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# INTEGRATING DISEASE CONTROL AND THE CHALLENGE



*World Health Organization  
Division of Control of Tropical Diseases*

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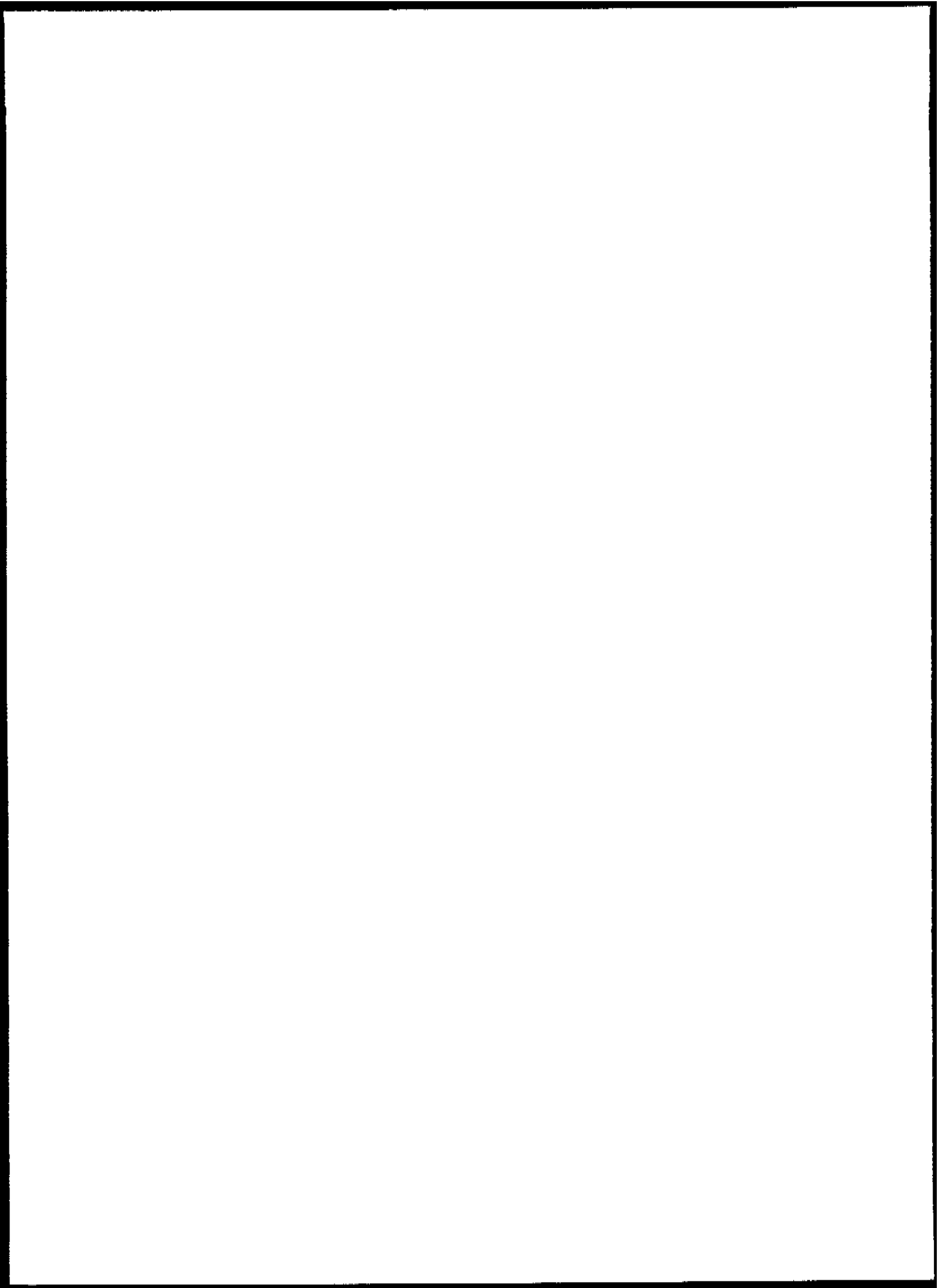
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# **INTEGRATING DISEASE CONTROL: THE CHALLENGE**



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# **CONTENTS**

**THE NEED**

**THE CONCEPT**

**THE RATIONALE**

**THE CONCERNS**

**THE APPLICATION**

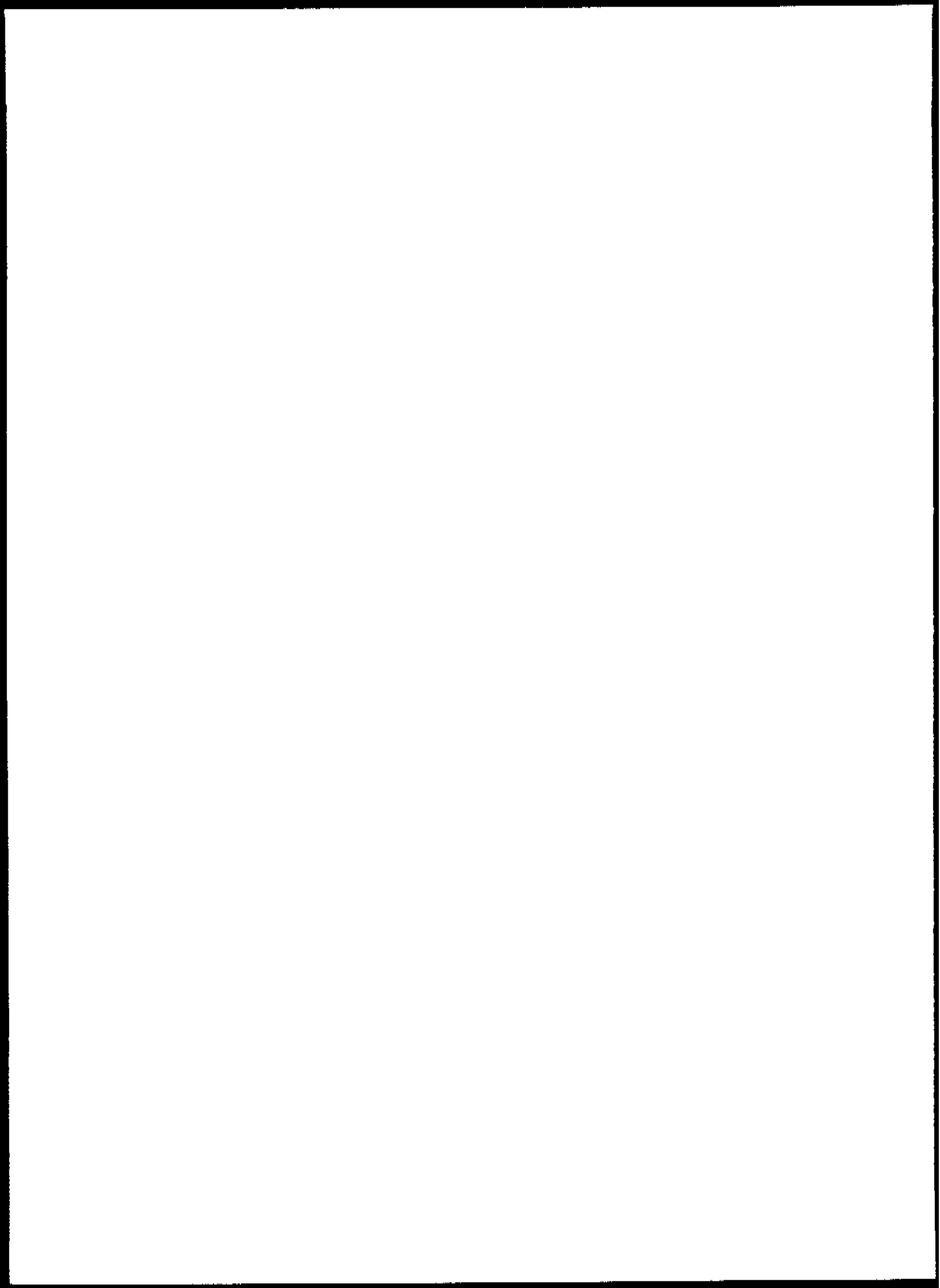
**ORGANISATIONAL STRUCTURES**

**MALARIA AS ENTRY POINT**

**THE TOOLS**

**THE GOVERNMENT PROCEDURE**

**THE WAY FORWARD**



# THE NEED

Although many health problems severely affect urban populations, those living in rural areas, about 55 percent of the world's population, are particularly vulnerable. Often they have little access to formal health care especially in developing countries, and particularly in remote areas. It was to access these populations that large scale disease specific programmes were developed, such as for malaria and smallpox eradication, onchocerciasis control, dracunculiasis eradication and Chagas disease elimination. Now ongoing programmes are being re-examined to make better use of the experience gained and the human resources, infrastructure, communications and systems that have been developed, to enable a much broader range of health issues to be tackled more effectively.

The costs of health services are constantly rising, and in Africa, investment in health has not kept pace with population growth or need. The social sectors, including health, have been hard hit by the worsening budget deficits, with local care greatly affected. An integrated approach would promote a more equitable distribution and optimal use of health resources to alleviate the disease burden and suffering of the population, much of it caused by tropical communicable diseases.

In 1997, with the support of WHO, a few countries chose to develop programmes, or otherwise improve existing ones, based on an integrated approach to disease control. Their tropical and other diseases control activities are being integrated, within their national public health systems, based on a single plan of action, drawn up and approved by government. These programmes are in different stages of implementation and represent a new experience with new challenges. The outcome from this will help guide future development of community health taking a holistic and systemic approach. The countries, which are representative of a cross section of health problems and conditions, range from poor to affluent, from small islands to land-locked terrain, and have limited to well-developed primary health care services. The implementation of these plans, and the evaluation of their impact, over the coming years, will represent a well-structured and measured experience. The intention is to determine the best practice to achieve disease control, cost effectively, through the process of integration, and to be able to share this experience with other countries.

# THE CONCEPT

In developing countries, the integration process was progressively implemented in the 1970s at a time when governments were faced with new economic pressures, and when cost saving mechanisms became a necessity. The pooling of resources to achieve a broader spectrum of objectives was seen as possible for certain groups of diseases, in particular vector-borne. As a concept, it has been used to promote primary care and community based health management, and to train staff to deliver comprehensive care.

Integrated disease control is the merging of resources, services and interventions at various levels, and between sectors, to improve health outcome. Despite the diseases not necessarily being similar, it is an approach that combines the common aspects of disease control, such as surveillance systems; drug distribution and monitoring systems; training and continuing education; diagnosis, treatment and patient-referral systems.

Combining activities may include environmental management, such as the provision of water and chemical control to limit the transmission of vector borne diseases. The provision of household water supplies involves different sectors within and outside health services. When an integrated approach is used, it can have a greater impact than simply reducing diarrhoea, dysentery and cholera. It can have an impact on dracunculiasis, dengue, yellow fever, schistosomiasis, and intestinal parasites and, in some situations, malaria, by reducing exposure and breeding sites. Also education programmes such as for school health, can improve prevention and hygiene, raise awareness of risk factors, change hazardous behaviours, and provide a medium for the distribution of micronutrient supplements or drugs.

# THE RATIONALE

According to various computer models that have been developed to simulate the impact of health interventions and their cost-effectiveness, it has been shown that expansion of health infrastructure yields greater improvement in health than a model that neglects infrastructure expansion. Where health services are not fully functional, and the population has poor access to health facilities, people expect that their health problems - and not specific diseases - will be taken care of. Health workers must be able to respond and ethical principles require that they do. With an integrated approach, health workers would be better prepared to cope with the problems and a more equitable distribution of health resources and services would ensue. The community health worker normally would be trained to address all health issues raised at the primary care level, and be able to adequately refer patients if more help is needed. Primary health care systems also include components of prevention, promotion and health education that help populations better manage their health. In cases where this system operates satisfactorily, the cost effectiveness of an integrated approach is maximal.

# THE CONCERNS

Integration is not always, however, the best solution. Such an example was the proposed sharing of major resources for dengue fever and malaria control during the late 1970s when dengue haemorrhagic fever became a major problem in the Pacific and Asia. These two diseases affected different populations, malaria - all age groups in remote rural areas - and dengue - young children in urban areas. Hence, pooling the resources of these two disease-specific programmes, at that time, was not advantageous.

Integration also needs to be a convincing process to be pursued at different levels of the health care infrastructure. Often, leaders of targeted programmes in ministries of health benefit from better working conditions than their colleagues and may resist moves towards integration. In addition, senior programme personnel may fear that their authority will be eroded and, since they may be held accountable, may oppose change. Some may also see their resources diminish while others gain.

Development agencies may be reluctant to support such a policy for fear of prolonging their commitment and losing their effectiveness and accountability. Some countries may feel that the re-organisational process is too complex and that they do not have the national capacity to develop and manage integrated programmes. A concern that was a reality in the 1970s and 1980s, and still is today, was overload of the already depleted health systems at the periphery. The overload of the multipurpose health worker is already well documented in such countries as India, for example.

It has happened in the past that integration has been used to dismantle single disease programmes, sometimes with disastrous results. Consequently, there is fear that valuable resources may be taken away from successful programmes or programmes dealing with priority diseases. Activities may be slowed down, especially in the case of diseases targeted for eradication or elimination. The nature and extent of surveillance may vary among diseases, affecting quality and coverage. The extent of expertise required at different levels may vary with different health problems, and the assurance that these will be available when needed are other issues.

These concerns are not necessarily, unfounded, when there is inappropriate application of integrated control. Integration needs to be done rationally and based on local knowledge, otherwise it will be neither practical nor cost-effective. Some of the concerns may have to be addressed before professionals and senior management accept and make the necessary changes to implement an integrated approach. Change has to be carefully managed at all levels and both formal and informal forces have to be taken into account. Activities need to be integrated and coordinated not only within the health services but also across government sectors and the private sector.

# THE APPLICATION

The development and delivery of programmes to control certain groups of diseases must be carefully planned. All aspects must be considered at all levels before making major changes. Crucial to the decision to integrate is a careful analysis of:

- ♦ objectives to be achieved
- ♦ approaches to be developed to achieve these objectives in the most cost effective manner
- ♦ tools that are available, their efficacy, limitations and use
- ♦ expertise required to ensure programme efficiency
- ♦ systems needed for implementation
- ♦ geographic distribution of the problem
- ♦ populations and age groups most affected by the diseases
- ♦ social, economic and cultural aspects
- ♦ epidemiology of the diseases
- ♦ administrative structures in place and changes that need to be made
- ♦ resources that are available
- ♦ political commitment to integrate programmes

This is particularly important for diseases that have a tendency to resurge when control measures are relaxed, as they require a permanent flow of ear-marked money. Often politicians are reluctant to preserve such funding at the expense of other health priorities, once the disease has been well controlled. They often do not realise that many of these diseases may return in full force once the control effort is neglected. This was the case for African trypanosomiasis at the end of the 1960s and malaria during the 1970s, when the world experienced a resurgence of both diseases.

The need for an integrated approach at the planning level was evident at the time of the construction of the Aswan Dam, in Egypt. Along the Nile valley, high population densities with intensive agricultural practices and prolonged contact with water provides the ideal conditions for schistosomiasis transmission. The low dam at Aswan was constructed in the 1930s and allowed perennial irrigation in a number of provinces. This change meant year round water that resulted in a 34-64 percent in-

crease in the prevalence of urinary schistosomiasis between the years 1934 and 1937. A malaria epidemic in Upper Egypt in 1942-1943, which caused 130,000 deaths, should be seen as a consequence of water development permitting the establishment of *Anopheles gambiae* from sub-Saharan Africa. Lake Nasser, on the Nile, was formed by the Aswan High Dam when it was constructed between 1960 and 1968. It resulted in the reclamation of large areas of unproductive land but also in an increase in the transmission of intestinal schistosomiasis.

An important aspect of planning is the ability to judge the need, time and place for an integrated approach. For this reason, criteria based on best-available information needs to be gathered for and in each country. Although the control of specific diseases may be integrated, indicators for the different interventions need to be developed for each disease. Thus, it is not a blanket approach to disease control. The threshold to be reached for each disease and the interventions to be applied in the Yemen programme are listed in the table. These may not be applicable to all countries and have to be developed locally.

In the past, the control of leishmaniasis and filariasis was achieved as part of the malaria eradication campaign and by intensive malaria control measures. For example on Choiseul, one of the Solomon Islands, a residual insecticide spraying programme for malaria control using DDT every six months, was carried out between 1968 and 1974. The local malaria vectors are known to also carry filarial worms and a series of surveys demonstrated that between 1974 and 1977 the microfilaria rate dropped from 22 percent to 0 percent. Anti-filarial drugs were not available in the area, no mass campaigns had been conducted and neither was there any larviciding. The reduction in filariasis was attributed to the malaria intervention measures.

The present strategy for malaria control can also be expected to have an impact on other diseases. This expectation is not unreasonable since the use of insecticide treated mosquito nets has been shown

### *Threshold for Control Measures in Yemen*

<b>DISEASE</b>	<b>THRESHOLD</b>	<b>INTERVENTION</b>
<b>Malaria</b>	Slide positivity rate: meso-endemic (11-15%)	Presumptive treatment of all fever cases as malaria
	hypo-endemic (0-10%)	Surveillance for malaria outbreak
<b>Intestinal parasite</b>	Cumulative prevalence >50% in schoolchildren	Mass treatment targeted to schoolchildren (once a year)
	If hookworms are present with high intensity infection (>5000 epg)	Increase the frequency of mass treatment (three times a year if hookworm intensity > 5%)
<b>Schistosomiasis</b>	If prevalence of haematuria > 20%	Mass treatment of schoolchildren (once a year)
<b>Brucellosis</b>	If prevalence > 2%	Intersectoral collaboration with Ministry of Agriculture Health education
<b>Onchocerciasis</b>	Prevalence of skin positivity >10%	Mass treatment of all individuals older than 5 years
<b>Dracunculiasis</b>	Investigation of any single case	Case containment house to house active cases search Health Education
<b>Leishmaniasis</b>	Cutaneous: - identification of areas at risk - investigation of any single case - conversion rate of skin test before intervention and after one year of intervention (force of infection)	Diagnosis and treatment Vector control
	Visceral: - identification of areas at risk - investigation of any single case	Diagnosis and treatment Vector control (residual spray) Elimination of infected dogs (reservoir of infection)

*Not everything can or should be included in the integrated programme. Careful decisions are needed, guided by a good knowledge base. Systems that serve many health problems can be put in place, such as surveillance, drug distribution and monitoring, training and continuing education, and treatment and patient referral. Opportunities must be taken when they arise.*

to reduce lice, bed bugs, fleas and other insects. Syria has demonstrated that insecticide treated mosquito nets can produce a sharp, consistent reduction in the incidence of cutaneous leishmaniasis, and has incorporated this method into the national programme.

Co-infections such as TB and leishmaniasis with HIV also lend themselves to an integrated approach. Leishmaniasis and HIV co-infections can be expected to increase sharply. The WHO and UNAIDS have combined their technical expertise and financial resources, to improve on quality of diagnosis and treatment of patients and coordinate world-wide surveillance. A surveillance network of 26 collaborating institutions in 13 countries is being strengthened. In addition, a better monitoring and evaluation of co-infections, through integration of data into geographic information systems, and active surveillance of population groups at high risk are being pursued.

The Islamic Republic of Iran has an established health infrastructure, a data collection system and a well-developed primary health care system at district, province and national levels. The "health house" is the most peripheral health care facility in rural areas, each covering about 1,500 people, within one hour's walk. There are two community health workers, known as *Behvarz* (usually a man and a woman) in each health house, providing care and gathering vital health statistics, as part of a surveillance system. At the rural health centre, there is at least one physician who also supervises up to five rural health houses. The work of the urban health centres, general hospitals, specialised clinics and the Behvarz Training Centre are supervised by the provincial health services. The Ministry of Health and Medical Education, in collaboration with WHO, has focused on improving the capacity of the Behvarz to collect samples and relevant information for the diagnosis of endemic diseases such as malaria, intestinal parasites, leishmaniasis, schistosomiasis, tuberculosis and leprosy. It also proposes to improve microscopical diagnosis in rural and urban health centres, train health personnel at all levels, improve data management systems and introduce geographical information systems (GIS) technology, for computer-aided geographic analysis of epidemiological and environmental data.

### ***Reaching Out to Non-Governmental Organisations***

In 1997, WHO entered into an agreement with the Africa Muslims Agency supporting the control of tropical diseases, the elimination of leprosy, the implementation of immunisation programmes and the prevention of blindness. The main thrust of tropical disease control was the construction of deep bore-hole and shallow wells. WHO provided information, and in some instances GIS maps, on where the wells were needed. In 1997, the Africa Muslims Agency worked with the Ministries of Health in 19 African countries. They provided a total of 79 bore holes and 446 shallow wells, at no cost to the governments or WHO. The provision of safe water to these communities will contribute significantly to the elimination of dracunculiasis, and control of schistosomiasis, water borne intestinal parasitic infections and other communicable diseases.

### ***The Integrated Management of Childhood Illnesses***

The Integrated Management of Childhood Illnesses, developed in several countries with the support of WHO and UNICEF, has been instrumental in improving infant and child survival and the overall quality of child care. Health workers are trained to recognise and manage the most dangerous child killers, diarrhoea, acute respiratory infections, malaria and measles. They also address nutrition, immunisation, health education, and several other influences on child health, including maternal health for a more comprehensive approach to child care. Integration around the child has been very successful in mobilizing health workers.

## THE ORGANISATIONAL STRUCTURES

It is not possible to propose a single model for the organisational structure of an integrated approach to health problems. However, an efficient management structure is necessary. Each person within the system must have well-defined roles, tasks and responsibilities. Existing structures within countries may also have to change to accommodate the new and better approach.

The integrated disease control programme needs to be led by a person with the authority to draw the specialists, and other concerned individuals, together. Technical committees would have to be formed to provide a forum to air major issues, solve problems, evaluate and re-plan, and keep everybody well-informed. Other than the technical committees, it may be necessary to have a more formal structure, to bring together, related sectors, within and outside health and government, and ensure good coordination.

All activities related to prevention, control and surveillance of diseases in a given district or area are usually placed entirely under the responsibility of the health worker in charge. The health worker should, however, answer to only one supervisor for all the health care activities in which he or she is engaged. Health systems would have to be organised in such a way that the health worker receives adequate technical, financial and human support to fulfil this responsibility, together with appropriate training and supervision.

### ***Malaria and Helminth Control***

Malaria in Cambodia occurs mainly in villages in forested areas and among farming communities, and displaced populations, who frequent forested areas. With the support of WHO, the World Bank and European Union an integrated control programme is already producing remarkable results. A nation-wide distribution programme for mosquito nets has been launched. Coupled with this are active case detection and treatment of malaria, mass drug administration of mebendazole against intestinal parasites, and health education. Already reductions of 60 to 95 percent in the initially hyper-endemic malaria prevalence rates have been observed. Building on the success of this joint intervention, the integration of programmes for vitamin A and iodine supplements is planned.

### ***Extending the Integrated Programme***

The integrated control of malaria, schistosomiasis and leishmaniasis in the Kingdom of Saudi Arabia has been established for ten years. The country is now in a position to eliminate the transmission of schistosomiasis and to reduce malaria and leishmaniasis to a level where they are no longer major public health problems. It is also ready to begin to add to this programme, the control of intestinal parasites and other vector borne diseases especially dengue. Large scale epidemiological surveys in schools are planned to determine the prevalence and intensity of intestinal parasitic infections, with WHO's support.

## MALARIA AS ENTRY POINT

Malaria is a widespread, complex disease affecting the most remote corners of the affected countries. Over 40 per cent of the world's population are exposed to the risk of malaria. The greatest burden is placed upon the population in Africa. In 1997 and 1998 WHO provided US\$20 million with which it initiated a country led accelerated malaria control programme in 24 countries in Africa.

This initiative uses an integrated approach. It has built up, in each country, the capacity of the general health services and the health workers to manage and control malaria and put in place decentralized health care systems. It is also community oriented, empowering communities to implement sustainable preventive and control measures such as environmental management, the distribution of mosquito nets and the provision of treatment and information. Evaluation is an important component and this has included determining the quality of patient management, patient compliance with treatment, the availability of drug supplies at various levels, the condition and efficiency of laboratory services and even assessment of shop keepers' knowledge and practices in selling antimalarial drugs and other commodities. The accelerated malaria control programme has laid the foundation for the health services to adequately manage the problem of malaria and will serve as the corner stone for turning around malaria in the continent of Africa.

In Asia too, malaria is seen as an impediment to economic progress. Recognizing this the European Union has provided 29 million ECU for malaria control in Cambodia, the Democratic Republic of Laos and Viet Nam. This is being used to strengthen many key aspects of the general health services in those countries relative to a sustainable reduction in the disease problem.

### ***Improving Health Data***

The Republic of Yemen has a population of over 15 million. Great strides have been made in health care over the past thirty years. By 1994, the infant mortality rate was down to 81 per 1000 live births and life expectancy at birth up to 57 years. Through the primary health care system, health services presently cover 42 percent of the population. In 1994, the first National Conference for Health Development was conducted and as a result the control of communicable diseases has become a public health priority. The integrated control of malaria, schistosomiasis, brucellosis, leishmaniasis, dracunculiasis, onchocerciasis and intestinal parasites has been planned. A pilot area will consist of districts selected from each governorate, and will cover a total population of 400,000. The first objective is to improve the quality of health data by strengthening the data collection system. Other important aspects expected to be strengthened are supervision, training and inter-country exchange of information.

### ***Discovering New Foci***

Early in 1998 the National Polio Immunisation Days in Southern Sudan were planned. At that time WHO was instrumental in an agreement being made for a joint collaboration for the global eradication of dracunculiasis. Both programmes would benefit from this alliance. As a result, an active search for Guinea worm cases was performed in all vaccination sites during the first and second immunisation rounds. In turn the dracunculiasis eradication programme, through its community network, provided the polio programme with valuable information and logistic support. A total of 412 villages, many of them remote, were found to have Guinea worm, of which 77 percent were not previously known to be endemic. Support is now being provided to deliver a basic response in these problem areas.

## THE TOOLS

### *The Multipurpose Drugs*

Many drugs may be used to treat several parasitic diseases simultaneously. An example is, the drugs used to treat filariasis, a condition that can lead to disfiguring elephantiasis. With 1.1 billion people at risk, in 73 countries, a strategy has been developed by WHO for mass treatment of the population at risk, with a combination of any two of the drugs, *ivermectin*, *albendazole* or *diethylcarbamazine*. These are given once a year, for up to six consecutive years. The drugs are effective not only against the microfilariae, and to some extent the adult filarial worms, but also against a range of intestinal and ecto-parasites - some of which are listed in the table. Consequently, persons with other parasitic conditions can also benefit.

SmithKline Beecham plc has provided a free donation of *albendazole*, for as long as it takes to eliminate the disease globally. With preventive health education, and surveillance systems ensuring sustainable disease elimination, these multi-purpose drugs represent an extremely cost-effective intervention.

The integrated distribution of supplies is not limited to the parasitic disease programmes. The Expanded Programme of Immunisation has used combined vaccines in a single injection (diphtheria, tetanus and pertussis). More recently, large-scale measles immunisation campaigns have promoted the administration of vitamin A supplements to be given at the same time as the vaccine is administered.

### ***Broad Anti-Parasite Effect of Anti-Filarial Drugs***

Albendazole	Efficacy	Ivermectin	Efficacy
Ascaris	100%	Ascaris	100%
Strongyloides	45%	Strongyloides	95%
Enterobius	85%	Enterobius	85%
Trichuris	40-60%	Trichuris	10-50%
Hookworm	95%	Hookworm	0-20%
Cut. larva migrans	80%	Cut. larva migrans	100%
Cystercercosis*/hydatids*		Onchocerciasis	95%
Giardia*/Trichomonads*		Lice	100%
Micro-/crypto-sporidia*		Scabies	100%

\*Requires more than one dose of *albendazole*

### ***Intersectoral Collaboration***

The two main islands of Zanzibar, in the United Republic of Tanzania have a population of nearly 800,000. Filariasis, intestinal helminths, malaria and schistosomiasis are recognised as major public health problems. To prevent, control and manage these diseases in the most cost-effective way it was necessary to combine resources and strategies and adopt an integrated primary health care approach. Public Health Laboratories are being established on the two islands and a variety of health education strategies are being used for schools and communities. An important aspect is the close collaboration and coordination between the Ministries of Health and Education, each with a well-defined role. The prime aim is to keep the school child well adjusted, physically and mentally, and to cultivate within the child, a proactive behaviour for good health.

### ***Improving National Capacity***

The health of more than a million children under 15 years of age in the Islamic Republic of Mauritania is threatened by malaria, schistosomiasis Guinea worm and intestinal parasites. An integrated disease control programme has now been launched to reduce the burden of these diseases. The programme focuses on improving the national capacity to monitor and evaluate control activities, to support case detection and treatment at all levels of the health system and to promote community participation. Financial support is provided by WHO and the German Pharma Health Fund

### *A Geographic Information Base*

In the integrated approach to disease control, a single, well-managed information system is necessary and cost-effective. It allows statistical analysis relevant to programme planning, re-planning, evaluation and monitoring. The WHO and UNICEF have developed a Joint Programme on Data Management and Mapping for Public Health (HealthMap). It was created initially in 1993, to establish a Geographic Information System (GIS) to aid management and monitoring of the Guinea worm eradication programme. Since 1995, its scope has broadened to cover other diseases such as malaria, trachoma, onchocerciasis, African trypanosomiasis, and monitor drug distribution and vaccination. GIS is a computer aided information system that permits public health administrators at all levels to visualise and analyse multisectoral data within a common geographic context.

Integrated disease surveillance has now been established involving a network of laboratories in Africa and a community-based surveillance system in several countries (Mali, Senegal, Mauritius, Nigeria and others). Information on cases of malaria, measles, polio, and child or maternal mortality are regularly gathered by health workers trained to recognize the diseases. Then, this information is processed at the district, regional and national levels and fed back to communities.

## THE GOVERNMENT PROCEDURE

The integration process starts with the political will and continues at the planning and decision making levels, and should involve all levels. Tropical diseases are influenced by environmental factors. Thus sectors, both public and private, and outside health, such as water resources development, agriculture, education, energy and the environment also need to be involved. A methodology for determining what to integrate and where has emerged from the recent experience with the few selected countries with whom the Division has worked. This process has made sense, has been feasible, and has ensured maximum technical input, with the country maintaining ownership. The steps involved include:

- ◆ Expression by the Ministry of Health of its desire to use an integrated approach
- ◆ Development of a draft plan of action by staff from the Ministry of Health working in close collaboration with WHO
- ◆ Review and subsequent endorsement of that plan by the WHO Country Representative, the Regional Office and by WHO Headquarters
- ◆ Implementation of the plan by the government, with WHO providing technical backstopping and being involved in the programme follow-up and evaluation and subsequent programme adjustment as necessary.

# THE WAY FORWARD

In many developing areas governments are faced with increasing population densities, major health problems, dwindling financial resources and shortages of well-trained personnel. Taking the best of the available resources and putting them to good use, is the obvious choice. This lends itself to a more effective delivery of programmes that cover a broad range of health issues and that aim at reducing the burden of human suffering. There is however no single formula. There is much more to be learnt about the process and practice of integrating, coordinating, or merging programmes and actions to improve the health and welfare of populations.

The evaluation of, and the experiences gained from, the processes that have been started in a few selected countries are expected to provide valuable information on the feasibility, practicality, cost effectiveness and timely delivery of interventions for groups or clusters of health issues. These experiences should provide, guidance on health problems that lend themselves to integrated solutions and, documentation on the various aspects of implementing the programmes. More information about patient and community benefits and a better understanding of best practices is still needed as are evaluation criteria and indicators.

Integrating disease control successfully will require appropriate financing. Investment in health infrastructure development can be expected to be cost effective in the long term, even if it may seem costly in the short term. Like many interventions aiming at greater sustainability of the gains achieved, the short term costs, such as for major public works, are high but the benefits are great.

Ways must be found to focus beyond efficiency of interventions to sustainable outcomes in improved health status, particularly as they relate to communicable diseases. A renewed approach is being advocated, one that requires a thorough review of existing systems, and development of new ones capable of sustaining integrated solutions to health problems. The path forward requires that the approach be holistic and systemic, taking account of all aspects, reviewing all relevant systems, and addressing these, with all stakeholders.

There is sufficient evidence, that integrated disease control works and when well applied, works well. It is better than single disease specific interventions, in that it takes a global and comprehensive approach to health development. It is also in line, with at least the patients' perspective of finding solutions to any or all of their health problems. Several countries have recognised the value in this and have shown a political readiness to change. It is expected that many more are likely to follow suit.

**There is sufficient global experience and evidence, dating back to the immediate post World War II period of reconstruction, that political, administrative and operational integration is the most appropriate approach to an equitable provision of health care. Despite the remarkable improvements in health over the past fifty years, many people in least developed countries today have a life expectancy of less than fifty years, and more than 10 million children will never see their fifth birthday. To the populations in these areas, the burden of ill health, disease and inequality are greatest.**

**An integrated approach may be the way forward in most cases, to provide the much needed health prevention and care for these populations. It can strengthen primary health care systems, and requires that scarce health resources be redistributed, and provides a better chance of achieving sustainable results. The question that each programme manager must ask is how best can this be achieved. Integration means many things to many people. There are many issues and concerns to consider, but also many positive examples of successful integration, to draw upon.**

**This document is based on insights from experiences and raises many questions that need to be answered through a research and development approach. It identifies practical knowledge about integrated control and its benefits. It emphasises on-going programmes coordinated by the World Health Organization and draws on the experience of successful programmes. It incorporates valuable suggestions made by staff of the Division of Control of Tropical Diseases (CTD).**

