Evaluation of implementation of clinical pharmacy services in Central Norway

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Objectives
Central Norway Pharmaceutical Trust consists of six hospital pharmacies covering eight hospitals. In partnership with a research group at the University of Lund and the Lund Hospital Pharmacy, Sweden, we implemented a model for clinical pharmacy services named Integrated Medicines Management (IMM). The model is based on the Lund IMM-model (LIMM)1 and the IMM-model2 from Northern-Ireland. Two years on we have evaluated the service with regards to:

1. reduction in potential medication errors found by pharmacists
2. benefits for patients and healthcare professionals

Methods
The report consists of results achieved through (Figure 1):

1. Six projects/studies focusing on medicines reconciliation (MedRec) and medication review (MR)
2. Two mini-audits bench marking daily activities and documenting discrepancies found in drug histories and drug related problems (DRP) discovered through MR
3. Three questionnaires (as indicators of quality) investigating patient satisfaction, the clinical pharmacists’ experiences with the IMM-model and the attitudes of and usefulness for healthcare professionals.

Results
Medicines reconciliation: 50-60% of patients admitted to hospitals have one or more discrepancies in their drug histories. The main reason for discrepancies was omission of drugs at point of admission.

Medication review: On average 2.9 DRPs per patient were identified and acted upon by the pharmacists. Most frequently DRPs were:

• need for additional therapy,
• inappropriate use of drug(s)

Clinical significance: The clinical importance of discrepancies found in drug histories were evaluated according to a short-term and a long-term perspective based on a 3 graded scale. Almost 50% of discrepancies could potentially cause moderate to severe harm if not acted upon within a few days. The number increased to nearly 90% if the discrepancies were not corrected at time of discharge and were believed to be carried on in primary care.

Clinical significance: 85% of the pharmacists recommendations were graded to be of clinical importance for the patients (grade ≥ 3 as per Hatoums4 scale).

Patient, male: “I feel safer with regards to my drug treatment.”

Consultant, Aalesund Hospital: “More resources to perform thorough quality assurance work related to medicines reconciliation; secondarily increased awareness about DRPs; increased competencies amongst doctors and nurses; change of culture; more correct and appropriate use of drugs both during hospital stay and after discharge.”

Quality indicators:
Doctors/nurses and pharmacists have rated the clinical pharmacy service to be very good, 5.5 and 5.1 respectively (6 graded scale) with regards to patient benefits and usefulness for healthcare professionals. The patient satisfaction survey also rated the service highly among the patients (3.5 on a 4 graded scale)

Conclusion
The IMM-model has been successfully implemented in hospitals in Central Norway. Further research will be needed to investigate clinical end-points such as reduced length of hospital stay and time to readmission. We plan to provide a more extensive service to a higher number of patients in our region, and to patients in community care.

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References:

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