the case notes, 33 during ward rounds with senior physicians, 32 by direct reporting to the CP, and 20 on the occasion of non-formulary prescriptions. Problems and causes are shown in table A. Interventions involved 148 suggested changes in pharmacotherapy of which 123 were approved by the responsible physician (change or stop of drug, dose adaptation, more appropriate formulation etc.), 12 ADR reports to the local pharmacovigilance centre and 31 specific information given without further need for action.

Tab. A: Problems and causes classified by the PCNE scheme V5.00

Code	Problems, primary domains	n	Code	Causes, primary domains	n
P1	Adverse reaction	22	C1	Drug/Dose selection	145
P2	Drug choice problem	81	C2	Drug use process	33
P3	Dosing problem	52	C3	Information	11
P4	Drug use problem	7	C4	Patient/psychological	2
P5	Interactions	37	C5	Logistics	11
P6	Other	8	C6	Other	11

An economic evaluation of the DRPs documented showed direct savings of drug costs of € 2058 or € 7349 per year.

Discussion: These data show that DRPs are quite common and that a CP can help in the management of these problems. The majority of suggestions were accepted by the physicians. Regarding methodology the PCNE system may be considered a rapid and practical tool to document pharmacists' clinical activities. Future work, however, should introduce the possibility to assess the DRP severity and the potential impact of the pharmacist's intervention on patient care.