

DISEASE PREVENTION AND CONTROL

Issues and Challenges

In the Americas, according to UNAIDS/WHO/PAHO estimates of HIV infections in adults aged 15 to 49 years, one person in 200 was infected with HIV at the turn of the century, which means an HIV prevalence rate of approximately 0.56%. Nearly four times that proportion is estimated to be infected in the Caribbean, where 1.96% of adults in the most sexually active age bracket are thought to be living with HIV. From a global perspective, the Latin American and Caribbean subregions, with 8% of the world population, has approximately 5% of the people living with HIV at the beginning of the 21st century. Approximately 1.3 million people in Latin America and another 360,000 in the Caribbean were estimated to be living with HIV by the end of 2000.

Noncommunicable diseases account for approximately 60% of disability and mortality in the Region of the Americas and injuries an additional 10%. The leading cause of death for both men and women is cardiovascular diseases (CVD), of which the two major specific manifestations are ischaemic heart disease and stroke. Hypertension is a major risk factor for CVD, as are smoking, high fat consumption and physical inactivity. Prevalence of type 2 diabetes ranges from 5%-15%.

In recent years, the countries of the Americas have been reporting approximately 300,000 registered deaths due to external causes. Data differs substantially between countries. Surveys have established that 20%-60% of women in relationships are victims of violence perpetrated by their partners.

Latin America shows some of the highest incidence rates for cervical cancer in the world, second only to those of sub-Saharan Africa. The highest rates are approximately 40 per 100,000 women reported in Peru and Brazil; the lowest are in Canada, a country with a long-standing screening program. Breast and prostate cancer show an increasing trend in most countries of the Americas, whereas stomach cancer is decreasing.

Many communicable endemic diseases are stable or decreasing in the Region such as tuberculosis, leprosy, Chagas, onchocerciasis, filariasis, and rabies, while others are on a continuous increase (STDs, HIV/AIDS, and dengue). The control measures for these diseases have not been equally effective for all sectors of the population; those of higher economic and social status have benefited the most.

Implementation of the Integrated Management of Childhood Illness (IMCI) strategy continues in full force, aiming at the reduction of 100,000 deaths in children below age 5 between 1999 and 2002, particularly in countries with an infant mortality rate of 20 or more per 1,000 live births. Other components of this strategy are also being implemented in countries with IMR below 20.

There has been important progress in tuberculosis control in those countries, which have adopted the DOTS/TAES strategy, which has allowed an increase in case detection and cure. The number of cases of dengue has been on the increase since the second half of the decade of the 1970s, and available information indicates that *Aedes aegypti* is present throughout the Region.

Although it has produced a significant reduction in the death rate and a slight decrease in the number of cases, the Global Strategy for Malaria Control (GSMC) is confronting political and technical obstacles for its further expansion. The Organization has implemented a strategy called "Roll Back Malaria" as a way to improve this situation.

In spite of some advances, emerging and reemerging infectious diseases are a serious threat to the countries in the Americas. In addition, the mutation of some infectious agent has led to the reappearance of new strains of these diseases that are resistant to the drugs traditionally used to treat them. This has become a serious obstacle for the control of infections produced by these microorganisms, particularly in developing countries where there is a lack of laboratories with adequate diagnostic capacity.

Between 1995 and 1999 there were 3,965 outbreaks of food-borne diseases which affected 124, 717 people and caused 212 deaths. These diseases have had a serious negative impact on tourism in the most affected countries.

Several countries in the Region have made major gains in the reduction of human rabies. For the first time—in 1998—the number of cases was less than 100; in 35% of those cases rabies was transmitted by animals other than dogs. Human rabies was eliminated in 19 of the 21 capital cities in Latin America.

An analysis of the present situation of the national programs of control or eradication of bovine tuberculosis and brucellosis was carried out and will be used as a basis for programs of technical cooperation. Equine encephalitis, leptospirosis and parasitic zoonoses are still a serious threat in the Region.

The pace of eradication of foot-and-mouth disease is accelerating. In May 2000, OIE indicated that Argentina, and the states of Rio Grande do Sul and Santa Catarina in Brazil were free from foot-and-mouth disease, as were Chile and Uruguay.

Special areas of interest remain the successful completion of measles eradication; the maintenance of poliomyelitis eradication; and the control of rubella, yellow fever, and hepatitis B, as well as the expansion of existing surveillance systems to obtain epidemiological information on respiratory diseases prevented through vaccination, on pneumonia and bacterial meningitis, and rotavirus infections.

At the same time, progress in the development of new generations of vaccines is proceeding rapidly. These vaccines have the potential of simplifying immunization delivery, improving the performance of existing vaccines, and protecting children against other vaccine-preventable diseases. The introduction of new vaccines, which have been developed with new technologies, will also require that national regulatory authorities and national control laboratories in the Region acquire the appropriate expertise and capabilities to license and release these new products.

The establishment of partnerships in immunization has emerged as an important strategy to secure wider access to vaccines in the Region. A major global partnership has been formed with the establishment of the Global Alliance for Vaccines and Immunization (GAVI), which brings together public and private sector partners that include WHO, the World Bank, UNICEF, the Bill and Melinda Gates Children's Vaccine Program, the Rockefeller Foundation, and the International Federation of Pharmaceutical Manufacturers Associations.

Child health has improved in recent years throughout the Caribbean, and most serious childhood infectious diseases have been eradicated due to the widespread and high levels of immunization achieved. Nevertheless, poverty in the Caribbean adversely affects children in the school-age population, particularly their nutritional level and education performance. Generally, severe malnutrition does not appear to be a public health problem in the Caribbean. However, cases of mild and moderate malnutrition continue to be of concern in a few countries.

Threats to adolescent health include not only teenage pregnancy but also such problems as sexually transmitted infections, HIV/AIDS, alcohol and illegal drug abuse, physical and sexual abuse, homicide, suicide, crime, and violence. School dropout rates have increased and efforts focused on in-school youth do not reach the out-of-school youth.

The increasing proportion of the older adults in Caribbean populations has sparked the realization that systems and programs have to be put in place to assist in the maintenance of their health. However, there is a general lack of specific health policies, plans, and programs older adult care and the development of such policies requires urgent attention so that solutions to these problems may be found.

Chronic, noncommunicable diseases are the main causes of morbidity and mortality. CAREC data indicate that between 1980 and 1990, the leading causes of mortality in all ages in the English-speaking Caribbean were ischaemic heart disease, followed by cerebrovascular disease, diabetes mellitus, other heart diseases, and hypertension. Diabetes and hypertension contribute significantly to heart disease and stroke. Breast and cervical cancers are the leading causes of mortality from cancer in women, and prostate cancer is the leading cause of cancer deaths in men. The incidence and prevalence of asthma is increasing especially among children.

Tuberculosis has recently reemerged as a major public health threat. This has been due to a combination of factors such as poverty, diminished control efforts, the HIV/AIDS epidemic, and the emergence of multiple-drug-resistant strains of the causative agent.

With an estimated 330,000 persons infected with HIV, the Caribbean is the most severely affected subregion in the Western Hemisphere. Governments are beginning to confront the problem of increasing HIV/AIDS infections, especially among females and young children.

Most countries are increasingly concerned about the toll that injuries take on the health of their populations. Intentional injuries (violence) constitute a major health problem, as well unintentional injuries, particularly motor vehicle accidents. Data are needed on the influence of socioeconomic and socio-cultural environments on mental health. Important mental health issues in the Caribbean include development of policies and services, mental health promotion, adequate human resources, and legal issues including patients' rights. Caribbean countries have recognized that prevention and control of substance abuse require a variety of measures to help reduce supply both and demand.

The Response of the Secretariat

The response of the Secretariat is described in the regional projects identified for the following areas:

1. Promotion and coordination of activities for the prevention, control, and elimination of communicable and non-communicable diseases
 - 1.1. AIDS/STD Prevention and Control
 - 1.2. Integrated Surveillance, Prevention and Management of NCDs
 - 1.3. Cancer Prevention and Control
 - 1.4. Injury Prevention (Intentional and Unintentional)
 - 1.5. Disease Elimination
 - 1.6. Surveillance, Prevention and Control of Emerging Infectious Diseases
 - 1.7. Integrated Management of Childhood Illness (IMCI)
 - 1.8. Tropical Diseases Control
 - 1.9. Food Protection
 - 1.10. Zoonoses, Foot-and-Mouth Disease, and Biomedical Models
2. Promotion and coordination of activities aimed at improving criteria for the adoption of policies governing immunization programs:
 - 2.1. Expanded Program on Immunization
 - 2.2. Vaccine Technology Access
3. Strengthen national capacities to prevent outbreaks, and expand eradication of foot-and-mouth disease:

- 3.1. Foot-and-Mouth Disease
- 3.2. Zoonoses
- 3.3. Laboratory Services
4. Disease Surveillance and Evaluation of the health status of the population in the Caribbean:
 - 4.1 Epidemiological Surveillance and Response, Disease Control, and Biostatistical Support
 - 4.2. Prevention and Control of Vector-borne Diseases (VBD's)
 - 4.3 Prevention and Control of emerging and re-emerging infectious diseases
 - 4.4 Laboratory Operations in Support of Disease Surveillance, Prevention, and Control
 - 4.5 Prevention and Control of HIV/AIDS/STI
 - 4.6 Food and Water Borne Diseases
 - 4.7 Laboratory Strengthening/Quality Assurance Program
 - 4.8 Travel and Health Program
 - 4.9 Chronic Noncommunicable Diseases and Unintentional Injury
5. Strengthen national capacities to develop programs of food protection
 - 5.1. Epidemiological Surveillance of Foodborne Diseases
 - 5.2. Food Inspection Systems
 - 5.3. Institutional Organization and Regulation in the Area of Food Safety
 - 5.4. Reference Services for Food Contaminants
 - 5.5. Education and Communication

PROJECTS

1. Promotion and Coordination of Activities for the Prevention, Control, and Elimination of Communicable and Non-Communicable Diseases:

1.1 AIDS/STD Prevention and Control

Purpose	Indicators
Technical and managerial capacity to face HIV/AIDS/STD improved.	<ul style="list-style-type: none"> • The countries in the Region have the capacity to prevent HIV and ST infections, provide access to appropriate and equitable care for those in need.
Expected Results	Indicators
Plans and projects for the prevention and control of HIV/AIDS/STD prepared.	<ul style="list-style-type: none"> • At least 8 countries will have developed multisectoral projects; • 300% increased in TCC projects number.
Evidence-based strategies and models of HIV/AIDS/STI preventive interventions developed.	<ul style="list-style-type: none"> • 3 countries will have developed feasible and effective prevention strategies.
Comprehensive care policies and strategies established.	<ul style="list-style-type: none"> • “Building Blocks” policy-making model used in 3 countries; • Policies and strategies on care for PLHAs established in five countries
Cost-effective, second-generation HIV/AIDS/STI surveillance strategies disseminated.	<ul style="list-style-type: none"> • Timely information and analysis of results will have been disseminated.

The use of WHO's STD.PAC strategy strengthen national sexually transmitted infections control activities.

- WHO's STD.PAC strategy will have been adopted in 5 countries.

1.2 Integrated Surveillance, Prevention, and Management of NCD's

Purpose	Indicators
Member States reduce exposure to risk factors of non-communicable diseases (NCD's), and provide quality care in a cost-effective manner.	<ul style="list-style-type: none"> • Plans and programs developed in at least 10 countries. • At least 5 country strategies evaluated.
Expected Results	Indicators
Advocacy and resource mobilization carried out to strengthen NCD and injury prevention and control.	<ul style="list-style-type: none"> • Financial support provided in at least 12 countries.
Integrated community based prevention programs evaluated and incorporated in Pan American network.	<ul style="list-style-type: none"> • CARMEN national programs expanded to at least 12 countries.
Risk factors surveillance systems established.	<ul style="list-style-type: none"> • At least 5 countries are disseminating information from risk factor surveillance system.
Evidence-based management of priority NCD established.	<ul style="list-style-type: none"> • At least 3 countries with management guidelines developed.

1.3 Cancer Prevention and Control

Purpose	Indicators
Incidence of neoplasms of major public health importance reduced.	<ul style="list-style-type: none"> • Member States adopt feasible and cost-effective strategies for the prevention and control.
Expected Results	Indicators
Potential impact on the reduction of cervical cancer incidence and mortality demonstrated.	<ul style="list-style-type: none"> • 30% potential averted cervical cases in demonstration areas.
National cancer programs that target undeserved and at-risk population groups initiated.	<ul style="list-style-type: none"> • National cancer control plans developed in at least 2 countries.

1.4 Injury Prevention (Intentional and Unintentional)

Purpose	Indicators
The countries of Latin America and the Caribbean reduce intentional and unintentional injuries.	<ul style="list-style-type: none"> • Intentional and unintentional injuries' rates reduced by 15%.

Expected Results	Indicators
Comprehensive policies on intentional and unintentional injury prevention have been established.	<ul style="list-style-type: none"> • Policy for injury prevention established in at least 10 countries.

1.5 Disease Elimination

Purpose	Indicators
Chagas disease, leprosy, lymphatic filariasis, and onchocerciasis will have been eliminated as a public health problem in the Region.	<ul style="list-style-type: none"> • The countries of the Southern Cone eradicate <i>Triatoma infestans</i>. • Vector-borne transmission of <i>T. cruzi</i> is interrupted in other countries. • Leprosy, lymphatic filariasis, and onchocerciasis are eliminated.

Expected Results	Indicators
Activities of vector-borne transmission control promoted and periodically evaluated	<ul style="list-style-type: none"> • Vector-borne transmission of <i>T. cruzi</i> interruption evaluated CHI, URU, ARG and BRA.
Activities of transfusion transmission control of <i>T. cruzi</i> promoted and periodically evaluated	<ul style="list-style-type: none"> • Transfusion transmission of <i>T. cruzi</i> interruption evaluated in Bolivia.
Activities of elimination of diseases promoted and periodically evaluated	<ul style="list-style-type: none"> • Program for treatment of onchocerciasis with Ivermectin evaluated in the endemic countries. • Program for treatment of lymphatic filariasis developed in the seven endemic countries, using any of the three treatment regimens recommended by WHO.

1.6 Surveillance, Prevention, and Control of Emerging Infectious Diseases

Purpose	Indicators
The surveillance systems of the countries respond timely in controlling communicable diseases and rapidly detecting outbreaks or epidemics.	<ul style="list-style-type: none"> • All countries have adequate policies and programs to prevent, detect and control communicable diseases.

Expected Results	Indicators
Regional networks for surveillance of emerging infectious diseases (EIDs) and antibiotic resistance established.	<ul style="list-style-type: none"> • 60% of the countries with IMR over 40/1000 will monitor antibiotic resistance.
Regional surveillance system for monitoring EID trends established.	<ul style="list-style-type: none"> • An electronic platform to support the surveillance network will be available in 90% of the countries of more than 1 million people.

DOTS strategy promoted in all countries with national TB control programs.	• DOTS coverage and implementation evaluated in 23 countries with national TB control programs.
Resistance to tuberculosis drugs monitored	• TB drug resistance studied in 8 countries with national TB control programs.

1.7 Integrated Management of Childhood Illness (IMCI)

Purpose	Indicators
The infant mortality rate (IMR) is reduced 20% among the most vulnerable populations of the Region of the Americas.	<ul style="list-style-type: none"> • The IMR is under 40/1000 in 10 within the 12 priority countries. • The IMR is under 20/1000 in 8 countries.
Expected Results	Indicators
IMCI strategy activities extended.	<ul style="list-style-type: none"> • 19 countries provided with political and technical information. • Various levels of technical personnel responsible for child health trained in IMCI.
Community component of IMCI strengthened.	<ul style="list-style-type: none"> • Community component promoted at the local level by 5 countries in coordination with NGO's.
Evaluation system established	<ul style="list-style-type: none"> • Information system established in priority countries for monitoring and evaluation of IMCI activities at the national and community levels; • 10 countries will have been evaluated.

1.8 Tropical Disease Control

Purpose	Indicators
The incidence and the social harm caused by malaria, dengue, visceral leishmaniasis, and intestinal helminthiasis are reduced in the Region of the Americas.	<ul style="list-style-type: none"> • The risk of transmission areas and the endemic focus will have been drastically reduced.
Expected Results	Indicators
New technical and political approach and partnership strategy for the malaria control promoted.	<ul style="list-style-type: none"> • Roll Back Malaria initiative adopted by the poorest 9 countries of the 21 that report cases of malaria. • Research projects in antimalarial drug resistance designed and supported by WHO/PAHO.
Integrated strategy for dengue control disseminated.	<ul style="list-style-type: none"> • 10 countries utilizing a new technical set of control tools. • Dengue control plans designed in 10 countries.

Conditions for implementation of an integrated approach to control of intestinal helminthiasis with the elimination of lymphatic filariasis created.

- Essential and adequate interagency alliances locally formalized.

1.9 Food Protection

Purpose	Indicators
The member countries are able to prevent and control food borne diseases (FBDs).	<ul style="list-style-type: none"> • Technical and managerial capacity for surveillance and control improved in at least 75% of the countries.
Expected Results	Indicators
Integrated food protection programs and harmonization of legislation promoted.	<ul style="list-style-type: none"> • At least half of PAHO members will have their programs and legislation updated and harmonized.
Science-based inspection systems promoted.	<ul style="list-style-type: none"> • System models and protocols of risk analysis adjusted to the countries reality.
National food protection reference laboratories strengthened.	<ul style="list-style-type: none"> • At least 90% of the countries integrated to the Inter-American Food Protection Laboratories.
Strategic programs and plans of action for education, consumer protection, and social participation in food protection promoted.	<ul style="list-style-type: none"> • Specific programs, plans and manuals prepared and distributed.

1.10 Zoonoses, Foot-and-Mouth Disease, and Biomedical Models

Purpose	Indicators
Zoonoses of importance for public health and livestock production eliminated or eradicated.	<ul style="list-style-type: none"> • The member countries are able to prevent, control, and eliminate or eradicate zoonoses, including foot-and-mouth disease.
Expected Results	Indicators
Elimination of human rabies transmitted by dogs promoted	<ul style="list-style-type: none"> • Technical and material support provided to the countries for vaccination campaigns and surveillance.
Conditions to eradicate and maintain the eradication of foot-and-mouth disease created.	<ul style="list-style-type: none"> • Foot-and-mouth disease prevention and eradication politically supported through RIMSA XII, COHEFA VIII, and COSALFA. • Action plans designed.
Veterinary public health services strengthened and national technical mandates developed.	<ul style="list-style-type: none"> • Municipal level services structured and supported in 10 countries. • Sub-regional reference services of laboratory supported.

Public health instruction in the schools of veterinary medicine promoted. • Technical support provided to the concerned authorities.

The total regular budget funds in the area of prevention, control and elimination of communicable and non-communicable diseases are: \$ 12,769.6

2. Promotion and Coordination of Activities Aimed at Improving Criteria for the Adoption of Policies Governing Immunization Programs

2.1 Expanded Program on Immunization

Purpose	Indicators
Member States deliver equitable vaccination programs ensuring quality, and introduce in a sustainable manner new vaccines in routine immunization programs for the control and/or eradication of vaccine-preventable diseases.	<ul style="list-style-type: none"> At least 70% of the municipalities should achieve more than 95% of vaccination coverage with DPT3 or pentavalent3.
Expected Results	Indicators
Plans and policies for the sustainable delivery of immunization programs developed with countries.	<ul style="list-style-type: none"> All countries have developed plans of action.
Methods, models and technologies provided.	<ul style="list-style-type: none"> All countries have received methods, models and technologies to strengthen quality and effective delivery of immunization programs: vaccination safety, and maintenance of the cold chain.
Epidemiological surveillance systems for vaccine-preventable diseases improved.	<ul style="list-style-type: none"> At least 85% of the countries have received training and supervisory visit. All high risk countries received financial support for surveillance.
Timely and effective procurement of vaccines through the PAHO Revolving Fund	<ul style="list-style-type: none"> All countries received the vaccines each quarter as requested.

2.2 Vaccine Technology Access

Purpose	Indicators
The countries use quality vaccines, are prepared to incorporate new vaccines into their programs and collaborate in the development of vaccines of regional public health importance.	<ul style="list-style-type: none"> At least 95% of the vaccine used in the immunization programs are of assured quality. One or two intercountry project for vaccine development in place

Expected Results	Indicators
Standards and guidelines for national regulatory authorities (NRA).	<ul style="list-style-type: none"> • Guidelines to implement six basic regulatory functions for vaccines are available. • Guidelines promoted in all countries.
International standards and Good Manufacturing Practices for vaccine production.	<ul style="list-style-type: none"> • Advocate for the implementation of international standards by local vaccine producers.
Cooperation networks and alliances of research groups and local vaccine manufacturers for the joint development of vaccines.	<ul style="list-style-type: none"> • At least one alliance between two or more countries for the development of a vaccine of regional public health priority.
Training programs in areas related to vaccine production, and vaccine research and development completed.	<ul style="list-style-type: none"> • Training programs include regional and subregional workshops, individual residences and rotations, covering at least one or two countries of each subregion of the Americas.
Epidemiological surveillance systems developed, and research and evaluation studies conducted to support introduction of new vaccines.	<ul style="list-style-type: none"> • Regional surveillance system for bacterial meningitis and pneumonia and rotavirus disease in place. • Cost-effectiveness studies to evaluate benefits of pneumococcal and rotavirus vaccine implemented.

The total regular budget funds in the area of coordination of immunization program are:
\$ 2,988.2

3. Strengthen National Capacities to Prevent Outbreaks, and Expand Eradication of Foot-and-Mouth Disease

3. 1 Foot-and-Mouth Disease

Purpose	Indicators
The member countries achieve and maintain international recognition as areas free of foot-and-mouth disease.	<ul style="list-style-type: none"> • All countries will have been formally recognized through an OIE resolution.

Expected Results	Indicators
Structures for primary and secondary prevention of foot-and-mouth disease evaluated.	<ul style="list-style-type: none"> • 4 national programs evaluated in a currently disease free sub region. • 2 sub regional programs evaluated
Personnel prepared to manage foci of foot-and-mouth disease and respond to health emergencies.	<ul style="list-style-type: none"> • Training programs offered to the Andean and South Cone countries.
Absence of viral activity demonstrated in countries which foot-and-mouth disease is clinically absent.	<ul style="list-style-type: none"> • Methods and techniques for demonstrating of absence of viral activity provided to the countries.
Networks for cooperation among countries promoted.	Will have been held the COSALFA annual meetings as well as joint activities with the affected countries.

The performance of national and regional systems of epidemiological surveillance and information strengthened	• At least two national or regional systems evaluated.
Training provided in epidemiological analysis use of the information.	• 6 national units trained.

3.2 Zoonoses

Purpose	Indicators
Zoonotic diseases with the potential to affect the health and economy of the countries eliminated.	• Health policies geared toward the elimination and eradication of zoonotic diseases effectively implemented in all countries.
Expected Results	Indicators
Information on the epidemiological situation throughout the Region disseminated.	• Information bulletins published and distributed.
Standards to prevent and control brucellosis and tuberculosis developed.	• Guideline published.
Training offered in epidemiological surveillance and control	• Human resources trained in at least 14 countries.
National programs of brucellosis and tuberculosis control directly supported.	• Guidelines prepared and promoted in four countries.
Support and advisory services provided to canine rabies control and elimination.	• Information and epidemiological surveillance systems revised and updated; • Diagnostic capabilities and quality control of rabies vaccines improved.
The quality of medical care for persons at risk and persons exposed to the rabies virus improved, and the quality of rabies prophylactic treatments in the countries of the Region enhanced.	• Guidelines for human protection against the risk and prophylactic treatment published.

3.3. Laboratory Services

Purpose	Indicators
The countries optimize their reference diagnostic capabilities in endemic, emerging or reemerging diseases with potential impact on public health or national economies.	• At least 70% of the countries carry out diagnostic capabilities based on new methodological approach.
Expected Results	Indicators
Specialized advisory services and material support provided for national and regional programs of control and eradication of zoonoses, vesicular disease and foot-and-mouth disease.	• Manuals published with standards to assure diagnostic quality. • Diagnostic tools for characterization of the epidemiological situation, risk, and endemism developed and internationally validated.

- Procedures of vaccines control for brucellosis established.
- Reagents produced, standardized and provide to the countries;
- Methods developed for estimating the quality and potency of immunogens for vesicular and zoonotic diseases.

The total regular budget funds in the area of foot-and-mouth disease are:
\$ 8,730.4

4. Disease Surveillance and Evaluation of the Health Status of the Population in the Caribbean

4.1 Epidemiological Surveillance and Response, Disease Control, and Biostatistical Support

Purpose	Indicators
Effective public health action and decision-making is strengthened in CAREC member countries (CMC).	<ul style="list-style-type: none"> • The capacity to provide and utilize quality epidemiological surveillance data and information is enhanced.
Expected Results	Indicators
Biostatistical support function strengthened.	<ul style="list-style-type: none"> • Analysis and interpretation of epidemiologic surveillance data and information provided.
Human Resource Development at the CMC and CAREC levels will have been skilled.	<ul style="list-style-type: none"> • CMC and CAREC personnel will have participated in epidemiologic surveillance, analysis, and policy development and implementation training.
New and existing surveillance initiatives and information systems developed, implemented, maintained and evaluated.	<ul style="list-style-type: none"> • Existing systems evaluated. • Internet based drug abuse surveillance developed.
Capacity for management, prevention, and control of mycobacterial diseases strengthened.	<ul style="list-style-type: none"> • Policy statements for the MoH developed, strategic plans designed and action protocols prepared.

4.2. Prevention and Control of Vector-borne Diseases (VBD's)

Purpose	Indicators
CMC will be strengthened in their fight against vector-borne diseases.	<ul style="list-style-type: none"> VBD's generally reduced, especially malaria, dengue and lymphatic filariasis (LF).
Expected Results	Indicators
CMC cooperation network and essential alliances established for the LF elimination and malaria reduction from Guyana and Suriname.	<ul style="list-style-type: none"> Plans and norms developed and shared with CMC for the LF elimination and malaria and dengue reduction.

4.3 Prevention and Control of Emerging and re-Emerging Infectious Diseases

Purpose	Indicators
CMC capacity to carry out surveillance, prevention and control programs strengthened.	<ul style="list-style-type: none"> Tuberculosis, vector and rodent borne diseases, rabies, antimicrobial resistance and unexplained deaths effectively faced.
Expected Results	Indicators
Capacity and infrastructure for epidemiologic surveillance are strengthened.	<ul style="list-style-type: none"> At least 5 countries use syndromic based surveillance for early detection of EID.
Human and financial resources mobilized to support prevention and control of EID.	<ul style="list-style-type: none"> At least two proposals submitted.

4.4 Laboratory Operations in Support of Disease Surveillance, Prevention, and Control

Purpose	Indicators
CMC capacity to provide laboratory support for disease surveillance, prevention and control programs strengthened.	<ul style="list-style-type: none"> At least 75% of CMC have laboratory data in-country. All CMC have access to effective and timely laboratory diagnosis.
Expected Results	Indicators
Sub regional and national networks for laboratory surveillance strengthened.	<ul style="list-style-type: none"> Guidelines developed, disseminated and promoted.
Guidance provided for introduction of appropriate laboratory information systems.	<ul style="list-style-type: none"> At least 3 software packages evaluated and report disseminated; Pilot implementation of selected software in held in 3 countries.
Standards, guidelines, and policies for laboratory operations developed and disseminated.	<ul style="list-style-type: none"> Guidelines developed to support at least 6 CCH II priority diseases.
Continued evaluation of methods and technology of CMC laboratories.	<ul style="list-style-type: none"> Evaluation report disseminated at least once per year.

Projects and programs developed for introducing and sustaining new initiatives	• At least 2 proposals developed and submitted for funding.
Direct support provided for reference and referral laboratory testing.	• At least 80% of requests for laboratory reference services provided.

4.5 Prevention and Control of HIV/AIDS/STI

Purpose	Indicators
The CMC capacity to manage and sustain programs for prevention and control of HIV/AIDS/STIs and care of persons living with HIV/AIDS is increased.	<ul style="list-style-type: none"> • At least 60% of syphilis positive pregnant women seeking antenatal care and 60% of their sexual partners adequately treated. • Report condom use is 60% increased among 15-49 years.
Expected Results	Indicators
Health information, surveillance systems, and research capabilities enhanced.	• A minimum of two national research projects developed in 10 countries.
Capacity of decision-makers strengthened to policy formulation, planning, implementation, and evaluation of HIV/AIDS programs.	• At least 10 national work plans developed using the expanded response approach to build alliances and mobilize communities.

4.6 Food and Water Borne Diseases

Purpose	Indicators
The CMC food safety programs are strengthened.	• 5 countries have established inter ministerial national committees.
Expected Results	Indicators
Development and implementation of programs supported.	• Surveillance and control systems of food borne diseases developed in 10 countries.
Research on emerging food and water borne illnesses supported.	• At least one multi country research program completed.

4.7 Laboratory Strengthening/Quality Assurance Program

Purpose	Indicators
Improved management of, and coordination between, public and private laboratories in the CARIFORUM region leads to increased availability of high quality laboratory information.	<ul style="list-style-type: none"> • Error in lab data reduced. • Client surveys demonstrate 50% increase client satisfaction.

Expected Results	Indicators
Regional medical laboratory standards, accreditation mechanisms, national legislation and registration schemes supported.	<ul style="list-style-type: none"> • Regional registration and accreditation model developed. • Regional accreditation and monitoring body operational.
Training capacity national and regional levels in the field of medical laboratory QA enhanced.	<ul style="list-style-type: none"> • 30 lab technologists prepared to conduct QA training.

4.8 Travel and Health Program

Purpose	Indicators
The quality and competitiveness of the Caribbean tourism industry improved through the establishment of environmental health and resource conservation standards and certification system.	<ul style="list-style-type: none"> • All required components in place for successful implementation of standards based systems and registration.
Expected Results	Indicators
Ill-health monitoring system developed and implemented	<ul style="list-style-type: none"> • Ill health monitoring system disseminated to 90 hotels.
Training program for public and private sector environmental health and resource management auditors developed and implemented	<ul style="list-style-type: none"> • Public and private sectors officials trained to conduct audits at participating hotels.
A communications strategy developed including advocacy and marketing	<ul style="list-style-type: none"> • Action plans developed.
Evaluation plan and long-term strategy developed.	<ul style="list-style-type: none"> • Strategic plan for broader implementation and long-term sustainability designed.

4.9 Chronic Noncommunicable Diseases and Unintentional Injury

Purpose	Indicators
Mortality, morbidity, and disability caused by selected chronic noncommunicable diseases (CNCDs) and unintentional injuries reduced in CMC.	<ul style="list-style-type: none"> • At least 12 CMC are engaged in some form of CNCD and injury surveillance.
Expected Results	Indicators
Strengthened communication and alliances between stakeholders involved in CNCD and injury surveillance, prevention and control	<ul style="list-style-type: none"> • Regional multisectorial network of producers and consumers of surveillance data established.
Surveillance of selected CNCDs maintained	<ul style="list-style-type: none"> • BRFS extended to 8 additional CMC.
A surveillance system established to monitor the existence, enforcement, and impact of legislation and/or regulations pertaining to CNCD and injury	<ul style="list-style-type: none"> • Data routinely collected from 6 CMC.

The capacity of CMC to collect and interpret behavioral risk factor data to be enhanced • Personnel responsible for CNCD and injury surveillance trained in 8 CMC.

The total regular budget funds in the area of disease surveillance and evaluation in the Caribbean are: \$ 1,384.0

5. Strengthen National Capacities to Develop Programs of Food Protection

5.1 Epidemiological Surveillance of Foodborne Diseases

Purpose	Indicators
The risk of food borne diseases is reduced	<ul style="list-style-type: none"> The countries' capacity to efficiently perform epidemiological surveillance of food borne diseases is strengthened at the local level.
Expected Results	Indicators
Development of active surveillance in a local system for two diseases	<ul style="list-style-type: none"> 10 countries with local active surveillance system developed.
Programs for training medical and paramedical personnel and those responsible for food safety programs offered.	<ul style="list-style-type: none"> 80% of target personnel trained in the 10 countries with active surveillance systems.

5.2 Food Inspection Systems

Purpose	Indicators
The countries implement the use of modern approaches to food inspection to support FBD prevention and control activities.	<ul style="list-style-type: none"> Modern approaches incorporated to the legislation related to food inspection in 15 countries.
Expected Results	Indicators
INPPAZ established as a center for training of trainers in the Region	<ul style="list-style-type: none"> At least 2 recognized trainers in each country.
Advisory services provided to assist the countries in incorporating modern approaches to inspection into their legislation.	<ul style="list-style-type: none"> New legislation proposals developed in 15 countries.

5.3 Institutional Organization and Regulation in the Area of Food Safety

Purpose	Indicators
The countries have a new institutional organization and international standards of food safety legislation.	<ul style="list-style-type: none"> • National food safety policies formulated and national legislation reviewed in this area.
Expected Results	Indicators
Advisory services provided to the countries on participation in the work of the Codex Alimentarius committees and on the incorporation of Codex standards into their national legislation.	<ul style="list-style-type: none"> • 100% of the European Union and Codex Alimentarius legislation on food available in full-text and electronic format; • The virtual library on food safety fully operational and totally integrated into the Virtual Health Library.
80% of the Spanish-speaking countries and 50% of the English-speaking countries of the Region completely integrated into the regional project on food legislation.	<ul style="list-style-type: none"> • The Virtual Library on Food Safety fully operational and totally integrated into the Virtual Health Library.

5.4 Reference Services for Food Contaminants

Purpose	Indicators
The countries' capacity to identify and analyze the main chemical and microbiological contaminants agents is strengthened.	<ul style="list-style-type: none"> • National reference centers for analysis of food contaminants, with laboratory quality assurance programs, are established.
Expected Results	Indicators
National laboratory networks operating in the countries.	<ul style="list-style-type: none"> • Consortium of laboratories of excellence established.

5.5 Education and Communication

Purpose	Indicators
The countries develop education programs utilizing mass communication techniques.	<ul style="list-style-type: none"> • Community involvement in bringing about behavior change with regard to safe food handling practices is strengthened.
Expected Results	Indicators
Regional educational strategies utilizing mass communication techniques developed.	<ul style="list-style-type: none"> • TV campaigns prepared and disseminated. • Educational materials prepared and disseminated.

National policies on community participation in safe food handling practices promoted. • Educational programs designed.

The total regular budget funds in the area of food protection are:
\$ 2,924.6

DISEASE PREVENTION AND CONTROL PROGRAM BUDGET DISTRIBUTION BY ORGANIZATIONAL LEVEL				
Organizational Level	Regular Budget		Other Sources	
	2000-2001	2002-2003	2000-2001	2002-2003
Country Programs	14,119.7	12,933.1	20,369.2	3,289.3
Intercountry Programs	28,045.5	28,796.8	29,711.8	11,185.9
Total	42,165.2	41,729.9	50,081.0	14,475.2