Drug and Therapeutics Committee Training Course

Session 10. Standard Treatment Guidelines

Participants' Guide

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RPM Plus works in more than 20 developing and transitional countries to provide technical assistance to strengthen pharmaceutical and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning, and in promoting the appropriate use of health commodities in the public and private sectors.

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ABBREVIATIONS AND ACRONYMS

ARI	acute respiratory infection
DTC	Drug and Therapeutics Committee
DUE	drug use evaluation
g	gram
INRUD	International Network for Rational Use of Drugs
IV	intravenous
STG	standard treatment guideline
TOT	training of trainers
UNICEF	United Nations Children's Fund
VA	visual aid
WHO	World Health Organization

CONTENTS

SESSION 10. STANDARD TREATMENT GUIDELINES

Acknowledgment

This session is based on the World Health Organization and the International Network for Rational Use of Drugs. *Promoting Rational Drug Use—Standard Treatments* (PowerPoint and Study Guides). http://mednet3.who.int/prduc/rducd/TOC.htm

Purpose and Content

Experience has shown that even when pharmaceutical supply is based on an approved formulary or essential medicines list, ample opportunity exists for ineffective, unsafe, or wasteful prescribing. Standard treatment guidelines (STGs) list the preferred pharmaceutical and nonpharmaceutical treatments for common health problems experienced by people in a specific health system. As such, they represent one approach to promoting therapeutic effective and economically efficient prescribing.

When implemented effectively, an STG offers advantages to patients (e.g., it provides more consistency and treatment efficacy), providers (e.g., it gives an expert consensus, quality of care standard, and basis for monitoring), supply managers (e.g., it makes demand more predictable and allows for prepackaging), and health policy makers (e.g., it provides focus for therapeutic integration of special programs and promotes efficient use of funds). Effective implementation, however, is perhaps the greatest challenge in introducing STGs.

Objectives

After attending this session, participants will be able to—

- Understand the importance of an STG in promoting rational use of medicines
- Describe the implementation of a guideline in a hospital or clinic
- Develop an STG for a disease or medical condition

Preparation and Materials

Read the following—

- Participants' Guide

- Management Sciences for Health and World Health Organization. 1997. *Managing Drug Supply*. 2nd ed. West Hartford, CT: Kumarian Press. (Chapter 11, "Treatment Guidelines and Formulary Manuals")

Key Definition

Standard treatment guideline—A systematically developed statement designed to assist practitioners and patients in making decisions about appropriate health care for specific clinical circumstances

Introduction

The Drug and Therapeutics Committee (DTC) is responsible for numerous important pharmaceutical management functions. The committee is responsible for evaluating new medicines for the formulary, identifying and correcting medicine use problems, assessing and controlling adverse drug reactions among other functions. Session 10 concentrates on an important strategy for improving medicine use in the health care system—STGs. Guidelines are a valuable resource in the management of pharmaceutical therapy because—

- Treatment of diseases may have many different approaches.

- Many practitioners will not remember the best method of treatment.

- Applying the most effective treatment benefits both the patient and the health care system.

- Formulary management will have only limited impact if medicines are used incorrectly.

The development and implementation of STGs is a necessary task in a health care system where numerous treatments may be available. Physicians and nonphysician providers will use their own knowledge base, training, and preconceived ideas on the treatment rationale for each patient. Frequently, this approach is effective and reasonable and results in optimal care. Just as frequently, however, it may result in less than optimal care and in fact may result in dangerous medical care, leading to poor outcomes for the patient. The use of STGs is a time-honored system that works well and improves patient outcomes.

The Need: A Solution to Therapeutic Anarchy

STGs have existed for as long as the art of healing has existed. Traditional healers developed their standard sets of cures and passed them from generation to generation. In modern medicine, however, the concept arose that more than one treatment modality may available for many medical conditions. This concept leads to confusion and, in many cases, incorrect treatment. Doctors, nurses, pharmacists, community health workers, and other health care providers learn about *all* of the treatments that *could* be used, instead of focusing on the *best* treatment that *should* be used. Casual observation, as well as more systematic study of prescribing practices, frequently reveals a pattern of tremendous diversity among prescribers in the treatment of even the most common conditions. Polypharmacy is one problem; for example, three, four, five, six, and sometimes more medicines may be prescribed for acute viral gastroenteritis, for which only

oral rehydration therapy is effective in reducing morbidity and mortality. Other common problems are making incorrect medicine choices, overdosing, underdosing, and choosing a more expensive medicine when less expensive ones would be equally or more effective.

STGs—also known as standard treatment schedules, standard treatment protocols, therapeutic guidelines, and so forth—list the preferred pharmaceutical and nonpharmaceutical treatments for common health problems experienced by people in a specific health system. Each pharmaceutical treatment should include for each health problem the name, dosage form, strength, average dose (pediatric and adult), number of doses per day, and number of days of treatment. Other information on diagnosis and advice to the patient may also be included.

STGs should consider both pharmaceutical and nonpharmaceutical treatments. Reassurance, for example, might be the proper standard treatment for a child who is shorter than other children of his or her age, but who shows a normal growth curve, shows no signs of malnutrition or chronic disease, and has shorter than average parents.

Health problems, including specific diagnoses (e.g., malaria), symptoms (e.g., headache), and preventive health services (e.g., immunizations or prenatal vitamin and mineral supplements) may also be included in the guidelines.

STGs are currently in use in parts of the United States, Europe, Latin America, Asia, Africa, and the Western Pacific. Experience shows that even the shortest essential medicine list or formulary list offers ample opportunity to misuse medicines by improper treatment of common problems. Thus, essential pharmaceutical programs are finding that the development of standard treatments is necessary for therapeutically effective and economically efficient use of medicines.

Standard treatments are used at different points of the therapeutic process. They may be used to diagnose, decide on treatment and pharmaceutical supply, and assist with adherence to the prescribed treatment. This use will more likely lead to the desired clinical outcome.

Although the advantages to using STGs are many, some disadvantages have also been encountered.

Advantages

The use of STGs can benefit health care providers, health care officials, supply management personnel, and patients in the following ways.

- Health care providers

    o Provides standardized guidance to practitioners

    o Encourages high quality care by directing practitioners to the most appropriate medicines for specific conditions

    o Encourages the best quality of care since patients are receiving optimal therapy

- o Utilizes only formulary or essential medicines, so the health care system needs to provide only the medicines in the STGs

- o Provides valuable assistance to all practitioners, especially to those with lower level skills

- o Enables providers to concentrate on making the correct diagnosis because treatment options will be provided for them

- Health care officials

  - o Provides a basis for evaluating quality of care provided by the health care professionals

  - o Provides the most effective therapy in terms of quality

  - o Provides a system for controlling cost by using funds more efficiently

  - o Provides information for practitioners to give to patients concerning the institution's standards of care

  - o Can be a vehicle for integrating special programs (e.g., diarrhea disease control, acute respiratory infection (ARI), tuberculosis control, malaria) at the primary health care facilities using a single set of guidelines

- Supply management

  - o Utilizes only formulary or essential medicines, therefore the health care system needs to provide only medicines in the STGs

  - o Provides information for forecasting and ordering (because medicines and quantities for common diseases will be known)

  - o Provides information for purchase of prepackaged medicines

- Patients

  - o Patients receive optimal pharmaceutical therapy

  - o Enables consistent and predictable treatment from all levels of providers and at all locations within the health care system

  - o Allows for improved availability of medicines because of more consistent use and ordering

o Helps provide improved outcomes because patients are receiving the best treatment regimens available

o Lowers cost

Disadvantages

STGs have drawbacks as well—

- Inaccurate or incomplete guidelines will provide the wrong information for providers and therefore do more harm than good. Guidelines may not be based on the most reliable information.

- Developing and updating guidelines is difficult and time-consuming and must be done on a regular schedule or they will become obsolete very quickly.

- Guidelines provide a false sense of security; that is, many providers will limit their evaluation of a particular patient as soon as it fits into a particular standard treatment.

Standard treatment guidelines are disease-oriented whereas formulary manuals are medicine-oriented documents. These two documents provide the very essence of the DTC's efforts to provide rational pharmaceutical therapy. Every effort should be made to publish both of these manuals, have them readily available for all practitioners, and update them regularly to ensure accuracy of the information provided.

Establishing STGs

Establishing STGs is a lengthy process, one that must be done methodically and completely to have a product that all practitioners are willing to accept. The process can be described in eight steps—

1. *Establish a committee to address the development of the guidelines.* The DTC may take responsibility for this task, or it may select individuals to form a new committee for the purpose of establishing the guidelines.

2. *Develop an overall plan for guidelines.* A comprehensive plan with well-defined time frames is necessary to ensure that the product is started and finished within a reasonable period. Select a format. Recruit contributors, writers, and reviewers.

3. *Identify the diseases that the STGs will cover.* The most common and serious diseases and medical conditions should be selected from available morbidity statistics. All of the medical departments and specialty areas should be consulted to identify important diseases to be addressed in the guidelines.

4. *Determine appropriate treatment options.* This step is critical. Evidenced-based information must used to identify appropriate treatment guidelines. Experts and clinical specialists should be consulted to confirm proposed treatment options. Guidelines must be consistent with national formularies and guidelines.

    As a general rule, STGs should—

    -   Use the fewest medicines necessary to treat the medical condition
    -   Choose cost-effective treatment
    -   Use formulary medicines (from local and national formularies)
    -   Give first-, second-, and third-line treatment options, when appropriate
    -   Provide dose, duration, contraindications, and side effects

5. *Determine what information should be included in the STG.* Information provided in the STG can vary widely. The following elements are suggestions for comprehensive STGs.

    -   Clinical condition

    -   Diagnostic criteria and exclusions

    -   Treatment objectives (e.g., elimination of plasmodium parasites from a blood smear)

    -   Nonpharmaceutical treatment

    -   Medicines of choice (and alternatives) for the medical condition

    -   Important prescribing information—dose, duration, contraindications, side effects, warnings, medicine interactions

    -   Referral criteria

    -   Patient education information

    -   What to do when clinical response is poor

    The amount of information to provide is a difficult decision. Ideally, the STG manual should be concise and small enough to fit into a practitioner's pocket, but also, the STGs must be comprehensive enough to describe the medical condition and its appropriate treatment.

6. *Draft the STGs for comments and pilot testing.* STGs are controversial documents and may not be accepted by all practitioners in a hospital or clinic. The draft document must be circulated to obtain comments on the content, ease of use, presentation, and overall acceptability. This step is vital to determine future use of the guidelines and to garner buy-in from practitioners in the hospital.

7. *Publish and disseminate.* After completion and approval of the final draft, the document must be published and distributed widely to the professional staff. An official launch, training of users, and monitoring and evaluation are all necessary components to the distribution of the guidelines. This important activity is described in greater detail later in this session (see "Implementing the Guideline").

8. *Revise and update.* Treatment recommendations change rapidly and, consequently, so must the STGs. STGs should be updated regularly to reflect changes in accepted treatment strategies. If a regular schedule for updating the STGs is not used, they will quickly lose their credibility.

Treatment guidelines must have the most up-to-date and accurate information available. Any attempt at providing a guideline without this accurate information will lead to failure of the guideline. Therefore, the use of evidence-based medicine in preparing the guideline and the use of expert authors and reviewers cannot be overemphasized.

Key Features of a Successful STG Manual

Seven features are key to the success of an STG.

- Simplicity—The number of health problems is limited. For each health problem, a few key clinical diagnostic criteria are listed. Medicine and dosage information is clear and concise.

- Credibility—The treatments are initially developed for patients by the most respected clinicians in the country using evidence-based information. Revisions based on actual experience will further add to the credibility. Input from paramedical staff should be actively sought and acknowledged.

- Same standards for all levels—Doctors and other health care providers use the same standard treatments. The referral criteria differ, but the first-choice treatment for a patient depends on the patient's diagnosis and condition, not on the prescriber. If a patient attends a teaching hospital or a low-level dispensary with a common condition, the treatment will be exactly the same. If the patient does not respond to treatment, he or she may be referred to a higher level to receive the second-line therapy, which would be given in hospital.

- Pharmaceutical supply based on standards—The standard treatments are coordinated with the supply of medicines. If changed circumstances require a new medicine for the standard treatment, then the supply system must respond.

- Introduced in preservice training—Standard treatment manuals are distributed during preservice training and their use becomes habit.

- Dynamic (regular updates)—As bacterial resistance patterns change or other factors alter therapeutic preferences, the standards are revised to reflect current recommendations.

- Durable pocket manuals—The STGs are published as small, durable pocket manuals, which makes them convenient to carry and use.

In the interest of therapeutic and economic efficiency, standard treatments should target those conditions that have the highest morbidity and mortality rates. Note that some conditions that contribute substantially to the number of patients treated, and therefore to the total cost of medicines provided, contribute little to decreasing morbidity and mortality. Skin conditions are a common example. Such problems may nevertheless be priorities for the development of standard treatments precisely because they do absorb a large percentage of the pharmaceutical budget.

In terms of selection of health problems to be addressed, standard treatment falls into three categories—

- Individual—Standard treatments are prepared for only one problem or set of problems, such as only diarrheal disease, only ARI, or only malaria.

- Selective—Standard treatments are prepared for a small number of high-priority problems, perhaps 6 to 12, for example, a "package" of treatments for diarrheal disease, ARI, prenatal care, immunization screening, malaria, and tuberculosis.

- Comprehensive—Standard treatments are prepared for 30, 50, 100, or even more common health problems. When published, this collection of standard treatments becomes more like a textbook than a basic reference.

The number of treatment guidelines developed should be appropriate to the specific situation. But individual treatments developed one by one may miss the opportunity to use the process to integrate several special programs. At the other extreme, comprehensive standard treatments risk overwhelming health workers with new information, thus reducing the chance that *any* of the standard treatments—even those for common, high-priority problems—will be followed. There may be a place for targeting different levels of the health system with manuals containing differing amounts of information.

Information on local disease patterns should also be considered. Seldom do primary care clinics have access to clinical laboratories. But results from surveys using available district, regional, or national laboratory facilities can be used to make scientifically based selections of preferred medicines for certain types of diarrhea, ARI, malaria, tuberculosis, and other infectious diseases. Dynamic standard treatments are periodically updated to reflect changes in treatment patterns.

Development of standard treatments should aim at therapeutic integration through coordination with special programs such as diarrheal disease control, ARI, malaria, and so forth. Hospital or primary health care standard treatments should reinforce recommendations of special programs and, at the same time, special programs should use their experience in developing their treatment recommendations.

Individual medicine selections should, of course, be based on the principles of choosing the fewest medicines necessary to effectively treat an individual condition, choosing the most cost-effective treatment, and adhering to the essential medicines list (if one exists). If an essential medicines list does not exist for the level of health care at which the treatments will be used, then the process of producing standard treatments should also produce an essential medicines list.

Development of standard treatments must involve respected clinicians from all levels, including perhaps leading professors from local medical schools as well as experienced district medical officers and outstanding community health staff. Department heads of major hospitals should also be consulted and their advice obtained in preparing and authoring the document. Involving many end-user staff-level physicians and pharmacists is also necessary to obtain a broad-based participatory approach, one that will ensure buy-in later when the manual is completed.

Finally, the patient perspective must be considered. Issues of patient adherence to treatment (compliance) and prevailing patient preferences must be weighed against considerations of efficacy, safety, quality, and cost.

Implementing the Guideline

In terms of impact on prescribing and medicine use patterns, the greatest weakness in past efforts to introduce standard treatments has probably not been in *developing* reasonable standards, but in *effectively implementing* the standards once they have been developed. Prescribing patterns change slowly; consequently, practitioners must be educated in the use and importance of the guidelines. Marketing of the guideline will be crucial.

The following are important elements for a plan to implement standard treatments—

- Printed reference materials
- Official launch
- Initial training
- Reinforcement training
- Monitoring
- Supervision

Printed reference materials can include manuals, posters, and training materials. Depending on the number of treatments involved, printed references may be in the form of wall charts, pocket handbooks, or larger shelf-size reference books.

Some people feel that wall charts provide a better reminder to health workers, are more permanent, and help the patient better understand the treatment process. Others feel that a handbook is more effective, provided it fits into the pocket, is durable, and is well organized. Pocket-sized books can also include information about individual medicines or other reference data. The contents of pocket manuals can be organized in summary tables, in diagnostic and treatment decision trees or flowcharts, or simply in written text.

An official launch is important. The Minister of Health, the leaders of professional bodies, and leading clinicians should present the new guidelines at a public forum. Ideally, the presentation should be covered by the press and broadcast media and attended by representatives of health worker associations.

Initial training is also important. Ideally, standard treatments should be introduced during formal preservice training for doctors and other health care providers. Use of the standard treatments and the reference manual or wall chart early in training develops good habits for later clinical practice. It implies that examinations should include questions on standard treatments.

The length of initial in-service training will depend on the number and complexity of standard treatments. Training should specifically consider prescribers' inhibitions about using standard treatments. Some may be afraid that looking things up in front of the patient will detract from their credibility. Participants should therefore practice the use of reference materials in actual patient care situations or in role-plays.

Other prescribers may not appreciate how the treatments were prepared and at first may not trust the treatments. Most important, if the standard treatments differ substantially from current practice (e.g., fewer injections or fewer antibiotics than currently prescribed), these differences should be identified and discussed. Participants should be strongly encouraged to accept the standard treatments, perhaps even by signing a written agreement.

Especially for health care providers already in practice, reinforcement training during the first 6 to 12 months after the initial training can play an important role in reemphasizing the importance of following standard treatments and can allow the DTC to respond to questions that have arisen from attempts to apply the treatments.

Finally, the monitoring system and supervisory efforts should focus on the priority health problems and standard treatments for these problems. Routine reports that focus on high-priority problems such as diarrheal disease and ARI can also include information on treating these problems and, of great importance, on adequacy of supply of the few medicines needed for these conditions. Using drug use evaluations (DUEs) can be helpful in monitoring and ensuring compliance with the STGs.

Activity 1. Developing a Guideline for Use during the Field Trip

For this activity, assume that your DTC has information from indicator studies, chart reviews, and ABC analysis that shows that many antimicrobial medicines are being used in excessive amounts. This overuse of antimicrobials has included treatments for pneumonia, diarrhea, and malaria and in many surgical procedures. The incidence of antimicrobial resistant malaria is also increasing in the hospital. Other indications (including many anecdotal reports) are that antimicrobials are being prescribed incorrectly, indiscriminately, and without appropriate follow-up. An ABC analysis showed that the antimicrobials account for 85 percent of the pharmacy budget.

The DTC intends to address this problem with several different strategies, including educational programs for medical providers, the institution of a DUE program for several antimicrobial medicines, and a revision of the STGs.

Meet in your usual groups and collaborate on the development of an STG for cesarean section antimicrobial prophylaxis. (If time allows, you may also be asked to develop an STG for childhood pneumonia.) Keep the guideline brief, but address all of the important aspects of care that are necessary to guide the appropriate treatment and improve patient outcomes with this disease or medical condition. Provide as well a brief workplan on how the guideline would be implemented in your hospital.

The STG that you develop in your groups will be discussed in plenary where the facilitators will help you reach a consensus between all the groups on one guideline for everyone to use. The plenary group will then develop a form to test whether patients are being treated in accordance with the guideline, and this form will be used during the field trip to a local hospital later in the course.

Activity 2. A Case Study: A Second Edition? Standard Treatments in Pagalia (From WHO and INRUD's Promoting Rational Drug Use)

Designing and implementing standard treatments that truly improve prescribing practices is challenging. It requires an understanding of the issues involved in each step of the process. It also requires sufficient commitment, cooperation, financial resources, and effort.

The case study with this activity is intended to stimulate thinking and discussion about some of the critical issues in the effective introduction of STGs in a health care system.

Read the Pagalia case study (annex 1) and be prepared to discuss the following questions in your group—

- How were the Pagalia STGs developed and implemented?

- How have the treatments affected prescribing thus far?

- Should a second edition of the STGs be prepared at this time? Is it the best use of time and money?

- What should be done? What should be proposed to Mr. Domingo at the next meeting?

- What other pharmaceutical management problems exist in this case study and how would you deal with them?

Summary

STGs constitute one of the most important concepts in providing rational use of medicines. These guidelines have been shown to provide valuable guidance to practitioners at all levels, especially those with minimal training.

Guidelines need to be prepared with the ultimate goal of providing a protocol for the health care system to follow that will produce improved patient care and outcomes.

STGs will improve outcomes for patients by—

- Providing standardized guidance to practitioners

- Listing the most appropriate medicine for use

- Producing the best quality of care because patients are receiving optimal therapy

- Using only formulary or essential medicine so the system need only provide the medicine in the guideline

- Providing invaluable assistance to all practitioners, especially those with lower skill levels, as it provides the guidelines necessary to ensure good quality care

- Enabling providers to concentrate on making the correct diagnosis because treatment options will be provided for them

Annex 2 lists publications that are relevant to the development of STGs.

Annex 1. Case Study for Activity 2

A Second Edition?
Standard Treatments In Pagalia

One Morning, Mid-1998

Dr. Pedro, the Director of Health Services, sat patiently, only half listening to Dr. Karma's animated review of the new essential medicine component of the Health Financing Project. The characteristic twinkle in Dr. Pedro's eye remained, despite the fact that he had heard this same introduction at least twice before this month. The essential medicine component of the project was to achieve "therapeutic and economic efficiencies," which would help the ministry make maternal and child health services more widely available and more effective.

Mr. Joko from Planning and Mrs. Soma from the Pharmaceuticals Directorate were also at the meeting along with several of their assistants. Dr. Pedro thought the assistants seemed particularly taken with Dr. Karma's energetic presentation. "So, my friends," Dr. Karma announced, "by next Monday we must present Mr. Domingo [the project officer for the major sponsoring donor] with a first year workplan for improving medicine use. Your thoughts, please."

Health Status and Health Care in Pagalia

While Mr. Joko raised a few points regarding recent negotiations with the donor, Dr. Pedro reflected on the current health situation in the country. From his position in the ministry, Dr. Pedro felt he had a good grasp of needs at the health center level.

Pagalia is divided into 10 provinces and 80 districts. Health care is considered a central responsibility, so national authorities play a major role in health care policy. Pagalia's population of over 20 million receives primary health care services from a network of nearly 300 health centers and 2,300 subcenters. In addition, nearly every district has a small hospital, and Pagalia has over 15 provincial general and specialty hospitals. UNICEF estimated that last year almost 120,000 Pagalians died—one-half of whom were under age five. The infant mortality rate is believed to have dropped below 85 deaths per 1,000 live births. As expected, the leading causes of death among the under-five age group were diarrhea disease, ARI, neonatal tetanus, measles, and other immunizable diseases. In terms of health center attendances, Mr. Joko's staff in Planning had recently completed a study that showed ARI accounted for 36 percent of illness visits for children under age five; skin disease—17 percent; and diarrhea disease—15 percent. For adults, ARI accounted for 18 percent of attendances, skin diseases—18 percent, anemia and nutritional deficiencies—10 percent, and diarrheal disease—6 percent. Although many health

centers have doctors assigned to them, a recent study from one province indicated that only about one in four patients sees a doctor. The rest are diagnosed and treated by nurses and paramedics.

Publication of the Standard Treatment

After Mr. Joko finished his questioning, Dr. Pedro began the discussion of methods to improve medicine use patterns. "The only solution is the dissemination of standard treatments. Standard treatments will straighten everything out." He went on to describe the process which led two years ago to the publication of *Standard Treatments for Health Cent*ers.

The essential medicines list had been developed in 1991, and in 1993 concern about medicine use led to the beginning of work on standard treatments. A committee consisting of four doctors from Preventive Health Services, another person from the ministry, three people from the Faculty of Medicine, and one outside member began work in earnest on the project. In early 1996 the *Standard Treatments for Health Centers* was published.

The standard treatments for 100 conditions were included in the manual along with information on medicine interactions, growth curves, and other reference information. For each health problem, the manual included key diagnostic features and recommended treatments.

The treatments were published in a compact, but not quite pocket-sized, manual with a glossy green cover that bore the ministry logo. The manuals eventually were sent to all health centers. Since schools of medicine and other health education institutions fall generally outside the control of the Ministry of Health, little effort was made to have direct contact with these educational programs.

"However," concluded Dr. Pedro, "since publishing the *Standard Treatments for Health Centers*, the CDD Program (Control of Diarrhea Disease), the ARI Program, and the TB (tuberculosis) program have all changed their treatment recommendations. Clearly what is needed to promote proper medicine use is to revise, reprint, and redistribute the *Standard Treatments*."

Health Center Treatment Patterns—1997

Mrs. Soma, from Pharmaceuticals, had been quiet up to this point, but Dr. Pedro's last comment troubled her. Politely, but firmly she began, "I'm not quite so sure that revising and redistributing the *Standard Treatments* is the answer." She then went on to briefly review two surveys which she and her colleagues at Pharmaceuticals had recently carried out.

The first study, in which Mr. Joko's staff had also been quite active, took last year's medicine order and compared it to a rough estimate of what would have been needed if the disease pattern reported by the monitoring group at Preventive Health Services had been treated according to Dr. Pedro's standards.

"Look here," said Mrs. Soma, "your standard treatments would have the health center staff using large amounts of procaine penicillin, oral penicillin, and co-trimoxazole, while last year they ordered almost none of those antibiotics. Your treatments would have cut back on tetracycline, ampicillin, chloramphenicol, some of the injectables, and other popular medicines." The medicine names meant nothing to Mr. Joko, but he understood that the standard treatments implied quite different consumption patterns than current practice.

Now in full stride, Mrs. Soma moved on to the second study, which her group had completed only last week. "The *Standard Treatments* manuals were sent out in 1996. We have just completed a survey of 2,500 patient cards from six randomly selected districts in East Kalija province." In the treatment of common gastroenteritis (omitting cases of dysentery or suspected cholera), for which Dr. Pedro's group recommended only rehydration, the average patient was getting more than three medicines. Virtually every patient was getting an antibiotic. More vitamins and minerals were being prescribed than oral rehydration salts. Antibiotics used for the under age five patients alone included oxytetracycline injection, tetracycline capsules, metronidazole, trisulfa, tetracycline syrup, ampicillin syrup, chloramphenicol suspension, and procaine penicillin injection. Some of the medicines recommended in the *Standard Treatments* are not available.

Similarly, for influenza and acute upper respiratory infections, Dr. Pedro's group had recommended paracetamol for fever and aches, antihistamines for congestion, and a cough medicine. Yet, nearly every patient got an antibiotic, which was supplemented by an average of two other types of medicines. The range of different antibiotics prescribed was again quite impressive, at least a dozen by Mrs. Soma's tally.

Mr. Joko was again mystified by most of Mrs. Soma's medicine names, but he clearly sensed her feeling that the bright green *Standard Treatments for Health Centers* had not achieved its purpose. The twinkle in Dr. Pedro's eye was beginning to fade.

A Second Edition?

Having shared the results of the directorate's studies, Mrs. Soma somehow felt less compelled to support Dr. Pedro's plan to simply revise, reprint, and redistribute the *Standard Treatments*. The meeting continued another 15 minutes. Mr. Joko raised some procedural questions, and Dr. Pedro asked the group's opinion about the design and color of the cover.

Dr. Karma, always the diplomat, suggested that the project perhaps could support both Dr. Pedro's revision of the *Standard Treatments* and another series of studies by Mrs. Soma's group. He asked the group members to accompany him to the meeting with Mr. Domingo to propose how best the treatment guidelines could be revised and implemented.

Annex 2. Publications Relevant to the Development of STGs

The following publications are just some examples of standard treatment guidelines developed by countries and health care organizations. More recent editions may be available.

Country	Title	Available from
Australia	*Antibiotic Guidelines*, 9th ed. (1997) *Psychotropic Drug Guidelines*, 2nd ed. (1993) *Analgesic Guidelines*, 3rd ed. (1997) *Gastrointestinal Drug Guidelines*, 1st ed. (1994) *Neurology Guidelines*, 1st ed. (1997) *Cardiovascular Drug Guidelines*, 1st ed. (1996) *Endocrinology Guidelines*, 1st ed. (1997)	Victorian Medical Postgraduate Foundation Inc., Therapeutics Committee, "Chelsea House" 3rd Floor, 55 Flemington Road, North Melbourne, VIC 3051, Australia [www.csu.edu.au/faculty/health/conference/vmpf.htm] E-mail address: vmpf@vicnet.net.au Past editions of these guidelines may be available for the cost of postage.
Botswana	*Botswana Treatment Guide* (1992)	National Standing Committee on Drugs, Ministry of Health, Gaborone, Botswana
Great Britain	*British National Formulary*	British Medical Association/Royal Pharmaceutical Society of Great Britain, Tavistock Square, London WC1H 9JP, England Current edition is available online at www.bnf.org
Jamaica	*Jamaica National Formulary* (1997)	Pharmaceutical Services Division, Ministry of Health, Kingston 5, Jamaica
Kenya	*Clinical Guidelines for the Diagnosis and Treatment of Common Hospital Conditions in Kenya* (Nov. 1994)	Ministry of Health, Nairobi, Kenya
Malawi	*Standard Treatment Guidelines* (available in both pocket and desktop versions) (1993) *The Malawi Prescriber's Companion* (1993)	Malawi Essential Drugs Programme, PO Box 30390, Lilongwe 3, Malawi
Nepal	*Nepalese National Formulary* (1997)	Department of Drug Administration, Bijulbizar, Naya Baneshwor, Katmandu Nepal Fax: (977-1) 244927 E-mail: dda@npl.healthnet.org
South Africa	Standard Treatment Guidelines and Essential Drugs List	www.doh.gov.za/docs/factsheets/index.html
Tanzania	*Standard Treatment Guidelines* and *The National Essential Drug List for Tanzania* (1991) (3rd ed.)	Ministry of Health, Dar es Salaam, United Republic of Tanzania
Uganda	*Uganda Essential Drugs Manual* (1997)	Ministry of Health, Uganda Essential Drugs, Management Programme, Central Medical Stores, PO Box 16, Entebbe, Uganda

Country	Title	Available from
Zimbabwe	*EDLIZ (Essential Drugs List for Zimbabwe)* (1994) A series of 15 modules on clinical and management topics is also available.	Zimbabwe Essential Drugs Action Programme, Ministry of Health, Box 8168, Causeway, Harare Zimbabwe