

# Making clinical pharmacy essential in a large university hospital

J. Kutschera Sund<sup>1,2</sup>, M. Grotnes<sup>1</sup>, I. Klevan<sup>1</sup>, L. Lilleås<sup>1</sup>, J.F. Skomsvoll<sup>3</sup>

<sup>1</sup>Central Norway Hospital Pharmacy Trust, Trondheim, Norway, <sup>2</sup>Norwegian University of Science and Technology, Trondheim, Norway, <sup>3</sup>St. Olavs Hospital, Trondheim, Norway

## What was done?

A dialog based process involving hospital management, clinicians and the pharmacy led to a large increase in clinical pharmacy services in St.Olavs Hospital. For geographical and organisational overview, see Fig. 1 and 2.

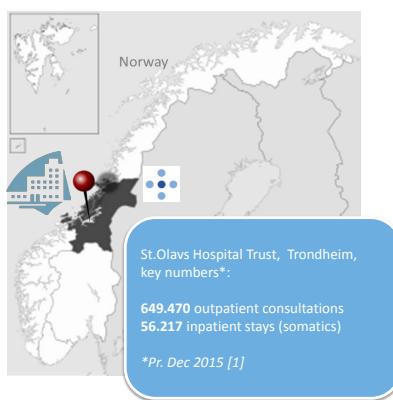


Figure 1: Map of Norway showing the Central Norwegian Region and St.Olavs Hospital in Trondheim (red pin).

## Why was it done?

Clinical pharmacy according to the Integrated Medicines Management (IMM)-model (Fig. 3) [2,3] was introduced in hospitals in the Central Norwegian Health region in 2010. Since 2012 the IMM-model has been the chosen national method in Norway. However, lack of comprehensive strategies and funding has made it difficult to develop and implement extensive clinical pharmacy services in our region. A new financial model securing long term funding from the Central Norway Regional Health Authority gave predictability and made way for a new joint approach at St.Olavs Hospital, securing hospital involvement.

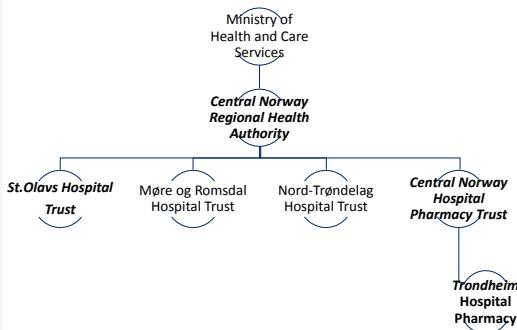


Figure 2: Organisational chart of the Central Norway Regional Health Authority depicting the involved divisions.

## How was it done?

A literature review was conducted. Based on this, a multidisciplinary project group decided that all clinics and wards were eligible for clinical pharmacy services and should receive extensive information on the topic. The funding from the Regional Health Authority was also based on the IMM-model. As there were limited resources allocated, all clinics were asked to apply for the service. The hospital management received applications three times the number of funded clinical pharmacists.

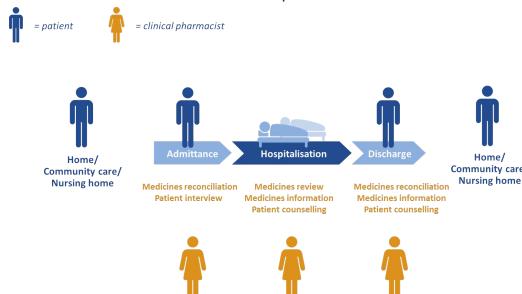


Figure 3: Illustration of the IMM-model in a standard patient care pathway, depicting roles, settings and tasks.

Prioritizing was based on the following criteria;

- Clinical pharmacy services using the IMM-model with the clinical pharmacist as a part of the multidisciplinary team
- Patient care pathways facilitating a defined role for the pharmacist
- Planned research projects or evaluation of the clinical pharmacy services
- In-patient clinics
- Continuation of already established services
- Geographical localization and time schedules allowing optimal use of the available resources

| Departments                                | 2013     | 2017        |
|--|----------|-------------|
| Gastrointestinal surgery and urology       | 1.2      |             |
| Admittance/Emergency                       | 1.7      |             |
| Orkdal (decentralised general hospital)    | 0.8      |             |
| Orthopaedics                               | 1.8      | 1.4         |
| Rheumatology                               | 0.7      | 0.5         |
| Neurology                                  | 0.5      | 0.5         |
| Internal Medicine                          | 1.8      |             |
| Cardiology                                 | 0.7      |             |
| Pulmonary diseases                         | 0.5      |             |
| Oncology                                   | 0.7      |             |
| Old age psychiatry service                 | 0.3      |             |
| Paediatrics                                | 0.6      |             |
| Gynaecology                                | 0.3      |             |
| Implementation of e-prescription (project) | 0.4      |             |
| <b>Sum</b>                                 | <b>3</b> | <b>11.4</b> |

Table 1: Development (from 2013 to 2017) in total clinical pharmacists yearly funded, wards having clinical pharmacy service implemented and their parts of the total

## What has been achieved?

The long term funding of clinical pharmacy in the health region enabled the hospital pharmacy to recruit and educate highly competent clinical pharmacists.

The number of clinical pharmacists (reported activity) has increased from 2 to 12 over a four-year period, see Fig. 4. The number of wards receiving clinical pharmacy services has grown from 3 to 14 and there are still plans for further implementation, see Table 1.

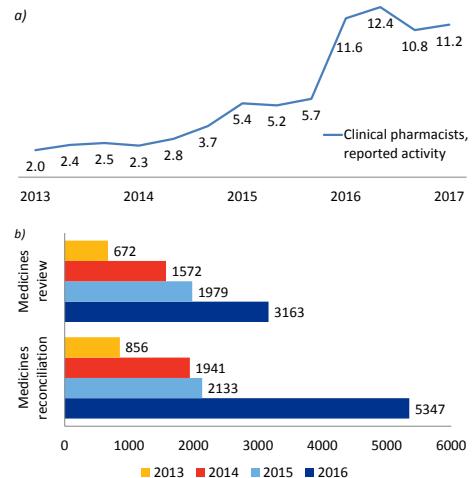


Figure 4: Development in reported activities in the time period 2013-2016 (a) Number of clinical pharmacists and (b) number of medicines reviews and reconciliations performed in the period.

The hospital and the ward managements are much more involved in evolving a common patient safety strategy with focus on medication. Specific quality indicators for each patient population and ward are being developed, and clinical pharmacists are now important members of multidisciplinary teams all over the hospital. Pharmacists are integrated in ongoing clinical research projects and publishing.

User surveys show that clinical pharmacy is assessed as a highly beneficial service (rated 5,5 on a scale from 0-6) by both nurses and physicians [4]. All clinics with implemented clinical pharmacy wish to continue the service, and 6 of the remaining 7 clinics would like to introduce the service.

## What next?

- Develop the IMM-model to include the clinical pharmacists in standard patient care in every clinic and department
- Follow-up studies on the effects of clinical pharmacy services in different settings

## References

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