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**REPORT OF THE PROGRAM ON VETERINARY PUBLIC HEALTH  
ON COMPLIANCE WITH THE STRATEGIC AND PROGRAMMATIC  
ORIENTATIONS OF THE PAN AMERICAN HEALTH ORGANIZATION,  
1995-1998**

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## **1. Public Health and the Concept of Veterinary Public Health**

### **1.1 *The Case for Veterinary Public Health***

"The biological adventurousness of infectious diseases," wrote Dr. James H. Steele, former Assistant Surgeon General, US Public Health Service, in the first WHO Expert Committee Report on Zoonoses in 1959, "is exceeded only by the insatiable adventuresomeness of human beings. The struggle of the infectious diseases of lower forms of life to adapt themselves to more highly developed hosts is unending. As these disease agents insure their continued existence by adapting themselves to a broader host spectrum, they become a greater threat to human well being. Man, in his most tenuous position on this earth, has been able to protect himself from this biological onslaught by his skills in developing preventive medical methods that are the foundation of our present public health practice."

The case for zoonoses and other communicable diseases common to humans and animals, and food protection provided the bases for the inclusion of Veterinary Public Health as one of WHO's original programs. "Veterinary Public Health," according to the WHO definition, "is a component of public health activities devoted to the application of professional veterinary skills, knowledge and resources to the protection and improvement of human health."

The WHO Constitution, adopted in 1946, declares that "health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity." At the Thirtieth World Health Assembly in 1977, it was decided that the principal social goal of Member States and the Organization at the threshold of the 21st Century should be the "attainment by all the peoples of the world of a level of health that will permit them to lead socially and economically productive lives." The key to achieving this goal is through primary health care, as expressed in the Declaration of Alma-Ata in 1978.

Primary health care recognizes that providing "health for all" cannot be achieved by the health sector alone. It requires the involvement and coordinated efforts of all related sectors and aspects of national and community development, in particular agriculture, animal husbandry, food industry, education, housing, public works, communications, and other sectors, that contribute to health and whose object is human development.

There are four central strategies that make primary health care operational: intersectoral collaboration, technical cooperation among countries, appropriate

technology, and community participation. In its multiple interactions, veterinary public health programs employ these strategies, particularly the intersectoral collaboration between health and agriculture.

Primary health care has strengthened the conceptual underpinnings of veterinary public health as a program component of public health activities.

The Pan American Health Organization and its Member States have long recognized that animal and human health are inextricably linked. This intimate relationship stems from the toll those zoonoses and foodborne diseases exact in terms of human health, and human dependence on animals for food and nutrition, socioeconomic development, and companionship.

For the past 50 years, veterinary public health has had a sustained and steady development as part of the PAHO program of technical cooperation in health, responding dynamically to the needs of its Member States to protect, promote, and improve the health and well-being of their populations. This has been successfully achieved by ensuring intersectoral action between health and agriculture through strategic mobilization of functions and resources related to zoonoses control and food protection, which exist in both sectors albeit dispersed and separate.

In his installation as Director of PAHO in 1995, Dr. George A. O. Alleyne succinctly expressed that “These concepts of the relationships of health must be brought down to practical means of promoting intersectoral action for health.” He expressed confidence that “this can be done – it has been done! Towards the end of the last century there were countless examples of the appreciation that there were many factors outside the traditional medical sector that affected health.” He visualized “the cresting of another wave of concern for addressing the health of the public through measures that are wide ranging and essentially social. Our task is to seek ways of so institutionalizing this concern that the wave not just break and spend itself uselessly.” The spheres of action of the PAHO Program of Veterinary Public Health have institutionalized this wide range and essentially social concern for addressing public health.

## **1.2 *Spheres of Action of the PAHO Veterinary Public Health Program***

Within the framework of Primary Health Care, the spheres of action of the PAHO Veterinary Public Health Program include:

- The promotion of animal health to boost production and productivity and ensure the adequate supply of animal protein essential for human nutrition and for the social and economic development of livestock-producing countries with export potential.

- The protection of the human food supply to ensure safety and quality, thereby preventing foodborne diseases and promoting trade.
- The surveillance, prevention and control of zoonoses and communicable diseases common to man and animals that are responsible for extensive morbidity, disabilities and mortality in vulnerable human populations.
- The protection of the environment by eliminating potential risks to public health from urban animals and pets, concentrated livestock production, the use of antibiotics in animal food production, and rodents and other animal reservoirs of human diseases.
- The care and development of animal models for the study of human diseases, conservation and reproduction of endangered animal species for rational use in biomedical research, and the continued search for *in vitro* model alternatives for biomedical research.
- The strengthening of training and education in veterinary preventive medicine and public health.

The spheres of action of the Veterinary Public Health Program outside the traditional medical sector provide the vital continuum for intersectoral action between agriculture and health which converge towards disease prevention, health promotion and human wellbeing, the foundations of human development and social and economic growth of nations.

## **2. Historical Development within PAHO**

The historical origins of the PAHO Veterinary Public Health Program stemmed from the problem of foot-and-mouth disease in the Americas, especially its introduction into Mexico in 1946, which took eight years to eradicate and involved the destruction of millions of cattle. This sensitized the countries of the Region to recognize the diseases's economic and social importance and the need for a structured program for its control and eventual eradication. This initiative was lead by the Governments of Colombia and the United States of America.

In 1950, at the request of the Organization of American States (OAS), PAHO, in collaboration with the Inter-American Institute for Cooperation in Agriculture (IICA), presented a proposal for the establishment of a Pan American center specialized in foot-and-mouth disease. Its creation was approved by the Inter-American Economic and

Social Council (CIES) and by the 12th Pan American Sanitary Conference held in the Dominican Republic in 1950. The Pan American Foot-and-Mouth Disease Center (PANAFTOSA) was established in Rio de Janeiro through an agreement between PAHO and the Government of Brazil and started activities in 1951.

In 1966, a study requested by OAS was presented to the IX Meeting of the Inter-American Committee for the Alliance for Progress proposing to establish a funding scheme for PANAFTOSA. The Ministers of Agriculture confirmed their decision to pay their corresponding quotas based on the OAS scale to provide the necessary funding to PANAFTOSA, which was made a regular program of PAHO. PANAFTOSA was the first of the PAHO network of Pan American Centers.

Recognizing the problem of rabies and hydatidosis, the Government of Argentina proposed the creation of the Pan American Zoonoses Center (CEPANZO) during the III Extra-Ordinary Session of the CIES held in Caracas, Venezuela, in February 1953. PAHO prepared the project proposal on the offer made by Argentina. In 1955, the OAS designated PAHO as the responsible agency and CEPANZO initiated its activities in the City of Azul, Province of Buenos Aires, on 19 August 1956 with joint funding from the United Nations Technical Assistance (now UNDP), PAHO/WHO, and the Government of Argentina.

CEPANZO was disestablished on 30 April 1991 and the Pan American Institute for Food Protection and Zoonoses (INPPAZ) was created in Buenos Aires, Argentina on 15 November of the same year. While PANAFTOSA is the oldest, INPPAZ is the newest of the network of eight Pan American specialized centers.

The 17th Meeting of the Directing Council of PAHO held in Trinidad and Tobago in 1967 adopted Resolution CD17.R19 which mandated the Director of PAHO to convene an annual meeting of Ministers of Agriculture “to review the program and budget of the Centers.” In 1968, the Director of PAHO convened the first Inter-American Meeting, at the Ministerial Level, for the Control of Foot-and Mouth Disease and Zoonoses (RICAZ), which was held in Washington, D.C. Twelve annual RICAZ meetings were held up to 1979.

In 1979, the RICAZ XII Meeting held in Curacao, Netherlands Antilles, approved Resolution XII changing its name to Inter-American Meeting, at the Ministerial Level, on Animal Health (RIMSA). It reiterated that RIMSA meetings would continue to be governed as in the past by the Rules of Procedure of the PAHO Directing Council and that the agenda of the meeting would be prepared in accordance with the suggestions and recommendations of the Ministers of Agriculture. RIMSA I was held in Washington,

D.C. in 1980 and thereafter every two years, in its broader participation by the Ministers of Health of Member States. RIMSA is the only official forum for active intersectoral collaboration between agriculture and health at the highest political level and is unique to the Americas.

Veterinary Public Health in PAHO evolved from concept to program. Its organizational structure as a technical unit at the PAHO Headquarters and its name changed from the Division of Animal and Human Health in the 1970's to Special Program in Animal Health directly under the Director of PAHO in 1980. In 1983, in compliance to Resolution CE84.R21, the name was changed to "Veterinary Public Health." which the PAHO Directing Council suggested "to be a more appropriate title than animal health in describing the overall PAHO program in this field."

### **3. Operational Structure of the PAHO Veterinary Public Health Program**

#### **3.1 *Administrative and Functional Organization***

The PAHO Veterinary Public Health Program (HCV) and its two specialized Pan American centers (PANAFTOSA and INPPAZ) are part of the Division of Disease Prevention and Control (HCP).

Administratively, the Division Director (D/HCP) provides direct supervision to the Program Coordinator (PC/HCV) at the Headquarters in Washington, D.C., the Director of PANAFTOSA (D/PANAFTOSA) in Rio de Janeiro, Brazil, and the Director of INPPAZ (D/INPPAZ) in Buenos Aires, Argentina.

In accordance with the policy of the PAHO Directing Council on the Pan American centers, INPPAZ and PANAFTOSA are fully integrated into the Veterinary Public Health Program in the delivery of technical cooperation. Thus, according to Dr. Alleyne, "the total resources deployed in the technical field under the responsibility of the Regional Program include those administered directly from Headquarters, those in the centers and inter-country resources."

The functional organization of the Veterinary Public Health Program ensures the concerted and coordinated action of the different program resources and infrastructure at the specialized centers and the staff at the regional and country levels. The coordination facilitates the strategic mobilization and management of the expertise and technical resources distributed and scattered throughout the program. Since PAHO is an international organization for technical cooperation and not a funding agency, the work of

the Veterinary Public Health Program depends on the effective delivery of technical cooperation and its impact on national programs.

In an effort to classify and systematize its activities, PAHO set forth taxonomy of the term “technical cooperation.” The aim is not to describe new activities but to facilitate their execution and evaluation. It has classified “technical cooperation” into six strategic approaches: (i) resource mobilization; (ii) dissemination of information; (iii) training; (iv) development of norms, policies and plans; (v) research promotion; and (vi) direct technical consultancy.

The integration of program activities is the result of a deliberate process of harmonization and coordination of the planning, programming and evaluation instruments (AMPES) of the Organization, including the Biennial Program Budget (BPB) and Semestral Work Plan (PTS). This, plus the strategic work program based on regional plans of action as mandated by the PAHO Governing Bodies, facilitates the horizontal and vertical coordination of technical cooperation with an operational approach that is predetermined by the expected results. Considering the limited resources of the program, when optimally managed and focally applied they can have a positive impact on national programs.

PAHO maintains strategic alliance and ensures the effective coordination of veterinary public health and animal health activities with other international organizations through the institutional mechanism of the Inter-American Group for Cooperation in Animal Health (GICSA). GICSA was created by mandate of Member States to the international organizations involved in technical cooperation in animal health in the region of the Americas to ensure optimum use of the available resources. GICSA members include PAHO/WHO, Food and Agriculture Organization of the United Nations (FAO), Inter-American Institute for Cooperation on Agriculture (IICA), International Regional Organization for Health in Agriculture and Livestock (OIRSA), Andean Community, and International Atomic Energy Agency (IAEA). PAHO is the designated Secretariat of the XVI GICSA Meeting to be held on 16 April 1999. The meeting will focus on how to make the GICSA operational at the national level.



### **3.2    *Staff***

As an organization whose mission is dedicated to technical cooperation, the most valuable resource of PAHO is its technical staff. The Program of Veterinary Public Health has a total staff complement of 163, consisting of 47 (29%) Professional Staff and 116 (71%) Support Staff (see Table 1). It is one of the most decentralized of the PAHO technical programs, with only 3 (6%) of the Professional Staff at Headquarters, while 31 (66%) are at INPPAZ and PANAFTOSA and 13 (28%) are in the countries (see Table 2). Most of the professional staff are specialists in veterinary public health, especially in zoonoses and/or food protection.

**Table 1: PAHO Veterinary Public Health Program Professional and Support Staff as of 3 February 1999**

		Professional Staff		Support Staff		Total
		UN System	National Professionals	UN System	Local	
<b>Headquarters</b>		3		3		6
<b>INPPAZ</b>		7	6	1	33	47
<b>PANAFTOSA</b>		13	5	31	48	97
<b>Intercountry advisors:</b>	Barbados	1				1
	Guatemala	1				1
	Panama	1				1
<b>Country advisors:</b>	Bolivia		1			1
	Brazil	1	1			2
	Colombia		1			1
	Cuba		1			1
	Ecuador		1			1
	El Paso		1			1
	Mexico	1				1
	Peru		1			1
	Venezuela	1				1
<b>Total</b>		29	18	35	81	163

**Table 2: PAHO Veterinary Public Health Program, Distribution of Professional Staff As of 3 February 1999**

	NUMBER	PERCENTAGE	TOTAL
<b>Headquarters:</b>			3 (6.0)
Coordination	3	6	
<b>Centers:</b>			31 (66.0)
INPPAZ	13	28	
PANAFTOSA	18	38	
<b>Field:</b>			13 (28)
Inter-country	3	6	
Country	10	22	
<b>Total</b>	47	100	

The VPH staff assigned to the Office of the PAHO/WHO Representative in the respective countries provide a competitive advantage to the program of technical cooperation by ensuring sustainability and continuity. They are accessible on a day-to-day basis for their national counterparts, they facilitate the mobilization of both national and international resources, and they deal on a periodic basis directly with the respective national authorities. Each of the country offices has a VPH staff person. To optimize the use of the program resources and expand the coverage of services, the delivery of technical cooperation activities of the Regional Program, INPPAZ, and PANAFTOSA are closely coordinated with the VPH advisors at the country level to address both national priorities and regional mandates.

### 3.3 *Program Budget*

For the biennium 1998-1999, the PAHO Veterinary Public Health Program has a total operating budget for technical cooperation of US\$ 8,272,434, including INPPAZ and PANAFTOSA. Some 35% corresponds to PAHO regular funds, and 65% to extra-budgetary funds from grants provided by the Member States or from multilateral and bilateral funding agencies. Of the total budget for technical cooperation, 21% is for food protection, 19% for zoonoses, and 60% for foot-and-mouth disease.

The summary of the budgetary resources of the Veterinary Public Health Program allocated for technical cooperation activities is shown on Table 3 and Figure 1.

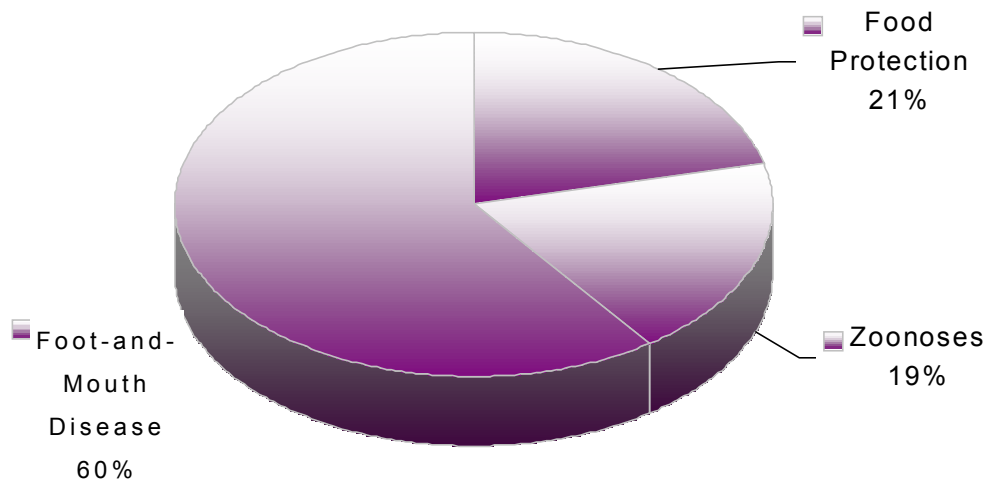
**Table 3: PAHO Veterinary Public Health Program, Operational Budget  
By Source of Funds and Project in US\$ (1998-1999)\***

	Regular Funds	Extra-regular Funds	Total
<b>Program Cordination:</b>			
Food Protection	128,864	0	128,864
Zoonosis	476,500**	154,389	630,889
			<b>759,753</b>
<b>INPPAZ:</b>			
Food Protection	556,375	1,041,293	1,597,668
Zoonosis	439,844	297,777	737,621
			<b>2,335,289</b>
<b>PANAFTOSA:</b>			
Foot-and-Mouth-Disease	1,091,5000	3,896,392	4,987,892
Zoonosis	190,500	0	190,500
			<b>5,178,392</b>
<b>TOTAL</b>	<b>2,883,583</b>	<b>5,389,851</b>	<b>8,272,434</b>

\* Excluding salaries.

\*\* Includes \$194,000 for 1999 RIMSA XI Meeting.

**Figure 1: Proportion of Distribution of Resources of the Veterinary Public Health Program as per Technical Area**



### **3.4 Recommendations of the External Advisory Group**

An evaluation of the PAHO Program of Veterinary Public Health was carried out in 1996 by an External Advisory Group to the Director. The final report was presented to the Subcommittee for Planning and Programming Committee of PAHO and to RIMSA X in 1997. Resolution RIMSA10.R4 requested the Director of PAHO to proceed in putting into effect the recommendations made in the *Report of the External Advisory Group on the Veterinary Public Health Program*, in particular to encourage and support inter-institutional action in INPPAZ and PANAFTOSA and to gradually promote operational mechanisms that would make it possible to provide effective integrated technical cooperation.

## **4. Main Achievements and Impact of the Veterinary Public Health Program (1997-1998)**

### **4.1 *Eradication of Foot-and-Mouth Disease***

Argentina, Colombia (Choco Region), Chile, Brazil (States of Parana, Rio Grande de Sul, and Santa Catarina), Paraguay, and Uruguay have achieved internationally recognized official status as FMD-free. Chile and Uruguay are FMD-free without vaccination.

Central America north of the isthmus of Panama, North America, the Caribbean, and the Guyanas continue to be free of FMD.

### **4.2 *Elimination of Dog-Transmitted Human Rabies***

Of the 21 capital cities of Latin America, 18 are free of human rabies. The annual number of human rabies cases decreased by 63% in 1997 in relation to the average number of cases during the decade 1980-1989—from 293 to 108 cases per year.

Eighty-one per cent of human cases follow exposure to dog bites. Wildlife-transmitted human rabies, especially from vampire and insectivorous bats, accounts for some 15%.

Bovine rabies transmitted by vampire bats is regularly reported by 18 countries in Latin American. Capabilities for epidemiological surveillance using molecular methods for rabies virus strain characterization have been developed in selected national reference laboratories.

### **4.3 *Food Protection***

The organization and development of integrated food protection programs have been promoted in several countries to ensure food safety “from farm to table.” A document has been compiled identifying institutional resources to ensure their coordination and national and efficient use.

A database on food legislation for the countries of MERCOSUR and Central America has been developed and made available on dedicated CD ROM and is accessible on the Internet.

An epidemiological surveillance system of foodborne disease has been organized at the country level and made operational through national focal points. Based on regular reports received in INPPAZ from 19 countries, 83% of foodborne disease outbreaks are bacterial in origin and 8% are due to marine toxins. Of the outbreaks between 1995 and 1997, 42% were reported to have occurred at home.

More than 3,000 individuals from all the countries in the Region were trained in HACCP methodology to provide the human resources base for the modernization of systems of inspection and control.

#### **4.4     *Control and Eradication of Bovine Tuberculosis and Brucellosis***

The current status of the different national programs for the control and eradication of bovine tuberculosis (TB) and brucellosis in the Americas vary in their level and degree of implementation. The incidence rate in many countries of the Region is between less than 0.1 and over 5.0%. The infection is mostly localized. Cost-benefit studies have shown that the disease situation in the Region is favorable for programs of eradication of bovine TB and brucellosis, but will require political support, funding, and the commitment and participation of the producer sector.

PAHO and OIRSA, with funding from the European Union (PARSA), launched an intensified program in Central America which resulted in the eradication of the disease in many areas. Funding support from PARSA ended in 1997 leaving a program structure that needs to be revitalized. Panama reported an outbreak of bovine TB in 1997 after a unilateral declaration of being free from the disease.

Nine countries in the Caribbean have not reported bovine TB since 1978. Jamaica has requested official certification as a bovine TB-and brucellosis-free country.

#### **4.5     *Emerging Zoonoses***

Most if not all of the human emerging infectious diseases in the Region are zoonoses. Control of the outbreak of bubonic plague in Peru (1995) and Ecuador (1998) and Venezuelan equine encephalitis (VEE) in Venezuela and Colombia (1995) has been achieved through preventive measures applied in the animal reservoir population to halt transmission to humans.

The Program obtained a grant from the European Community Humanitarian Office (ECHO) to develop an emergency project for the prevention and control of plague in Peru. The primary objective was to break the cycle of rodent to human transmission

by keeping rodents away from human habitations. Rodent infestation of grain cereal in domiciles was prevented by assisting the community construct artesanal silos for storage and advising on how to use and maintain them. This, plus assisting in developing diagnostic and surveillance capabilities and the treatment of human cases, significantly broke the epidemic cycle.

The outbreak of VEE in humans was halted through coordinated efforts of massive vaccination of horses in the endemic areas, particularly in the border between Venezuela and Colombia, interrupting transmission to humans and its geographical spread to other countries in the region.

#### **4.6     *Conservation of Primates and Vaccine Development***

The Peruvian Primatology Project, with the technical cooperation of the Program, has been operating for 25 years. This project has served as a model for conservation of endangered species of neotropical primates and their reproduction in captivity and semi-captivity through island breeding

Human vaccines against hepatitis A and B have been developed thanks to the availability of animals from the project. Biomedical model for the development of human malaria vaccine is currently being carried out on animals reproduced in captivity in the Primate Center in Iquitos.

#### **4.7     *Control and Eradication of Hydatidosis***

Hydatidosis is a parasitic zoonosis involving dogs, livestock, and humans, and is endemic in the South Cone and Andean Regions. Control and eradication programs in Argentina, Chile, and Uruguay, based on an attack phase, includes periodic dog treatment with a 100% effective taeniocide drug, which resulted in a significant decrease in the parasitic biomass in endemic primary and secondary ecosystems.

In regions X, XI and XII of Chile, the prevalence of echinococcosis in dogs, the reservoir of infection, was reduced from 72% to 3% following a 10-year program.

An external evaluation of the Hydatidosis Control Program of Uruguay was carried out in 1998. The prevalence of echinococcosis was reduced by 93% between 1991 and 1997: from 10.7% to 0.73%.

The hydatidosis control program in Rio Negro, Argentina, is based on the primary health care approach. Prevalence of echinococcosis decreased by 87% during a 10-year period to a level of 4.24%. The successful control in dogs has been reflected in the significant reduction of human hydatid disease.

## **5. Strategic and Programmatic Orientations for PASB, 1995-1998 and 1999-2002**

### **5.1 *Programming Framework and Focus of Priorities***

The Strategic and Programmatic Orientations (SPOs) constitute the policy guidelines for PASB for each quadrennium. They represent an analysis of conditions and needs in the countries of the region of the Americas and are geared toward attaining the goal of health for all (HFA). For the 1999-2002 quadrennium, PASB has established five strategic orientations to guide the action of the Organization in delivering technical cooperation: Health and Human Development, Health Promotion and Protection, Environmental Protection and Development, Health Systems and Services Development, and Disease Prevention and Control.

The PAHO Program of Veterinary Public Health will continue to address its programmatic priorities in compliance with the mandates of the Governing Bodies and the Strategic and Programmatic Orientations through five areas of action:

#### **5.1.1 *Food Protection***

- organization of integrated food protection programs;
- development of inspection services;
- strengthening of analytical services;
- surveillance of food borne diseases;
- consumer protection through community participation.

#### **5.1.2 *Zoonoses***



- eradication and elimination of zoonoses;
- control and prevention;
- surveillance of emerging zoonoses.

#### 5.1.3 *Foot-and Mouth-Disease*

- eradication of foot-and-mouth disease;
- protection and expansion of FMD-free areas;
- epidemiological surveillance of vesicular diseases of animals.

#### 5.1.4 *Biomedical Models*

- conservation, reproduction and rational use of neotropical primates;
- care and management of laboratory animals;
- development of *in vitro* and *in vivo* models.

#### 5.1.5 *Organization of VPH Services*

- VPH activities in local health systems;
- VPH training and education;
- organization and management of VPH and animal health services;
- participation of the private sector.

### 5.2 *Strategic Plans*

The managerial strategy of PAHO is to concentrate program resources in order to optimize their use and heighten their impact on national programs. In compliance with the mandates of the PAHO Governing Bodies and the SPOs, the Veterinary Public Health Program has concentrated its resources in five strategic plans:

- Elimination of Dog-Transmitted Human Rabies;

- Strategic Plan for Technical Cooperation in Food Protection;
- Hemispheric Eradication of Foot-and-Mouth Disease;
- Control/Eradication of Bovine Tuberculosis and Brucellosis;
- Surveillance of Emerging Zoonoses.

The general objective of the Program is to collaborate with Member States to develop and strengthen their capacity to implement national programs and to measure impact on national development.

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