

Developing an In-House Comprehensive Medication Review Training Program (CMRTP) for Clinical Pharmacists in a Finnish Hospital Pharmacy

Kirsi Kvarnström (Ph.D)^{1,2,3}, Ilona Niittynen (M.Sc)^{1,3}, Sonja Kallio (Ph.D)⁴; Carita Lindén-Lahti (Ph.D)^{1,3}, Prof. Marja Airaksinen³ and Lotta Schepel (Ph.D)^{1,3,5}

1. HUS Pharmacy, Helsinki University Hospital and University of Helsinki, 00029 Helsinki, Finland; 2. HUS Internal Medicine and Rehabilitation, Helsinki University Hospital and University of Helsinki, 00029 Helsinki, Finland; 3. Clinical Pharmacy Group, Division of Pharmacology and Pharmacotherapy, Faculty of Pharmacy, University of Helsinki, 00014 Helsinki, Finland; 4. The Association of Finnish Pharmacists, 00510 Helsinki, Finland; 5. Quality and Patient Safety, Shared Group Services, Helsinki University Hospital and University of Helsinki, 00029 Helsinki, Finland (lotta.schepel@hus.fi)

Background and importance:

Long-term continuing education programs have been a key factor in shifting toward more patient-centered clinical pharmacy services.¹ Especially competences required for conducting medication reviews have been seen as core skills in conducting clinical pharmacy services. The increased demand for patient-centered clinical pharmacy services in secondary and tertiary care and the need to precisely obtain the special expertise for the HUS Pharmacy professional setting (university teaching hospital) led to the idea of developing a tailored in-house training program for comprehensive medication reviews.

Aim and objectives:

The aim of this project was to develop an in-house Comprehensive Medication Review Training Program (CMRTP) for Helsinki University Hospital (HUS) Pharmacy. A commercial Finnish accreditation training program for collaborative comprehensive medication reviews was benchmarked and modified to meet the needs of university teaching hospital setting.

Materials and methods:

The CMRTP was piloted in 2016 and further developed during the years 2017–2020 (Figure 1). Feedback from training sessions was and changes in the hospital environment were addressed in the development process.

Results:

The current program focuses on developing the special skills and competencies needed in comprehensive medication reviews (CMRs), including interprofessional collaboration and pharmacotherapeutic knowledge.² The program consists of two modules: I: Pharmacist-Led Medication Reconciliation, and II: CMR (Table 1). The CMRTP includes teaching sessions, self-learning assignments, medication reconciliations, medication review cases, CMRs, a written final report, and a self-assessment of competence development (Table 1). The one-year-long program is coordinated by a clinical teacher. The program is continuously developed based on the latest guidelines in evidence-based medicine and international benchmarking in cooperation with the University of Helsinki.

Conclusions and relevance:

With the CMRTP, we have adopted a more patient-centered role for our clinical pharmacists and remarkably expanded the services.² This program may be benchmarked in other countries where the local education system does not cover clinical pharmacy competence well enough and in hospitals where the clinical pharmacy services are not yet very patient-oriented.

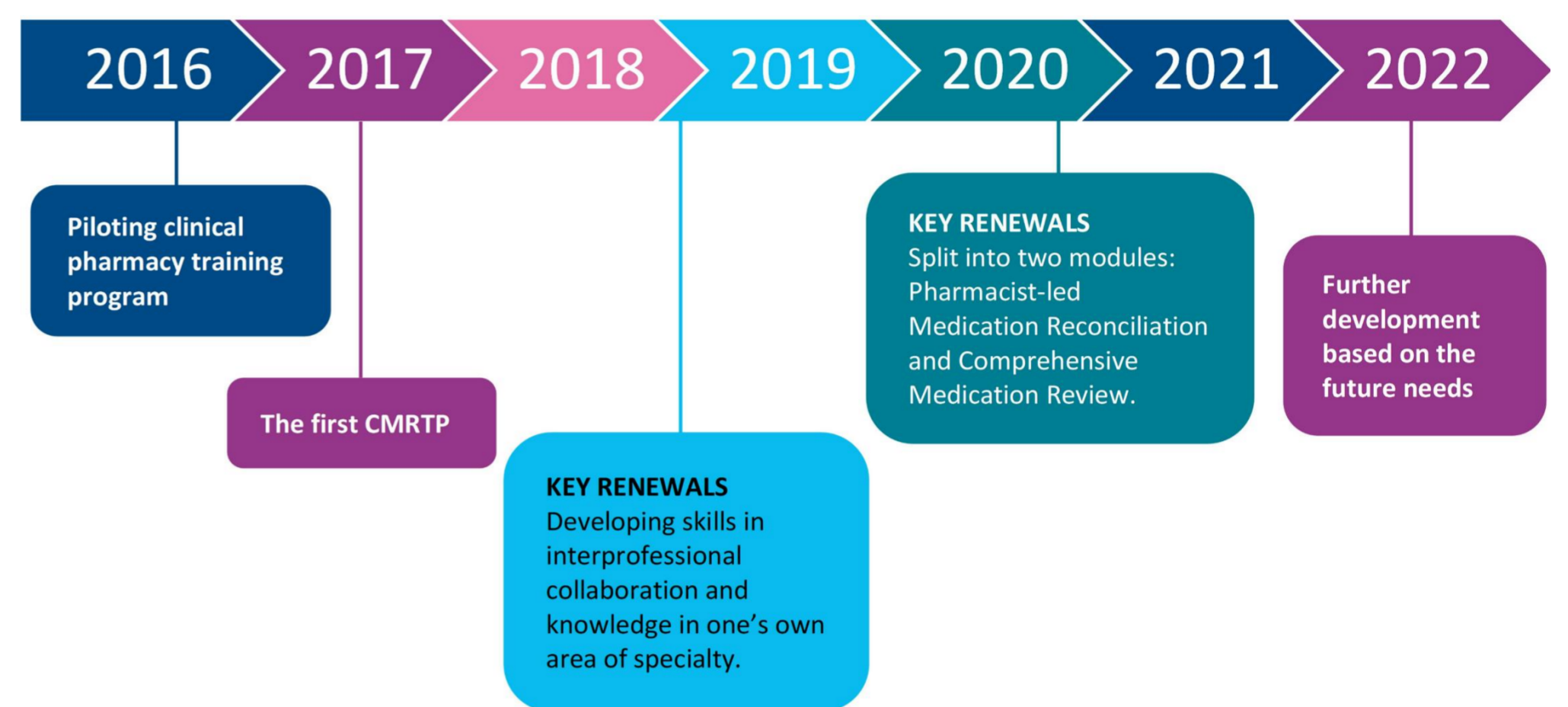


Figure 1. Key development steps in the in-house Comprehensive Medication Review Training Program (CMRTP) for clinical pharmacists in HUS Pharmacy.

Table 1. Current content of the in-house Comprehensive Medication Review Training Program (CMRTP) for clinical pharmacists in HUS Pharmacy.

Credits (ECTS*)	20 credits split into two modules : I) Pharmacist-Led Medication Reconciliation II) Comprehensive Medication Review
Lectures & workshops	<p>Part I: Pharmacist-Led Medication Reconciliation (4 x 4 h lessons) <u>Topics:</u></p> <ul style="list-style-type: none"> ✓ Drug interactions ✓ Use of drug information databases supporting medication reviews ✓ Identifying medication-related problems and assessments of clinical significance ✓ Patient interviews ✓ Medicine information and patient counseling on a patient ward ✓ Medication adherence ✓ Drug use in several diseases (e.g., cardiovascular and memory diseases, pain, insomnia, depression) and perioperative care ✓ Pharmacist-led medication reconciliation in practice <p>Part II: Comprehensive Medication Review (6 x 4 h lessons) <u>Topics:</u></p> <ul style="list-style-type: none"> ✓ Interpreting laboratory results ✓ Renal and hepatic insufficiency and drug use ✓ Impact of aging and drug use in older patients, PIMs for older adults ✓ Deprescribing ✓ Interprofessional collaboration in medication reviews ✓ Comprehensive medication reviews in practice, how to identify patients in need of a CMR
Assignments	<ul style="list-style-type: none"> ✓ Personal learning plan ✓ Learning diary ✓ Reading the literature and professional meetings related to one's own area of specialty; ✓ Self-learning between the live sessions (e.g., current care guidelines) ✓ Final reflective report: integrating comprehensive medication reviews in own work tasks.
Case-based medication review training	<ul style="list-style-type: none"> ✓ 4 x pharmacist-led medication reconciliations ✓ 3 x medication review cases based on patient scenarios ✓ 5 x comprehensive medication reviews for real patients

* ECTS = The European Credit Transfer and Accumulation System; PIM = Potentially Inappropriate Medication; CMR = comprehensive medication review.

Acknowledgements:

We wish to thank Kerstin Carlsson, director of the HUS Hospital Pharmacy, for enabling HUS Pharmacy in-house training and the role of clinical pharmacists at the Helsinki University Hospital. We also thank the previous and current clinical teachers, Hanna Kortejärvi (Ph.D), Assistant Professor Anna-Riia Holmström, Ercan Celikkayalar (Ph.D), and Päivi Kuosmanen (M.Sc), for contributing to the HUS Pharmacy in-house training development. We are grateful to Management Secretary Nina Nurkka for the practical arrangements related to the in-house training.

