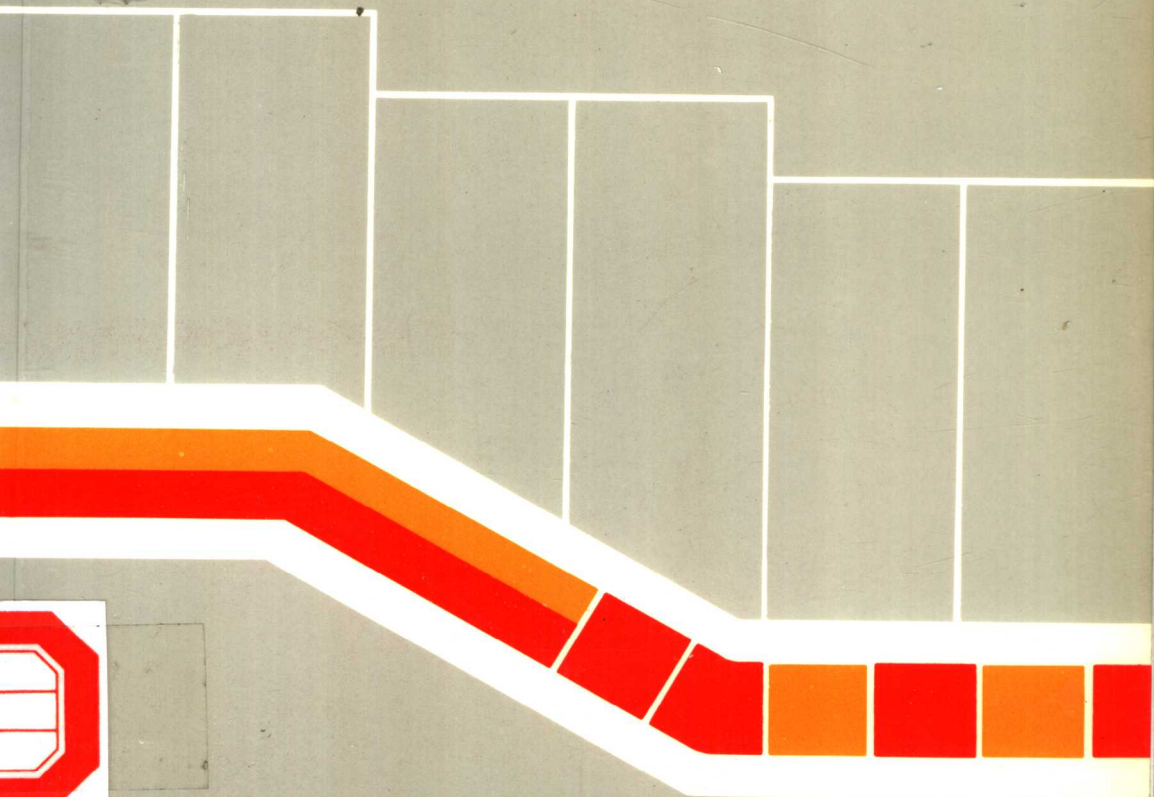


Control of Sexually Transmitted Diseases



WORLD HEALTH ORGANIZATION

CONTROL OF SEXUALLY TRANSMITTED DISEASES



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The World Health Organization is a specialized agency of the United Nations with primary responsibility for international health matters and public health. Through this organization, which was created in 1948, the health professions of some 160 countries exchange their knowledge and experience with the aim of making possible the attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life.

By means of direct technical cooperation with its Member States, and by stimulating such cooperation among them, WHO promotes the development of comprehensive health services, the prevention and control of diseases, the improvement of environmental conditions, the development of health manpower, the coordination and development of biomedical and health services research, and the planning and implementation of health programmes.

These broad fields of endeavour encompass a wide variety of activities, such as developing systems of primary health care that reach the whole population of Member countries; promoting the health of mothers and children; combating malnutrition; controlling malaria and other communicable diseases, including tuberculosis and leprosy; having achieved the eradication of smallpox, promoting mass immunization against a number of other preventable diseases; improving mental health; providing safe water supplies; and training health personnel of all categories.

Progress towards better health throughout the world also demands international cooperation in such matters as establishing international standards for biological substances, pesticides and pharmaceuticals; formulating environmental health criteria; recommending international nonproprietary names for drugs; administering the International Health Regulations; revising the International Classification of Diseases, Injuries, and Causes of Death; and collecting and disseminating health statistical information.

Further information on many aspects of WHO's work is presented in the Organization's publications.

Preface

The prevalence of sexually transmitted diseases has reached a disturbing level in many countries and the World Health Organization has alerted its Members to the gravity of the complications that may arise if these diseases are not treated adequately and at an early stage. These complications can have serious consequences for the individual, the family, and the community.

The present situation has arisen not as a result of a lack of knowledge or a shortage of resources but because in many countries there has been (1) inadequate use of well-established techniques, (2) poor monitoring and poor evaluation of control, and (3) an incorrect social and educational approach. In order to achieve the goal of health for all by the year 2000 set by WHO's Member States, this public health problem must be tackled by a multidisciplinary approach involving coordinated action by health personnel at all levels, and by the health education, information, and welfare services.

In response to the current situation, and to requests from the World Health Assembly, three WHO Scientific Groups have examined different technical aspects of the problem and their reports have been published in the *Technical Report Series*. The present book has been prepared following the meeting of a scientific working group that was held in Washington in April 1982 to discuss the formulation of appropriate strategies and programmes for the control of this group of diseases.¹ This book emphasizes the need for such programmes to be integrated into general programmes for the control of communicable diseases and for the gynaecological, obstetric, paediatric, and urological services to play an active and dynamic part.

¹ A list of the participants in the scientific working group is given in Annex 6, page 109.

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Chapter 1. Introduction

The greater attention being given to the control of sexually transmitted diseases in many countries reflects the increasing prevalence of these diseases, their adverse health effects, and the greater capability of the countries to address these problems. The technical aspects of the main sexually transmitted diseases have been considered in the reports of three WHO Scientific Groups (1-3) and the present book is concerned with control strategies and programmes.

1.1 Terminology

A control activity for sexually transmitted diseases is any activity which minimizes the adverse health effects of this group of diseases. Control activities may reduce (a) the incidence of disease; (b) the duration of the disease; (c) the effects of each case, including both the physical complications and psychosocial consequences; or (d) the cost of achieving certain outcomes, i.e., increase the efficiency of services. Many different control activities, for example, clinical services, screening, and contact tracing, can reduce the effects of sexually transmitted diseases.

A control programme is composed of various control activities. Priorities are established, various options for control are examined, and appropriate methods are adopted. Such a programme will achieve its objectives by the design and implementation of work plans. Evaluation is used to reveal any need for programme change. These alterations may be needed because the programme is ineffective or because changes have occurred in the diseases, their setting, or the opportunities for intervention.

The epidemiology of sexually transmitted diseases and their associated complications is very variable. In addition, for each facet of the problem, the effectiveness of particular control activities is different. At the planning stage, the expected health effects of control activities should be specified as clearly as possible. Such planning will clarify the control decisions made and justify the programme activities. Furthermore, specification of the activities in the initial stages will facilitate the integration of the control programme into the overall health scheme. Clearly written plans will identify the many components of the control programme within the health system, thus facilitating the evaluation process.

Control programmes for sexually transmitted diseases define the population to be covered and specify the control activities related to that group. For instance, some programmes to control congenital syphilis specify that all pregnant women are to be included, to ensure that they undergo antenatal examination and are serologically tested and treated if necessary. However, coverage of the target population may be incomplete

and performance of the specified activities inaccurate. Some pregnant women will not attend antenatal facilities or will attend either late in their pregnancy or only sporadically; serological tests will be omitted on occasions; and some serological reactors will deliver their babies without having had treatment. However, when the target population and the particular activities to be undertaken are clearly defined, the step(s) at which serious performance problems occur can be readily identified. Once identified, the reasons for the performance problems can be sought and programme changes can then be made.

In contrast, services for sexually transmitted diseases are those made available to self-selected individuals from the overall population. The diseases seen by such services may, however, differ from those of the overall population, and the differences are likely to be greater when services are less readily available. Although services and programmes are distinct, services of some type will always be part of a control programme. Therefore, control programmes for sexually transmitted diseases must encourage continued improvements in these services and seek ways to enhance their contribution to the control effort.

1.2 Approaches to control

Effective efforts to control sexually transmitted diseases must be appropriate to the unique settings, populations, and disease problems of each programme. Thus, the design and format of each control programme will be unique and cannot be transferred from one setting to another without careful adaptation. Extremes in control programmes can be grouped as follows: (a) categorical or vertical control programmes; and (b) integrated or horizontal control programmes. In practice, however, effective categorical programmes are also integrated into the general health and social systems of a country and depend upon them for their functioning. In order to develop and adapt efficiently with time, effective integrated programmes depend upon the availability of suitable expertise, either local or foreign. The choice is not, therefore, one of categorical versus integrated control programmes for sexually transmitted diseases, but rather is one of determining the mixture of categorical expertise and general health system integration within each setting.

1.3 Control programme planning

At the simplest level, control programme planning is designed to ensure that the highest priority disease or problem is identified and that resources are not wasted on activities that are too costly or are inappropriate. The general questions that must be answered are: (a) which disease or problem is the most serious and important to the government, the public, and the health system; (b) can the health effects of the identified problem(s) be reduced by low-cost activities; (c) what would be the result of such

activities; (d) what resources would be needed to implement them and are they available; and (e) how could the effects of these activities be measured? The answers to these questions will define the focus of a new programme or a new element for an existing programme and will determine whether a given activity should be attempted. Before implementation, the programme manager should develop a timetable for the review of the activity. This review should specify unambiguous guidelines for the continuance, modification, or cessation of the activity depending on the findings.

Formal control plans

More formal programme planning is appropriate when categorical control staff exist and skilled epidemiological and management resources are available. Such planning may include the following seven elements.

(1) *Problem definition.* Clarification of the problems posed by sexually transmitted diseases includes a description of the occurrence of disease, disease prevalence and any possible complications by area and population groups. The adverse health effects of these diseases will generally be increased for specific groups and geographical areas and thus the identification of these provides a focus for the control efforts. Similarly, disease transmission is not the same throughout the infected population; information that identifies the important transmitter groups may be needed in order to interrupt disease transmission more efficiently.

Information in these areas is inadequate or non-existent in most cases. Initial programme considerations must clarify what data are available and improve the data collection, analysis, and use. The construction of a model of the transmission of disease and the development of complications, and their control, may be helpful in considering the disease problem and programme activities (4). Different models can be developed to consider other problems such as congenital syphilis, in which the issues are related to pregnancy, and hepatitis B in which intervention with a vaccine can be considered.

(2) *Establishing priorities.* The priorities for control begin with the health problem description. The availability of adequate resources must be identified for various possible interventions. The commitment of the government and of the health staff in particular, will also be crucial in the selection of priority problems and interventions. Finally, public commitment to the control effort must be assessed in order to identify the nature and degree of support that might be expected. Thus, the control priorities selected will be an amalgam of health problem considerations and control feasibility.

(3) *Setting objectives.* Objectives are a statement of the intention of the control programme to reduce the health effects of sexually transmitted diseases within a given population and a stated time. Programme success can be defined as the degree to which its objectives are met. To be most useful, objectives should be unambiguous and quantifiable.

Programme objectives that are simple and realistic, i.e., that can be achieved within the proposed time and setting, are more helpful than those

which are grandiose or broad. For instance, an objective "to reduce the prevalence and incidence of disease" is not helpful in designing or evaluating control efforts unless more details of this general, long-range objective are specified and can be measured.

(4) *Considering strategies.* A variety of intervention strategies for the control of sexually transmitted diseases exists. Each strategy has different resource requirements and effects; these should be reviewed in light of the programme objectives, target population(s), and proposed timetable. Ideally, planners should perform a cost-benefit or a cost-effectiveness analysis of alternative strategies to select the most effective, feasible strategy. In practical terms, an estimate of desirable outcomes (effectiveness) and of possible costs is often all that is available to make initial programme decisions. Control programmes generally use more than one strategy; planners must determine the mixture of strategies that appears to be most appropriate to the setting.

(5) *Planning for implementation.* A written plan, reflecting the problem, the objectives, and the strategies, which also details the activities required and the timetable for implementation, is useful to the programme manager. Development of such a plan will encourage careful consideration of the resource requirements (both personnel and material), personnel development, and the sequence of development both by area and activity. Such a plan will provide the basis for developing or modifying job descriptions for programme personnel and others who will assist in implementation.

(6) *Planning for evaluation.* Evaluation of a control programme is an integral part of the overall implementation plan, but because of its importance it is often considered separately. Evaluation is used to answer the questions: have the objectives been achieved (outcome) and have the activities been performed as specified (process)? Evaluation should be performed at points that will identify promptly any barriers to implementation. The findings may lead to modification of the programme, extension to new areas or new problems, or the cessation of activities.

(7) *Ensuring operational research.* Barriers encountered in defining the problem, selecting strategies, or meeting evaluation goals will identify areas for operational research. Since such research activities are predicated on solving important programme problems, they should be planned to provide timely feedback to the control programme. As the problems or settings (including technological developments) change, other research topics may assume high priority.

Programme check-list

Control programmes for sexually transmitted diseases will be guided by the following considerations: (a) adequate provision must be made for planning, implementing, and evaluating the programme, and information needs must be clearly defined at each step; (b) programme objectives must be clearly stated and quantified where appropriate and possible; (c) alternative strategies must be considered; inappropriate ones must be

dropped, some may be deferred pending review of results of initial efforts, and those most likely to be effective must be chosen for implementation; (d) the plan for implementation must be realistic and include a timetable; and (e) appropriate criteria must be chosen for programme evaluation.

1.4 Conclusions

In this book various aspects of the control process are considered and it is intended to assist managers in developing or modifying control programmes in many settings. Control programme settings are characterized by very different social and health systems. Thus, there is no inherently correct programme for all settings, even where the disease problems are similar. Furthermore, a control programme for sexually transmitted diseases that is appropriate for a society at one time is unlikely to be appropriate for ever. Societies, health care systems, disease problems, and intervention opportunities are constantly changing. Control programmes must evolve to meet these new challenges and to use the opportunities provided by new interventions. Despite the many differences that exist between countries, all share a lack of public awareness of the magnitude of the problem posed by sexually transmitted diseases.

This book may appear to suggest that the disease control process should be highly systematic, comprehensive, and compartmentalized. In practice, however, many activities take place simultaneously and in a manner that is far from systematic, sequential, and ordered. In addition, the control components and support activities are presented as discrete items. No relative weighting of these efforts is intended; in fact, each effort may be less effective on its own than when it is combined with one or more others.

The control process has been described with some degree of abstraction, avoiding areas of ignorance in order to provide perspective and a sound theoretical framework. It is hoped that this will assist managers to produce a programme that is comprehensive and carefully adapted to the setting.

This book will have an impact on control efforts only when the principles and guidelines described are incorporated into individual programmes. To facilitate this goal the broadest possible support must be sought, ranging from those with responsibility in an individual health programme to those with international or multinational responsibilities. Some actions that will promote control efforts include:

(1) National initiatives that include a wide range of groups and individuals involved in the control of sexually transmitted diseases and that result in the development of appropriate guidelines for that particular country. Where appropriate, these efforts should demonstrate the effectiveness of community participation in control efforts. The expressed needs of the community can be emphasized and reflected in the development of local resources to assist in meeting these needs.

(2) International initiatives on a regional basis should focus on management workshops for the countries of that region. Such programmes

should concentrate on planning, management, and evaluation and encourage the sharing of experiences from the participating countries in each area.

(3) Regional activities should also include a limited number of national pilot control programme projects in different social and health care systems. Such projects may be a prerequisite for significant progress in disease control. These should be designed to demonstrate further that well-planned and carefully evaluated programmes are feasible. Such pilot projects can serve as control models for neighbouring countries. These will be more complete and more readily assimilated than written guidelines. Finally, such pilot projects can help to consolidate and expand the control efforts in the countries in which they are initiated. Obviously such projects will need international, regional, and national support.

(4) Prototype documents for the operation of certain control activities need to be made widely available so that they can be used as guidelines by other programmes. Some such documents are already available (5). Additional prototypes must be developed, tested, and disseminated. These may be developed by consultant groups or may be a major focus of the pilot projects.

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PART I

INITIAL PLANNING STEPS

The first step in planning a new control programme for sexually transmitted diseases or in revising an existing programme is to estimate the disease problem by describing the incidence and/or prevalence of each disease and its complications (Chapter 2). Such a description may use available information and/or new information obtained from special studies. Groups at particular risk of having, acquiring, or transmitting a disease and/or suffering the complications of a disease, should also be identified (Chapter 3). Identification of such priority groups will facilitate the selection of strategies and the development of the intervention plans. Finally, geographical or political areas with a particularly severe problem of sexually transmitted diseases should be identified to facilitate the directing of early intervention activities.

The next step in the programme planning process is an attempt to set control priorities. Although control priorities begin with a description of the disease problem, they must also reflect government and public commitment, resources, and technical feasibility. Government commitment to this control activity must be established, including an assessment of the personnel, resources, and supportive activities available from the government. The degree of commitment by the public to control efforts must also be identified and the particular focus of the public's interest must be carefully considered. In order to clarify important aspects of control programmes, sociological aspects of control may be reviewed (Chapter 4). Finally, the technical feasibility of control must be evaluated in order to establish priorities. Unless the necessary technical capability exists or can be established in the country, a particular problem cannot be accorded a high control priority. All these factors—health problems, government and public commitment, and technical feasibility—must be considered together. A study of both the health problems and control feasibility will thus be necessary in order to define the control priorities of the programme.

The final step of the initial planning effort is a statement of the programme objectives to reduce the adverse health effects of sexually transmitted diseases. These objectives will help to identify the target population and the period over which an improvement in their health status is expected to take place.

Chapter 2. Estimating the public health importance of sexually transmitted diseases

2.1 Introduction

Until sexually transmitted diseases are recognized as an important public health problem, only limited resources will be allocated for their control or study. When resources are scarce their epidemiology cannot be studied fully—consequently programme managers encounter difficulties in describing the importance of sexually transmitted diseases and have problems in efficiently using the scarce resources that are available. It is crucial that the public health importance of these diseases is estimated in order to break this vicious cycle of under-funding, inadequate knowledge, limited appreciation of control importance, and hence continued under-funding (1). Preliminary estimates of the importance of these diseases will be used in initial planning steps; more definite descriptions of disease epidemiology will be developed as is necessary for the further development of the programme.

One of the first steps of control planning is to establish why a given sexually transmitted disease is important in a particular country. This process will help to focus the efforts of the control programme staff during preliminary planning and will reveal to decision-makers the priority issues of control. For example, in some countries, gonorrhoea is important because it causes pelvic inflammatory disease (PID) (2). Elsewhere, gonorrhoea is important because the disease is resistant to the available inexpensive antimicrobial drugs (3). Syphilis is important in some countries because it is a common cause of pregnancy wastage (4, 5). However, in other countries, the late manifestations of syphilis have received the most emphasis in programme justification (6).

The preliminary estimates of the importance of a particular disease will also be used to convince decision-makers of the need to allocate new resources to the control programme. Such resources will be essential in developing a clearer, quantitative description of the specific problem and its distribution. These further details of disease epidemiology are required to design an efficient control programme.

2.2 Approaches to estimating public health importance

Various approaches may be used to estimate the importance of sexually transmitted diseases and the choice depends on the ingenuity of the manager, the resources available, and the particular disease problems. In

addition, the selection of a particular approach to demonstrate the disease's importance depends upon which method will most effectively influence the key decision-makers. These approaches are usually combined in presentations; different aspects of the problem are emphasized depending on the composition of the intended audience.

Economic consequences

The economic consequences of sexually transmitted diseases may be used to persuade fiscally-oriented decision-makers that these problems are of considerable importance to public health. The cost of these diseases results in part from direct costs, i.e., the cost of care for patients with either uncomplicated or complicated disease. The major economic burden of these diseases results from the costs involved in caring for patients with disease complications; consequently, the economic costs of disease without complications are much lower. The indirect costs include productivity losses resulting from sick leave, disabilities, or premature death. Again these indirect costs are principally due to disease complications.

In the United States of America (2), using a combination of estimates—data from limited studies (7) and data from national samples—it was calculated that the costs of pelvic inflammatory disease that could be attributed to sexually transmitted diseases amounted to nearly US\$1.2 billion in 1979. Insufficient data is available in most countries on which to base such a calculation.

Social consequences

In countries where sexually transmitted diseases are accompanied by socially important consequences, emphasis on these particular issues will be relevant. The importance of these diseases in causing infertility, fetal wastage, neonatal death and disabilities in children should be emphasized. Data linking particular diseases to these outcomes may need to be strengthened and more widely publicized. In addition, the chronic pain, disability, and pelvic inflammatory disease-related deaths which affect women and interfere with their contribution to a healthy family unit should be highlighted. It may be necessary to emphasize the social consequences of sexually transmitted diseases in order to facilitate discussion of their control by the public and politicians.

Prediction of future importance

Demographic, sociological, and behavioural changes occurring throughout the world contribute to the growing importance of these diseases and will continue to do so in the near future. The number of young adults in the population is increasing in most countries, and populations are shifting from rural, traditional areas to urban settings. Family and community ties are changing; consequently there is diminished social control over the behaviour of young adults and they are becoming increasingly sexually

active. Thus, more people are at risk of contracting a sexually transmitted disease than ever before and these trends seem likely to continue.

The importance of these diseases relative to other public health problems is also likely to increase. Thus, increasing recognition of the common, serious sequelae of sexually transmitted diseases, e.g., pelvic inflammatory disease, infertility, and pregnancy wastage, will increase the relative importance of these problems. Similarly, increases in the resistance of gonococci to antibiotics and decreases in gonorrhoea therapy response rates emphasize the importance of dealing with these problems before they worsen. The methods of control are rapidly changing, and as the non-cultural diagnostic methods currently under investigation become available, as new vaccines are developed, and as novel therapeutic agents are produced, many possibilities of disease control will become more feasible.

Opportunities

Missed opportunities plague public health practitioners. The opportunities to prevent sexually transmitted diseases and their complications should be stressed as an integral part of the effort to ensure that each country achieves the goal of health for all by the year 2000. Efforts to expand the quality and coverage of antenatal and delivery care programmes can be enhanced with improved syphilis screening efforts and innovative approaches to prevent disease-related postpartum sepsis. Family planning programmes should be used to prevent the disease complications of intrauterine contraceptive devices and to detect and treat lower genital tract infections before pelvic inflammatory disease occurs. Where symptomatic genital tract disease is found to be a problem, primary health care workers can be trained to deal with sexually transmitted diseases. The effectiveness of this approach can be improved if the training includes the provision of information concerning the consequences of sexually transmitted diseases and the methods to avoid contracting them. Further, they can encourage the treatment of sexual partners which will limit disease transmission and complications. Since this group of diseases principally affects young people who will be the leaders and parents of the next generation, such preventive measures may be particularly valuable for the future wellbeing of the community.

2.3 Guidelines for estimating the importance of sexually transmitted diseases

The preparation of a preliminary estimate of the disease problem is both a political and technical exercise. As a political statement, this estimate will emphasize the particular problems that are most relevant to an important group of decision-makers, and will highlight important issues for the public. As a technical exercise, it will assist in selecting the priorities for subsequent efforts.

Often the necessary data will not be available or, if available, the focus of the problem will be unclear. In such situations, it may be useful to