

Focusing on changing clinical practice to enhance rational prescribing—collaboration and networking enable comprehensive approaches[☆]

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Abstract

Most western societies are enhancing rational pharmacotherapy to get best value for the constantly increasing expenditure on drugs. Government bodies and the medical profession took joint responsibility for the education programme for rational prescribing, launched in Finland at the end of the 1990s. The goals were to enhance critical thinking, and when appropriate, change prescribing behaviour. Various approaches that included evidence-based continuing medical education (CME), implementing clinical guidelines, delivering information, and providing prescribing feedback were used simultaneously. The commitment of the stakeholders and participants has been strong and the approaches have succeeded even though there is no clear outcome measure. The Government has recently decided to continue and widen the process, which started as a pilot programme, on a tight budget.

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1. Introduction

In Finland, the medical profession, several government organisations and the representative of local employers have been working together to develop more rational prescribing since 1998. The background and approaches of the programme will be discussed together with its results, pitfalls and implications for future work.

2. Role of medicines in health care today

Large-scale clinical trials have provided convincing evidence that clinically significant improvement can be achieved in several common diseases by appropriate drug treatment, even at the level of ultimate end points like mortality or prevention of organ failure. Good examples are hypertension [1–3], congestive heart failure and dyslipidemia [4–7]. In other diseases, such as multiple sclerosis or Alzheimer's disease, novel pharmaceutical products have improved a number of surrogate end points, but their role in the standard therapy is still debated [8–11], and their cost-effectiveness has been questioned.

Not surprisingly this has led to an increase in expenditure on drugs at a rate approaching 10% per annum, or even more in many western countries. This clearly exceeds the growth of costs in other sectors of health care. Part of the increase reflects the adoption of more effective and/or safer drugs, because new technologies are usually more expensive. Ageing of the population leads to increased morbidity and drug therapy, and medicalisation of common ailments may also have played a role in constantly increasing drug expenditure [12].

Medicines can be regarded as expenditure, but also as an investment, if they are used rationally. Rational prescribing means cost-effective use of safe and effective drugs.

3. Towards more rational pharmacotherapy

To enhance rational prescribing since the beginning of the 1990s many countries have initiated

various actions including the UK [13], Sweden (<http://www.nepi.net>) [14,15], Denmark (<http://www.irf.dk>, <http://www.fuap.dk>), and the Netherlands [16]. The most common methods have been continuing medical education (CME) of general practitioners, delivering information, producing and implementing clinical guidelines, and giving individualised or practice-based prescribing feedback. The need for similar efforts was discussed in Finland since the early 1990s. A national educational programme for rational drug therapy was eventually launched in 1998 (so called ROHTO programme).

4. A common goal and broad based commitment

In 1997, a government committee was given the task of identifying means for improving the quality of drug therapy and for controlling the growth of expenditure on medicines. It proposed, among other things, a 3 years national education programme for rational drug therapy, targeting the prescribing doctors. With the exception of the drug industry, pharmacies and patients, all relevant stakeholders involved in drug therapy took part in the planning and running of the programme, namely: the Association of Finnish Local and Regional Authorities, the Finnish Medical Association, the Finnish Medical Society Duodecim, the Ministry of Social Affairs and Health, the Ministry of Education, the National Agency for Medicines, and the Social Insurance Institution (SII); hereafter, referred to as stakeholders.

The primary goal of the programme was to encourage doctors to critically evaluate their prescribing habits and where necessary, to change them in order to optimise the efficacy, safety and cost-effectiveness of the treatments. The focus was thus on enhancing critical thinking and, when appropriate, on bringing about change.

5. Strategy

Based on international experience, several optional strategies were identified [18–21]. Generation of information and its transfer were

Table 1

Approaches to changing clinical practice presented by Grol [21] and how they were employed by the Finnish programme for rational drug therapy

Strategy, interventions	Employed by the ROHTO program (+ to some extent; ++, commonly; –, not in use)
<i>Educational</i>	
Bottom up, local consensus development	++
Small group interactive learning	++
Problem-based learning	++
<i>Epidemiological</i>	
Evidence-based guideline development	– ^a
Disseminating research findings through courses, mailing, journals	++
<i>Marketing</i>	
Needs assessment, adapting change proposals to local needs	++
Stepwise approach	++
Various channels for dissemination (mass media and personal)	++
<i>Behavioural</i>	
Audit and feedback	+
Reminder systems, monitoring	–
Economic incentives, sanctions	–
<i>Social interaction</i>	
Peer review in local networks	–
Outreach visits, individual instructions	–
Opinion leaders	+
Influence key people in social networks	+
Patient mediated interventions	–
<i>Organisational</i>	
Re-engineering care process	–
Total quality management/continuous quality improvement approaches	+
Team building	–
Enhancing leadership	–
Changing structures, tasks	–
<i>Coercive</i>	
Regulations, laws	–
Budgeting, contracting	–
Licensing, accreditation	–
Complaints/legal procedures	–

^a Evidence-based guidelines development by one of the organisations involved in ROHTO.

considered necessary, but probably non-effective alone [20]. The novel Finnish strategy was to focus on evidence-based methods of CME, including small groups on a regular basis, and problem based learning. Feedback on prescribing data on

regional, local and personal level was considered a feasible means of promoting change [17]. Several approaches were applied simultaneously (Table 1) [19]. The strategy defined GPs as the primary target group (Box 1).

Box 1

The Finnish health care system, in brief [22]. About 16 500 practising physicians care for a population of 5.1 million. Of the physicians 4200 work in primary health care; 3600 GPs in health centres and 600 in, mostly private, occupational health care. Municipalities, with anything between 1000 and 560 000 inhabitants, run their own health centres and they own central and regional hospitals in alliances, too. GPs have a gatekeeper-role. GPs and hospital physicians are salaried by the municipalities, but many of the hospital employees work additionally part-time in private practices. Pharmacies are privately owned, and strictly regulated. About 50% of the prescriptions are issued by the GPs. The state-run Social Insurance Institution is responsible for the reimbursement of prescription medicines sold by the pharmacies. Households pay directly approximately half of the drug expenses.

6. Approaches

6.1. A pilot experiment of collaboration

It was concluded that the most usual outcome for an intervention study, drug expenditure, is too multifactorial to allow any meaningful conclusions on such a short intervention. The programme was seen merely as a pilot experiment, which could be expanded, if proven successful. The major experimental part of the programme was the opportunity for the large number of stakeholders to work together. The broad stakeholder base made it possible to network (Fig. 1) without extra investment.

The stakeholders were willing to agree, that in many therapeutic areas rational prescribing could control the increase of drug expenditure without harming the quality of care. On the other hand, rational drug therapy might also increase costs in some therapeutic areas.

A pragmatic approach was adopted. The GPs recognised the need for evidence-based, non-promotional CME on drug therapy. There was no lack of medical information—rather the opposite. What were lacking were the use of evidence-based educational methods and facilitation of change. Discussions whether the education should focus on problems evident at the national level (Box 2), or on the needs identified by the participating GPs ended up favouring the latter. In fact, it turned out that the suggestions delivered by both approaches were almost identical.

Box 2

At the national level some quality problems of drug therapy and the lack of efficacy were recognised by the programme organisation, such as

- Continuously increasing polypharmacy among the elderly: around 40% of those over 75 years of age use at least five different prescription drugs concomitantly.
- Widespread use of psychotropics, most frequently among the elderly, both in institutions and ambulatory care.
- Treatment of hypertension: only a minority of patients treated for high blood pressure reach the target level, mainly because of the failure in life-style modification.
- The consumption of antimicrobials (in Finland it is 30% higher than for example in Denmark) causing increasing problems with bacterial resistance.
- Rare generic prescribing, even though the price level of generic products is generally 25–35% below the (original) branded ones.

The educational basis of the interventions required, that the selection of topics was left to the physicians at local level.

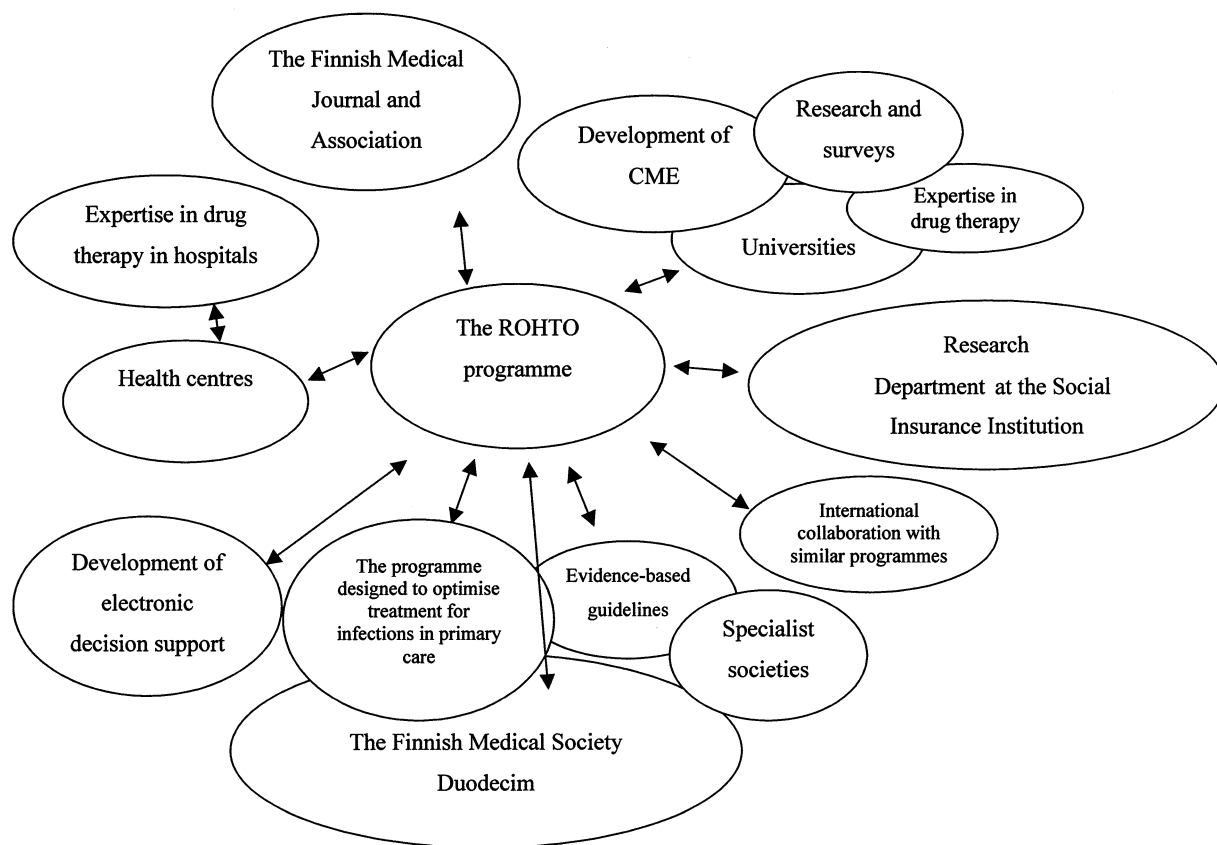


Fig. 1. Networking of ROHTO with the various organisations and programmes aiming at better quality of care.

6.2. Ownership

Although the programme was funded by the government and administered jointly, its office was located at the premises of the Finnish Medical Society Duodecim (a scientific society) with the membership of almost all the 18 000 doctors licensed in Finland.

A GP experienced in CME was appointed as the programme manager. The ownership by the profession was considered important also at a local level and, therefore, special emphasis was laid down on the recruitment of local facilitators. The facilitators were trained in a professional development programme consisting of an initial course of four 2-day workshops and regular meetings there-

after. A highly qualified professional educator supported the training.

6.3. Small group CME at local level

CME on drug-related topics was carried out on a regular basis, with peers acting as facilitators (Table 2). The problem-based approach was the most used educational method. Experts from central and regional hospitals were often invited as resource persons for the meetings. The content was based on the 'Current Care' evidence-based guidelines and the electronic Evidence Based Medicine Guidelines (<http://www.ebm-guidelines.com/frontpage.html>) [23]. In the meetings, drug

prescribing was always regarded as an integral part of the care.

During the early phase of the programme, the participants were mostly GPs, but 30% of the participants were pharmacists and nurses in 2001.

6.4. Workshops at regional and national level

In addition to CME groups, regional workshops directed to the GPs were organised around the country (Table 2). The topics were tailored to the participants' needs, and activating educational methods were used. Short lectures by experts highlighting relevant pharmacological and clinical issues facilitated the discussion, but the main role of the experts was to comment on clinical problems brought up by the participants. To promote cooperation between various professions also at local level, the programme organised, together with the Finnish Medical Journal, two national multidisciplinary workshops, both by invitation only. Persons invited were known to be active in their own fields. Recommendations and patient information were produced and published as results of the workshops.

6.5. Prescribing feedback

Reflection on local prescribing practices, based on anonymised data tailored by the SII from the national register of reimbursed medicines, was an integral part of the workshops. The analysis of data by the GPs themselves clearly introduced new insight into prescription patterns and stimulated critical thinking.

6.6. Publishing

In line with the networking approach, no separate newsletter or bulletin was published. The regular drug information column, published since the late 1960s in the Finnish Medical Journal, was the main channel for distributing printed information. The Journal is owned by the Finnish Medical Association (the union association), of which most of the 18 000 doctors are members.

Over the 3 years period 25 articles were published covering topics, which were also the focus of the workshops and the local CME groups (Table 2). The principle was to concentrate on a few topics at a time and to address them from different viewpoints. Some of them were also discussed in the professional journals of nurses and pharmacists. The media aimed at the general public discussed topics raised by the programme, and there were even some editorials in leading national newspapers.

6.7. Other activities

Outside its core activities the programme supported the development of information technology tools intended to offer decision support and enhance rational prescribing. A study on the influence of hospital drug formularies on drug utilisation in primary care was initiated, and the programme stimulated discussion on the role of universities in teaching rational prescribing to undergraduate students.

7. Evaluation study

An independent process evaluation was conducted by the Department of Public Health of the Helsinki University [24], mainly by monitoring the actions. The results and a progress report were drawn up annually.

The evaluation team put forward a final suggestion that the national strategy for rational use of drugs should also include approaches other than enhancing evaluation in prescribing practices. They proposed that laws and regulations concerning prescribing should be re-evaluated, and both the reimbursement system and the financing of drugs should be reorganised.

8. Discussion

The broad stakeholder base was crucial for the image of the programme, and secured necessary resources and has also enhanced its credibility. The commitment of the organisations was strong even

Table 2
The activities and use of various resources by the ROHTO programme

	1999	2000	2001
<i>Local CME</i>			
Part time facilitators	9	10	12–10
Small groups on a regular basis	18	15–20	13–10
Number of attendances	580	892	914
Most popular themes	Chronic pain; polypharmacy among elderly; depression; hormone replacement therapy; hypertension	Diabetes mellitus type 2; rational use of psychotropics among elderly; diagnosis and management of osteoporosis; chronic pain; treatment of insomnia	Rational use of psychotropics among elderly; osteoporosis; infections in community; treatment of insomnia; diabetes mellitus type 2
<i>Regional and national workshops</i>			
No of workshops		7	7
Number of attendances		190	192
Themes		Treatment of insomnia; rational use of analgesics; depression; diabetes mellitus type 2	Rational use of analgesics; diabetes mellitus type 2; infections in community
<i>Publishing</i>			
Themes	Presentation of the programme; problems in drug therapy experienced by physicians; renewal of prescriptions; physician's drug formulary; drug interactions	Treatment of insomnia; rational use of analgesics; renewal of prescriptions; analysis of drug advertisements; use of antidepressants among elderly; drug information needs of physicians; teaching rational drug therapy during the undergraduate education	The influence of a hospital drug formulary on the drug use in community; diabetes mellitus type 2 and concordance; comparison of utilisation of analgesics between the Nordic countries; how to find valid and relevant drug information; report of the activities and experiences gained during the program
<i>Utilised resources</i>			
Direct investments (€)	262 000	263 000	282 000
Evaluation research (€)	67 300	68 000	60 000
Indirect support and investments	Premises by the Finnish Medical Society; information published through the Finnish Medical Journal; information and feedback data by the Research Department at the Social Insurance Institution; expertise of the steering group; local health centres: premises and employees' time		

though the ownership was largely given to and remained with the medical profession. The commitment was evident also in the ability to retain key persons involved in the administration and management. The annual funding (€0.27 million per annum) was made available as requested throughout the period, too.

Collaboration between the stakeholders gave access to some powerful tools. For example, the local prescription data produced by the SII are available on request only, and the drug industry does not have access to the data. The SII established in 1995 the national register including all reimbursed prescriptions, and since 1997 all doctors have received an annual personalised summary of their prescriptions, which they have welcomed. The possibility to use cost-free professional journals with nation-wide distribution and almost complete coverage of the profession has also been essential.

Approximately €1.7 billion is spent annually on drugs in Finland. The budget of ROHTO has been only 0.002% of that. With this modest investment and merely experimenting with different approaches rather than striving for a nation-wide coverage, the pilot programme gave rational drug therapy a positive image among GPs. In a questionnaire survey 2 years after the programme launch 40% of GPs were familiar with its aims. Findings at local level indicate that critical thinking and willingness to consider change of practices have been achieved. Due to the limited geographical coverage and short duration of the programme, no large-scale changes in clinical practice attributable to the programme were sought at the national level.

At all levels the ownership was enhanced by the use of GPs as messengers. The participant-centred, activating CME models used may have increased the commitment, too.

For carrying out the actions it was essential to network with several organisations and other programmes with parallel goals, i.e. better quality of clinical practice. A national programme designed to optimise diagnostic and treatment practices for common infections in primary care (<http://www.stakes.fi/mikstra/e/>) and ROHTO used similar CME methods, and as an example

of networking they have arranged joint ‘train-the-trainer’ workshops.

The approach not to produce own clinical guidelines and health technology assessment reports differs from most approaches elsewhere in Europe. The Finnish Medical Society Duodecim started the production of national evidence-based clinical guidelines, the Current Care programme, by expert panels in the mid 1990s with financial support from the Government. The guidelines were needed as reference, guidance and even as standards when evaluating the rationality of pharmacotherapy.

ROHTO has counterbalanced commercial drug information and enhanced doctors’ ability to critically assess its quality. In line with this goal, ROHTO did not have any joint ventures with pharmaceutical companies.

Several barriers inhibiting rational drug therapy and change were identified and put forward. Concurrent local development programmes and time constraints of the workload often prevented regular participation of GPs in CME. There was also competition from other CME programmes, organised or financed to a significant extent by the pharmaceutical industry.

Conducting a change in prescribing is complex phenomena, which may require reflection, adaptation of new skills and knowledge, motivation to change, and above all, favourable conditions [25]. Pharmacological information is needed, but alone it is often inadequate. Many considerations, including medical, social, and logistic ones, influence the decision to prescribe in general practice [26]. In addition to that, the models of change may vary between physicians and situations [27]. The interventions or approaches aiming at rational pharmacotherapy should, therefore, employ strategies that enable physicians to analyse prescribing in various point of views.

To succeed in promoting change, facilitators need to be equipped with sufficient methodological expertise and they need continuous support themselves [28]. The role of the experts during the workshops and small group meetings is also critical. An expert has to be able to share his or her knowledge and experiences on equal terms

with the participants, and to understand the practical problems of their work.

9. Conclusions

Undertaking unconventional approaches demands courage and absence of prejudice from the stakeholders and participants. The strategy to emphasise change and implementation of existing information has produced experiences and data, which will be valuable in the next phase. As part of the newly started project for health care reform, the Government made, a decision-of-principal in spring 2002 to provide funding to the tune of €1.3 million a year from the state budget during 2003–2007 to continue the process that begun as the ROHTO programme.

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