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SPECIAL ARTICLE

Interface management of pharmacotherapy. Joint hospital and primary care drug recommendations

Linda Björkhem-Bergman · Eva Andersén-Karlsson · Richard Laing · Eduardo Diogene · Oyvind Melien · Malena Jirlow · Rickard E. Malmström · Sabine Vogler · Brian Godman · Lars L Gustafsson

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Abstract
Purpose In September 2012 an interactive course on the "*Interface Management of Pharmacotherapy*" was organized by the Stockholm Drug and Therapeutics Committee in cooperation with Department of Clinical Pharmacology at Karolinska Institutet and at Karolinska University Hospital in Stockholm, Sweden, in collaboration with the WHO. The basis for the course was the "Stockholm model" for the rational use of medicines but also contained presentations about successful models in interface management of pharmacotherapy in other European countries.

Methods The "Stockholm model" consists of 8 components: 1) Independent Drug and Therapeutics Committee with key role for respected drug experts with policy for "interest of conflicts", 2) The "Wise List", recommendations of medicines jointly for primary and hospital care, 3) Communication strategy with continuous medical education, 4) Systematic introduction of new expensive medicines, 5) E-pharmacological support at "point of care", 6) Methods and tools for follow-up of medicines use, 7) Medicines policy strategy and 8) Operative resources.

L. Björkhem-Bergman · B. Godman · L. L. Gustafsson
Division of Clinical Pharmacology, Department of Laboratory Medicine, Karolinska Institutet, Karolinska University Hospital Huddinge, SE-141 86 Stockholm, Sweden

E. Andersén-Karlsson
Drug and Therapeutics Committee, Unit of Medicine Support, Public Healthcare Services, Stockholm County Council and Department of Clinical Science and Education, Karolinska Institutet Södersjukhuset, Stockholm, Sweden

R. Laing
Department of Essential Medicines and Health Products, WHO Geneva, Geneva, Switzerland

E. Diogene
Unit of Medicines Coordination and Strategy, Department of Health Care Affairs, Catalan Institute of Health, Barcelona, Catalonia, Spain

O. Melien
Department of Medical Devices and Medicinal Products, Norwegian Directorate of Health, Oslo, Norway

M. Jirlow
Unit of Medicine Support, Public Healthcare Services, Stockholm County Council, Stockholm, Sweden

R. E. Malmström
Division of Clinical Pharmacology, Department of Medicine, Karolinska Institutet, Karolinska University Hospital Solna, Stockholm, Sweden

S. Vogler
WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, Department of Health Economics, Gesundheit Österreich GmbH (Austrian Health Institute), Vienna, Austria

B. Godman
Strathclyde Institute of Pharmacy and Biomedical Sciences, University of Strathclyde, Glasgow, UK

L. Björkhem-Bergman (✉)
Division of Clinical Pharmacology C1-68, Karolinska University Hospital, Huddinge, Karolinska Institutet, 141 86 Stockholm, Sweden
e-mail: linda.bjorkhem-bergman@ki.se

Results The course highlighted the importance of efficient and targeted communication of drug recommendations building on trust among prescribers and patients for the guidelines to achieve high adherence. Trust is achieved by independent Drug and Therapeutics Committees with a key role for respected experts and a strict policy for "conflicts of interest". Representations of GPs are also crucial for successful implementation, being the link between evidence based medicine and practice.
Conclusion The successful models in Scotland and in Stockholm as well as the ongoing work in Catalonia were considered as examples of multifaceted approaches to improve the quality of medicine use across primary and hospital care.

Keywords Interface management · Rational use of medicines · Drug committees · Pharmacoeconomics

Introduction

It has been proposed that new methods are needed across healthcare systems to improve the quality of drug therapy [1, 2] so pharmacotherapy is rational for patients regardless of whether they are treated in ambulatory or in hospital care. Rational Use of Medicines (RUM) includes the components appropriate prescribing of affordable medicines, dispensing and repeated evaluation of effects and adverse events in patients [3]. These needs had encouraged the WHO Essential Medicines and Health Products Department to convince the Stockholm Drug and Therapeutics Committee in cooperation with Department of Clinical Pharmacology at Karolinska Institute and Karolinska University Hospital in Stockholm, Sweden, to organize a course on the "*Interface Management of Pharmacotherapy*" . The basis for the course was the "*Stockholm model*" of RUM (Fig. 1) that has demonstrated high adherence rates to essential lists for both primary and outpatient health care [3]. The purpose of this course was to provide the participants with knowledge and tools to enhance RUM in their countries, improving cooperation between primary- and hospital healthcare and sharing experiences. This was carried out by sharing knowledge and experiences on the best methods to improve continuity in drug therapy between primary and hospital care [3, 4].

During three days in September 2012, the 28 participants from 19 countries and from four continents learned about the Stockholm model through lectures and at-site study visits at primary healthcare institutions, to hospitals and at healthcare authorities in Stockholm. In addition, ongoing developments in Norway, Scotland and Spain (Catalonia) demonstrating different applied models for selection, coordination and follow-up of essential medicines across "*primary and hospital care borders*" were presented [5, 6]. Participants included physicians, hospital pharmacists and healthcare economists, selected as they were in charge of designing and implementing medicine policies regionally or nationally in their countries.

International outlook presentations

Dr Richard Laing, WHO, Geneva, told about the work with RUM in Zimbabwe [7]. Already in 1986, an integrated List of recommended medicines was in existence and used in combination with treatment guidelines for hospitals and primary care [8]. He emphasized that scarce research and few good examples were to be found in the field of interface management of pharmacotherapy between primary and hospital care except for models from the Netherlands, Scotland and Stockholm in addition to Zimbabwe.

In Scotland a mutual list of recommended medicines for primary and hospital care has been present for over 20 years [6]. Prescription of medicines outside the list has to be decided by two prescribers and not only one. The Scottish model of RUM including the Scottish Medical Consortium (SCM), emphasizes the involvement of both primary and secondary care physicians in the Drug and Therapeutics Committees and in developing joint recommendations and guidelines. There is no "carte blanche" for specialists, with the formulary guidance applying equally to primary and secondary care. Non-formulary prescribing is permitted but only if it can be justified. The guidelines are based primarily on evidence based assessment of safety and efficacy of medicines though cost is also an additional factor that is taken into account. Good communication and development of clinical networks between primary and secondary care to improve Interface Management is essential in the Scottish model. SMC were pioneers in the work with horizon scanning to facilitate safe and rational introduction of new medicines into the health care system. Patients are also represented in SMC's decision making bodies. Improved prescribing is also facilitated by electronic information sources.

In Catalonia, Spain, the development of Drug and Therapeutics Committees is recently initiated and prescribing indicators for new and existing medicines are developed [5]. This includes for example the measures to enhance the quality of prescribing for dabigatran, especially monitoring of renal function, given the concerns of over dosage in old patients. The Catalonian electronic systems that permit sharing of clinical data between primary and hospital medical records was described. This includes the ability of GPs to debate and challenge recommendations where this is seen to contradict advice from the health authority. This leads to more rational use of medicines and improve the safety and quality of prescribing.

A new suggested system to enhance the efficient and safe use of medicines in the Oslo area was presented. Currently across Norway, each hospital has their own formulary, but there is no mutual list for a whole region. In addition, the risk and

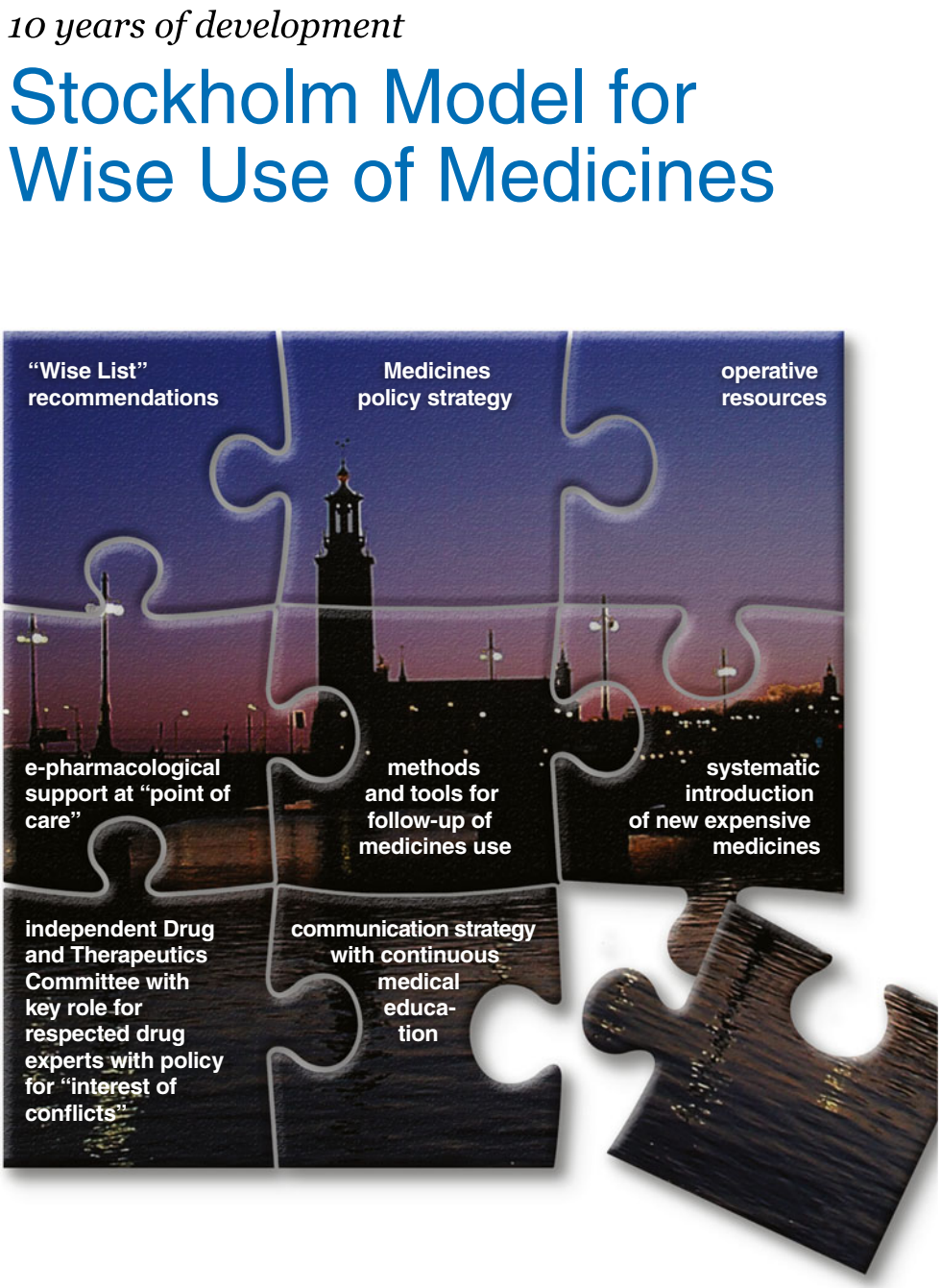

Fig 1 Summary of Stockholm model for rational use of medicines. Several complementary strategies are enforcing Rational Use of Medicines with a "Wise List" of recommendations of essential medicines as a key component. The Stockholm Model builds on a comprehensive approach as recommended [13]. The components include 1) Independent Drug and Therapeutics Committee with key role for respected drug experts with policy for "interest of conflicts", 2) The "Wise List", recommendations of medicines jointly for primary and hospital care, 3) Communication strategy with continuous medical education, 4) Systematic introduction of new expensive medicines, 5) E-pharmacological support at "point of care", 6) Methods and tools for follow-up of medicines use,7) Medicines policy strategy and 8) Operative resources. A long-term perspective is required as described in [3]

challenges related to gaps in patient treatment in the transfer of patients between levels in the health care system has been identified [9, 10]. Thus, a project has been established to develop Summary Care Records intended to be accessible at all levels in the health care system, containing key information concerning the individual patients, including their medicine use.

Dr. Sabine Vogler, Austrian Health Institute, summarized a review on published literature dealing with interface management of pharmacotherapy between primary and hospital care. She emphasized how little was published in this area. Based on the limited findings [11, 12], communication and dialogue is a key prerequisite for interface management. Involvement of all stakeholders is also needed to enhance success. Policy options to improve pharmacotherapy at the interface of the in- and out-patient system are likely to require changes in the organization and funding of the pharmaceutical system.

Presentations of the Stockholm model

The Stockholm model for RUM was described by the Swedish organizers. The model builds on a comprehensive

approach as described in [13] and includes eight essential components as summarized in Fig. 1.

The first component is a strong and independent Drug and Therapeutics Committee consisting of respected experts, clinicians and researchers, covering all major pharmacotherapeutic areas and supported by clinical practitioners, clinical pharmacologists and pharmacists ensuring a comprehensive priority perspective across drug classes [3, 14]. The committee is assisted by 21 expert panels for important pharmacotherapeutic areas. The independency of the Drug and Therapeutics Committee and the members of the expert panels, and hence trust in the recommendations, is enhanced by a policy for handling of conflict of interests and linked with annual declarations from all members of the committee and the expert panels, as well as everyone on the employed staff [3, 14]. Any person with a potential conflict of interest for a specific drug is not allowed to participate when deciding about recommendations.

The second component is the "Wise List" (Kloka Listan), which contains a list of approximately 200 medicines as first or second line treatments covering conditions commonly seen in primary care [3]. In order to improve the knowledge among patients about essential medicines there is also one printed version for the public available through a variety of channels including pharmacy chains in addition to a printed and electronic version for prescribers and healthcare staff. Efficacy and safety are the primary selection criteria based on results from pivotal studies of the drug in questions. Other secondary criteria of importance for recommending a specific product is access to suitable pharmaceutical preparations, environmental aspects and costs [3]. The Stockholm Drug and Therapeutics Committee (DTC) finally decide which medicines should be included in the "Wise List". The expert panels provide advice to the DTC itself and they include both respected experts from the University Hospitals and general practitioners. In addition there is one clinical pharmacologist and one pharmacist in each Expert Panel to provide expertise in critical drug evaluation, about prescribing patterns and updated information about the market.

Every year there is a two and a half day meeting with the DTC, where the suggested recommendations, especially regarding new drugs, are presented and finally decided. A senior expert in Stockholm from every relevant therapeutic area is asked in advance to study the proposals carefully and to discuss with the expert panel chairman the proposals at the decision meeting to stimulate discussions. Subsequently, all members of the DTC have the possibility to discuss the recommendations before the Committee decides. This comprehensive process for taking decisions about recommended medicines on the "Wise List" intend to enhance confidence in the recommendations and helps refute claims that healthcare regions are primarily interested in cost containment [15, 16].

The third component of the Stockholm model is comprehensive communication coupled with continued medical education of physicians and healthcare staff in the principles of RUM. The DTC and the Expert Panels conduct regular training of physicians in hospitals and primary health care. This is achieved through either 2.5 h focused updates and collegial discussions in specific pharmacotherapeutic areas or regular updates on "hot issues" in medical therapy and use. The members of the expert panels, as well as members of the DTC, are active in professional medical discussions and debates in media about rational use of medicines. A fundamental part of the continuous medical education program is to train prescribers and nurses in the method of critical drug evaluation [3, 14, 17].

The fourth component in the Stockholm model concerns measures to optimize the managed entry of new medicines starting with horizon scanning, a process where new medicines in pipe-line are identified before approval and introduction on the market [18]. The purpose is to have a "plan of action" for introducing new medicines in the health care system and avoid "surprises" about which new medicines to use among prescribers and for the drug budget. The aim is also to produce prescribing guidance ahead of launch especially where there are concerns with patient safety with new drugs such as dabigatran [19]. For the past 5 years, the DTC has implemented a plan of action to continuously adapt recommendations to new knowledge and combine this with targeted communication activities to prescribers and to patients about the pros and cons of the new oral anticoagulants.

The benefits of easily accessible information about medicines through e-pharmacological services, the fifth component in the Stockholm model, were also emphasized. This mirrors similar developments in Scotland [20]. The homepage www.janusinfo.se contains up-to-date independent about established and new medicines. There are also links to drug-drug interaction databases (SFINX) [21], information about drugs safety during pregnancy and lactation. This website is well-respected with about 70 000 visitors monthly [22].

The sixth component in the Stockholm model is the monitoring and benchmarking of physician prescribing habits. This is achieved by easy access to prescription data and by comparing the different quality parameters in the different healthcare units such as DU90% adherence rates [3]. Also, policy strategies regarding medicines and access to operative resources is seen as essential components of the Stockholm model (Fig. 1). The medicines policy strategy helps to unite various stakeholders and keep a long-term focus of the policies [3].

Communication of the wise list

Malena Jirlow, communication officer at the Stockholm County Council, highlighted the importance of a comprehensive

communication strategy as a part of the success of the Wise List. The initial launch of the Wise List included a communication plan with resources, goals, activities and regular follow-up of results [3]. The communication plan was evidence based, building on research that combines quantitative and qualitative social science methods [13, 23].

Goals with the communication activities were set and target groups were pinpointed for the communication of specific messages to enhance adherence. This was because the "Wise List" was seen as a brand, competing for attention in target groups already being bombarded with multiple information messages including from pharmaceutical companies. DTC members were involved with finding the USP (unique selling point) for the Wise List concept, understanding that communication is more than words and printed material. Lastly, it was acknowledged that the right people need to be involved in the communication process, their efforts need to evaluated and a strong "culture" of identification with the brand values has to be attained in the DTC-organization to enhance its success. The Wise List has a strong brand name in Stockholm with appreciable trust among prescribers and patients [3]. The Wise List is printed in a small "pocket-friendly" format, with a consistent layout but with a new color of the cover each year. The Wise List logotype is an owl, symbolizing wisdom in Swedish tradition.

Study visits to healthcare institutions across Stockholm

During the seconddday of the course, the participants took part in organized study visits to hospitals, primary healthcare centers and health care authorities. The aim was to learn about the Stockholm model "in practice" and have opportunity to ask questions and to share experiences between the course participants.

Several of the reflections from the study visits dealt with the "trust" in the Wise List among the prescribers. A clear strategy to communicate the message was emphasized as a key factor in the success. The GPs at the primary health care centers also felt a responsibility and a sense of pride in the product. The Wise List was also considered as a good way to educate doctors. However, also suggestions about how the Wise List could be improved was raised. For example, recommendations for pediatricians are often lacking.

Several participants asked how it was possible to finance the organization established in the Stockholm model. Interestingly, despite the relative large costs in the Stockholm model, the savings regarding drug costs for the Stockholm Healthcare Region have been almost 10-fold larger [3]. However, Professor Lars L Gustafsson pointed out that conditions may be different in other countries. Consequently, every country has to find its own model, but documented improvements in quality of use of medicines help to convince decision makers to invest in DTCs as reported by several participants.

"During this course I realized that the process of decision making of recommendations is a key issue and that representations from the primary healthcare has to be present in this process to achieve adherence," Dr Huang Thai Cao from Vietnam explained.

"Communication of the recommendations in the "Wise List" is impressive and its impact and trust among prescribers and patients extraordinary," Dr Tania Sitoi from Mozambique concluded. "Working with improved communication can be achieved in all countries, independent of economic conditions."

Overall, the course and the study visits were appreciated. This was reflected in a score of 5.2 on a 6 point scale in the course evaluation. Dedication and enthusiasm among the participants was evident.

Summary of "take-home messages for the future"

The participants concluded that both GPs and hospital "experts" need to be part of decision making regarding organizational change in the health care system as well as in the decision process of recommendations of medicines. In addition, targeted communication is essential to enhance RUM. The successful models in Scotland and in Stockholm as well as the ongoing work in Catalonia were also considered as examples of multifaceted approaches documented effective [13] to improve the quality in drug use across primary and hospital care and inspiring other countries.

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