PRESIDENCY OF THE REPUBLIC
SECRETARIAT OF HEALTH
GENERAL HEALTH DIRECTORSHIP
EXPANDEND PROGRAM OF IMMUNIZATIONS (EPI)

SECRETARIA DE SALUD
HONDURAS, C. A.

STRATEGIC PLAN OF MULTI-ANNUAL ACTION OF THE ENHANCED PROGRAM OF IMMUNIZATIONS (EPI) HONDURAS, 2006--2010

Tegucigalpa, M.D.C., January, 2006, Honduras, C.A.

- ✓ Assign specific functions to the Cold Chain technicians at the Departmental Regions, who are not complying with their activities of incentivating and motivating those supporting the Cold Chain.

- ✓ Implement and strengthen the National Plan at all levels to maintain the Cold chain, with the objective of systematize the supervision, monitoring and maintenance activities.

- ✓ Systematization of the supervision, preventive maintenance and correction at the departmental and municipal level.

- ✓ Systematize the equipping process of the cold chain, with an emphasis in the substitution of the equipment that has completed the useful life, the equipment working with kerosene, and new HU.

B. INJECTION SAFETY

EPI has recognized the need to improve the quality of services, therefore have indicated a series of actions and measures adopted concretely for the application of immunobiological material injected in a safe manner, according to the framework for the safe immunization component.

According to the analysis of this component for the 2005 situation, it is summarized as follows:

- **Quality Vaccines**
  The country procures quality vaccines, which are procured through the Rotary Fund of PAHO/WHO

- **Surveillance of adverse events**
  Since the year 2000, the surveillance of serious adverse events was systematized, associated with vaccination. In 2005 there were tour serious adverse events investigated and documented at the national level, reported in three municipalities of three departmental health regions (Cortes, Copan and Intibucá).

- **Injection Safety**
  The country formulated for the 2003 Safe Injection National Plan for the 2004 – 2006 period, which is in process of implementation with financing of Global Alliance for Vaccination and Immunization (GAVI) and the Vaccine Fund (VF).

  Between 2003 and 2005, 100% (20) of the Departmental Health Regions formulated the Safe Injection Plan, which is in process of implementation.

  Among the achievements there are:
  - ♦ The country procures AD syringes for 100% of the Health Units, for the application of vaccines to the children.

- ♦ 100% of the HU are supplied with safety boxes on a yearly basis, for the safe disposal of the syringes used in vaccination.
- ♦ UIT the support of the foreign cooperation (USAID, Plan International and GAVI) 22% (308) of the Health Units were supplied with portable needle destroyers to destroy the needles used in vaccination at the HU located in the municipal capital.
- ♦ Training of 100% of the departmental and municipal teams including hospitals, for safe vaccination.

✓ The safe destruction of the elimination boxes continues being a problem since only two incinerators work at the national level in hospitals; therefore, at the local level, the boxes are buried or sent to the municipal trash dump at the municipal capitals.

✓ EPI is part of the Nation Commission Revising the Solid Waste Code, which is currently in the process of being approved. It incorporates the regulations regarding the use, manipulation, elimination and final disposal of needles used at the Health Units.

C. EPI INFORMATION, EDUCATION AND COMMUNICATION PLAN

For the 2001 – 2005 period, there has been follow up to the information, education, and communication actions through the implementation of the IEC/EPI plan at the national level, through the 20 regional plans, therefore reducing the lost opportunities for vaccination, getting support from the decentralization of the production of audio-visual materials at the local level, and the incorporation of the organized civil society, situation which will be strengthened in the 2006 – 2010 period, for each departmental region, incorporating the Safe Injection component.

2.3 IMPACT INDICATORS

A. EPIDEMIOLOGICAL SITUATION OF THE DISEASES THAT CAN BE PREVENTED THROUGH VACCINATION

- EPI´s general objective is to reduce the morbidity and mortality of infants due to diseases that can be prevented through vaccination, maintaining the eradication of Polio, the elimination of measles, maintaining the control – elimination of neonatal tetanus, the elimination of rubella and the Congenital Rubella Syndrome, and to control diphtheria, whopping cough, infant tuberculosis, mumps, hepatitis B, the invasive diseases due to Hib, diarrheas due to Rotavirus, and pneumonias due to pneumococus.

- The tendency for the incidence and the mortality rates for diseases that can be prevented through vaccination, which is descending; summarizing the main achievements as the following:

✓ 25 years with out the registration of cases of diphtheria (the last one being in 1981)
✓ 17 years with out the registration of cases of polio (the last one being in 1989)
✓ 9 years with out the registration of cases of measles (the last one being in 1997)
✓ 4 years with out the registration of cases of meningitis due to Hib (the last one being in 2002)
✓ 4 years with out the registration of cases of Congenital Rubella Syndrome (the last one being in 2002).

- ✓ Significant reduction of neonatal tetanus, rubella and TB meningitis (Table 4).

TABLE 4 . INCIDENCE AND MORTALITY RATE* OF DISEASES THAT CAN BE PREVENTED THROUGH VACCINATION, HONDURAS 1998-2005

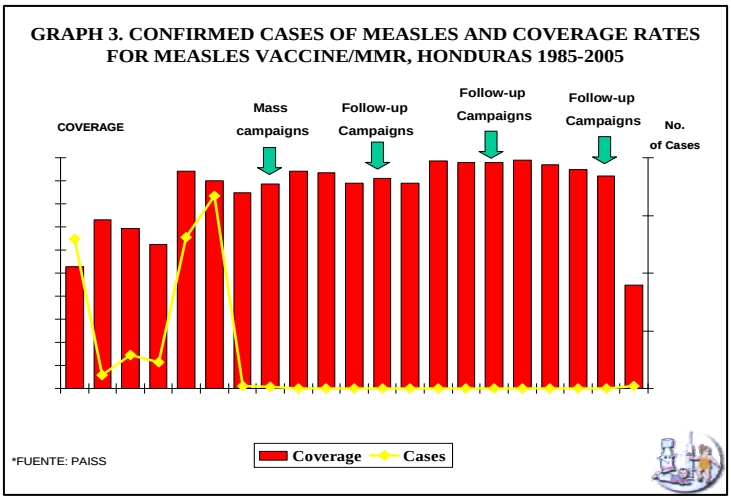
AÑO	POLIO		DIPHTERIA		PERTUSSIS		MEASLES		NNT***		NEONATAL TETANUS		TB MENINGITIS ****		HEPATITIS B"		RUBELLA		PAROTHIDITIS		CRS ***	
	No.	TASA	No.	TASA	No.	TASA	No.	TASA	No.	TASA	No.	TASA	No.	TASA	No.	TASA	No.	TASA	No.	TASA	No.	TASA
Cases	0	0	0	0	59	0.98	0	0	6	0.031	18	0.30	6	0.24	58	0.98	399	2.95	623	10.8	1	0.005
1998																						
Deaths	0	0	0	0	3	0.05	0	0	3	0.01	10	0.17	0	0	4	0.06	0	0	ND	ND	0	0
Cases	0	0	0	0	145	2.39	0	0	2	0.01	16	0.26	8	0.32	75	1.24	1,108	18.3	950	15.7	3	0.02
1999																						
Deaths	0	0	0	0	5	0.08	0	0	1	0.005	4	0.06	2	0.08	0	0	0	0	0	0	0	0
Cases	0	0	0	0	169	2.7	0	0	0	0	9	0.1	11	0.50	43	0.7	201	3.2	853	13.8	5	0.03
2000																						
Deaths	0	0	0	0	1	0.2	0	0	0	0	9	0.1	4	0.2	0	0	0	0	0	0	0	0
Cases	0	0	0	0	37	0.6	0	0	2	0.010	18	0.3	8	0.33	63	1.05	7	0.19	821	12.9	5	0.01
2001																						
Deaths	0	0	0	0	0	0	0	0	1	0.005	8	0.12	1	0.04	0	0	0	0	0	0	0	0
Cases	0	0	0	0	71	1.14	0	0	2	0.01	17	0.27	8	0.32	98	1.58	5	0.08	909	14.6	1	0.52
2002																						
Deaths	0	0	0	0	0	0	0	0	0	0	4	0.06	5	0.2	0	0	0	0	0	0	0	0
Cases	0	0	0	0	93	1.4	0	0	4	0.02	23	0.34	2	0.08	114	1.7	1	0.01	599	9.2	0	0
2003																						
Deaths	0	0	0	0	3	0.046	0	0	4	0.01	12	0.01	0	0	2	0	0	0	0	0	0	0
Cases	0	0	0	0	104	1.4	0	0	1	0.005	13	0.19	3	0.03	167	2.3	1	0.01	516	7.1	0	0
2004																						
Deaths	0	0	0	0	3	0.04	0	0	1	0.005	10	0.1	0	0	2	0.02	0	0	0	0	0	0
Cases	0	0	0	0	132	1.8	0	0	0	0	19	0.3	2	0.2	109	1.4	0	0	471	6.4	0	0
2005																						
Deaths	0	0	0	0	5	0.06	0	0	0	0	11	0.15	0	0	3	0.04	0	0	0	0	0	0

Fuente: PAI/SS

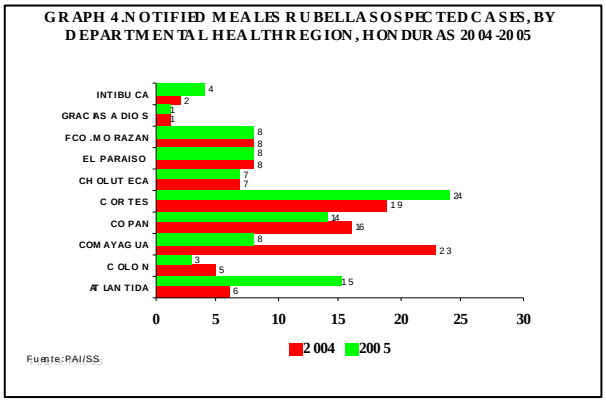
Source: EPI/SH

B. ADVANCES OF THE NATIONAL PLAN FOR THE ERADICATION OF MEASLES

- The last measles epidemic occurred in the country between 1989 and 1990, with an incidence rate of 188 X 100.000 habitants and a mortality of 6.8, observing since 1991 a decreasing behavior, with a rate of 1.9 for each 100,000 habitants (95 cases) to cero cases in 1998, up to the 52nd epidemiological week of 2005, not registrating deaths since 1991 (Graph 3).



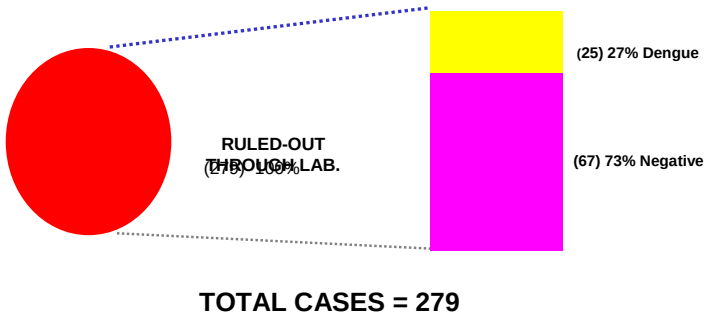
In 2005, within the framework for the integration of the measles and rubella surveillance, 279 suspected cases were notified at the national level; 100% of these were discarded by the laboratory as not being measles cases, notifying most cases in the Departmental Health Regions of Metropolitan Area of MDC, Ocotepeque, Cortés, Copan and Metropolitan Area of SPS (Graph 4).



- Of the 279 suspected cases studied in 2005, 100% of them were discarded by the laboratory, being negative by measles and rubella, 28% (79) were positive for dengue. In 2005 there was an increase of 9% in the notification of cases compared to 2004 (255 suspected cases).

- It is important to indicate the improvement in 2005, of the sample taking in the nasal – pharyngeal cavity of the suspected cases, compared to 2004; even when the laboratory personnel of the Health Regions received training and transportation, still there were problems in the sample taking for viral isolation. Only 30% (85) of the cases distributed in the Departmental Health Regions of Atlántida, Comayagua, Copan, Cortés, Choluteca, Fco Morazán, Olancho, Valle, Yoro, Metropolitan Area of SPS, which difficult the discarding by viral isolation of the IgM positive cases (Graph 5).

GRAPH 5. MEALES SUSPECTED CASES ACCORDING TO CLASSIFICATION, HONDURAS 2005

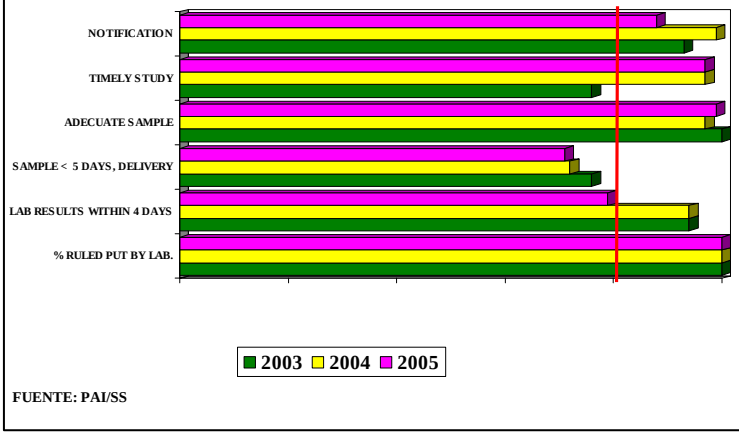


•FUENTE: PAI / LAB. VIROLOGIA / SS

Epidemiological surveillance indicators for measles.

- For the 2001 – 2005 period, the compliance of the five international indicators for measles were monitored, achieving a compliance over 90% in four of the five indicators (Graph 6).

GRAph 6. ACHIEVEMENT OF SURVEILLANCE IINDICATORS FOR SUSPECTED CASES OF MEASLES RUBELLA, HONDURAS 2003- 2005



FUENTE: PAI/SS

- **Percentage of units with negative weekly notification**.
  The opportune notification average was over 90% in 2004, and over 85% in 2005, no being able to surpass this average by 35% in the departmental regions of Copan, Fco Morazán, Gracias a Dios, Lempira, Ocotepeque, Santa Bárbara and Valle).

- **Percentage of cases with opportune domiciliary visit investigated within 48 hours after notification**.
  The compliance with this indicator is over 90% for 2004, and 88% for 2005, observing an improvement in the filling out of the epidemiological record sheet and for the domiciliary visits, presenting some problems in the Departmental Regions of Copan, MSPS and Yoro which do not surpass 80%

- **Percentage of cases with the adequate sample (serological) and sample taking from the nasal- pharyngeal cavity.**
  The compliance with the samples taken for the suspected cases are still over 95% for 2004, and 99% for 2005. Regarding the sample taking, only 30% (89) of the cases were carried out.

- **Proportion of blood samples and nasal – pharyngeal samples taken, reaching the laboratory within five days after the taking.**
  In 2004, the compliance of this indicator was over 70%, maintaining it in 2005; only for the serological sample, the Departmental Regions of Colon and Ocotepeque did not surpass 50%, observing that these regions did not show an improvement compared to 2004, identifying themselves as the weaknesses of the surveillance system for measles, of this indicator.

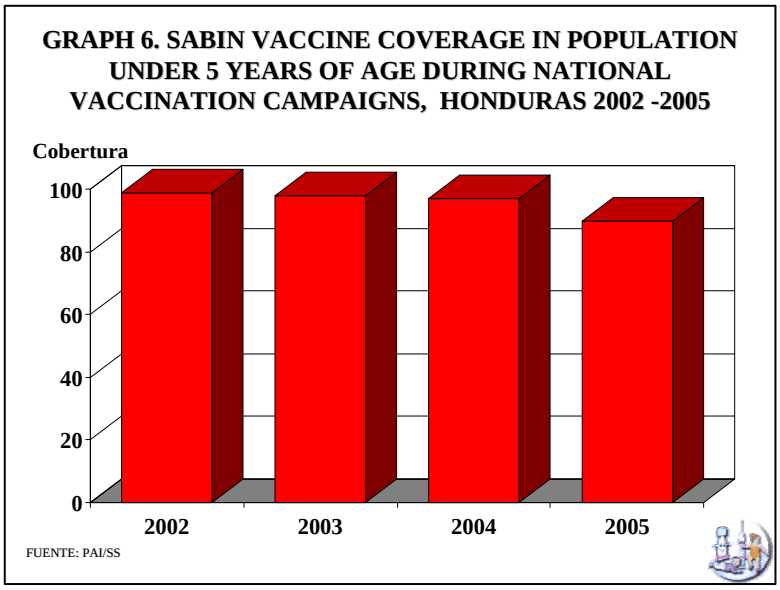
- **Proportion of laboratory results of the blood samples, four days after it has reached the laboratory**.
  In 2004, over 90% was achieved in 100% of the Departmental Health Regions of the country, achieving 85% in 2005 wit a slight decrease in compliance with this indicator compared to 2004, conditioned by the lack of reactants for a period over two weeks.

C. MAINTENANCE OF THE ERADICATION OF POLIO

- Since 1987, the country assumed the commitment of the eradication of Polio. It has been 17 years since March 29th, 1989, when the last case was registered, and 12 years after having been certified for the eradication of the Wild Polio circulation, maintaining the basic strategies oriented towards achieving annual coverage rates over 95% in the population under five years of age, the execution of national campaigns and an active epidemiological surveillance of the acute flaccid paralysis (AFP).

- The massive vaccination through the national vaccination campaigns is the basic strategy adopted for the country to sustain the eradication of Polio and the interruption of the wild virus transition due to the risk of import, through the distribution of the

Poliovirus Vaccine in the least possible time. For the 1998 – 2005 period, there have been eight national vaccination campaigns, obtaining coverage rates from 95% in 1998, to 94% in 2005 (Graph 6).



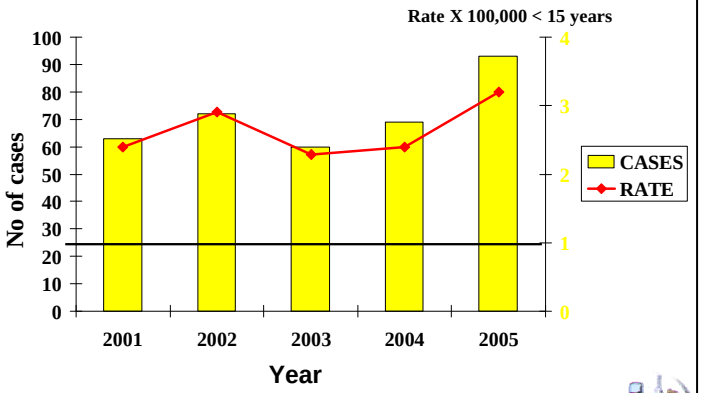
- One of the most important achievements of the national campaigns has been to demonstrate it as the ideal space to incorporate the civil society in favor of resolving their problems, particularly for the children, also bringing the opportunity to incorporate other actions for the care of children and women, like the application of Vitamin "A" to the population under five years of age and pregnant women, as well as to promote the early detection of eye cancer in children under five years of age.

Surveillance of Acute Flaccid Paralysis (AFP)

- For the 1998 – 2005 period, 494 cases of AFP were studied. 100% of the cases had a complete investigation. 97% of them had adequate samples taken and 100% of them had control measures and follow up carried out. In 2005, 93 cases were studied. 97% of the cases had a complete investigation carried out during the first 48 hours, presenting problems with the compliance of this indicator in the departmental region of Comayagua which did not surpass 80 %, and El Paraíso which did not surpass 90%; 96% (90) had adequate samples taken, not complying with this indicator the departmental regions of Cortes, Lempira and MSPS, which did not surpass 90%. This puts the country at risk of classifying cases as compatible due to faults in the surveillance. 100% of these had control measures and follow up carried out. In 2005, 85% (17) of the regions surpassed the expected rate over or equal to 1 x 100.000 for children under 15 years of age, excepting the departmental regions of the Bay Islands

and Gracias a Dios which, due to the population, presented cases each 4 to 5 years. It is important to point out that La Paz and Ocotepeque were silent regions with no cases in 2005, therefore should carry out an active search in 2006, and intensify the epidemiological surveillance of AFP (Graph 7).

GRAPH 7. NUMBER OF CASES AND AFP INCIDENCE, HONDURAS 2001-2005



•FUENTE: PAI/SS

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CONTENT

I. INTRODUCTION

It has been 27 years since the creation of the Expandend Program of Immunizations (EPI) in Honduras, and the advances are exemplary in favor of the Honduran children, avoiding thousands of deaths each year and reducing the risk of disability due to infectious diseases, fact that has impacted the infant mortality and the diseases that can be prevented through vaccination, which are no longer a main cause of sickness and death.

The Expandend Program of Immunizations (EPI) of Honduras, since 1987, with the five year plan formulation for 1987 – 1991, begins the incorporation into the Secretariat of Health budget, of national funds for the procurement of the vaccines to be applied to the population under five years of age and women in fertile ages, according to the current vaccination schematic, as well as the required syringes, and progressively incorporating the rest of the program components into the assigned Secretariat of Health budget. From 1998 and with the proposal and approval of the Vaccination Law by National Congress, the financial sustainability of EPI is guaranteed, to incorporate into the General Income and Outcome Budget of the Republic of Honduras, the budget account for the procurement of vaccines, syringes, security boxes and other materials for EPI, along with the five year plan for the periods 1997 – 2001, and 2001 – 2005, which incorporate national and foreign funds, the operative plan, and the EPI annual budget (AOP/EPI) with national funds, was able to maintain that 1.8% of the total funds assigned between 1998 and 2005 to the Secretariat of Health correspond to EPI, with slight variations, rising above 2% in the last two years.

To begin the 2006 – 2010 period, the formulation of the fourth multi-annual plan will be carried out, based on the analysis of the current national situation of the program in all the components, the government policy for the health sector for the 2006 -2010 period, the priority strategic plans (PSPs). The Poverty Reduction Strategy (PRS), the Citizen Participation Policy and the recommendations of the XVI meeting of the Advisor Technical Group (ATG) and the diseases that can be prevented through vaccination from PAHO/WHO for the Americas, which constitute the basic elements which sustains the EPI Multi-annual Plan for 2006 – 2010.

In the Multi-annual Plan for 2006 – 2010, 94% is the average EPI total cost which corresponds to national funds, and the remaining 6% is foreign funds, being an unprecedented achievement, since 91% corresponding to the 2001 – 2005 multi-annual plan, reduced the foreign cooperation by 3% for the 2006 – 2010 period. It is important to mention that beginning in 2005, USAID, for budget reasons, did not assign donation funds to EPI, constituting the agency that for the last 17 years has been the greatest Cooperant for the cold chain component. Facing this situation, beginning in 2005, EPI incorporated into the action annual plan national funds for 30% of that required for the cold chain, which will increase gradually in the Multi-annual Plan for 2006 – 2010, which will guarantee the program sustainability at the national level. Among the foreign cooperation agencies, the greatest cooperant for the 2006 -2010 period is Global Alliance for Vaccines and Immunizations (GAVI) and the Vaccine Fund (VF) in the components of programming and planning, biological material, supplies, equipment and infrastructure, training, social mobilization, and epidemiological surveillance; followed by ASDI from the Swedish

government wit specific support for the national vaccination campaigns and the vaccination operations in eight departments and municipality mancomunities; followed by PAHO, PLAN INTERNATIONAL, UNICEF.

The multi-annual plan is oriented to maintaining the achievements reached in the coverage rates for vaccination and their impact in the reduction of the morbidity and mortality due to diseases that can be prevented through vaccination, in the population under five years old, with an emphasis on the population under two years of age, women at fertile age and groups at risk, maintaining the certification of eradication of Polio, up to the world wide declaration, and guaranteeing the eradication of measles, the elimination of neonatal tetanus, the elimination of Rubella, the congenital Rubella Syndrome, and the control of the acute forms of children tuberculosis, whooping cough, diphtheria, parotiditis, hepatitis B and invasive diseases due to Hib, diarrhea due to rotavirus beginning in 2009, promoting the participation of the general population, local governments, public and private sector institutions, and the organized civil society.

The proposed actions have been analyzed and concerted with the different foreign cooperation agencies which conform the Cooperation Interagency Committee for Health (CCIS) and with the authorities from the Secretariat of Health.

Within the multi-annual plan there is a summary of the current EPI situation for the 2001-2005 period, the perspectives and work guidelines for the components for the 2006-2010 period, the annual action plan for 2006, which contains the expected results, the activities to be carried out and the indicators to measure the impact of the activities that are carried out. Also included is the proposal for technical and financial support through the different financing sources, for it's analysis and approval, in order to make the respective adjustments.

II. CURRENT SITUATION OF EPI BY COMPONENT AND INDICATOR 2001-2005

The Expandend Program of Immunization evaluation of the multi-annual plan for 2001-2005 will be carried out considering efficacy, process and impact indicators.

2.1 EFFICACY INDICATORS

A. VACCINATION COVERAGE RATES.

- The evaluation of the efficacy of EPI for the 2001-2005 period is presented through the analysis of the vaccination coverage rates of the population under two years of age for each one of the immunobiological materials, women at fertile age, and groups in risk.
- Since 1991 coverage rates have been achieved for all the immunobiological materials, over 90% in the population under two years of age, maintaining this tendency until the 1998 – 2004 period, for the BCG, Sabin, DPT/HB/Hib and SRP vaccines. Beginning in 1998, for the first time, rates over 95% were achieved for all immunobiological materials, maintaining this tendency until 1999, excepting the BCG vaccine, presenting a slight decrease for the year 2000 for the Sabin and DPT/HB/Hib vaccines, due to low supply at the international

level of both vaccines. For the 2001-2002 period, rates over 95% were achieved for the Sabin, DPT/HB/Hib and SRP vaccines, not being the case of BCG were the rates over 95% have not been achieved for the last two years, conditioned by a sub-registration of the applied dosages at the hospital level. In the 2003-2005

CUADRO 1. VACCCINATION COVERAGE IN POPULATION UNDER TWO YEARS OF AGE ACCORDING TO TYPE OF INMUNOBIOLOGICAL AGENT, HONDURAS 2001-2005*

YEAR	POPULATION < 1 YEAR	BCG		SABIN		DPT/HB/Hib		SRP		
		single dose	%	3rd dose	%	3rd dose	%	Population 12-23 m	single dose	%
2001	190,954	177,656	93	189,048	99	182,640	96	189,811	188,956	99
2002	192,361	181,415	94	181,825	95	182,333	95	190,954	184,911	97
2003	194,216	177,482	91	178,285	92	178,677	92	189,095	178,514	94
2004	195,826	182,492	93	175,742	90	175,127	89	187,642	173,505	92
2005	197,159	179,641	91	177,975	90	178,958	91	189,169	172,571	91

*datos preliminares

Fuente: Informes Regiones de Salud

period, the 95% coverage rates have no been surpassed for any of the immunobiological materials (BCG, Sabin, DPT/HB/Hib and SRP) (Table 1).

- Upon analyzing the vaccination coverage rates for the population under two years of age for the 2001 – 2005 period, one can observe that the number municipalities at risk due to coverage rates under 95% at the national level present annual fluctuations for the different immunobiological materials. Achieving for the 2001 – 2002 period, more than half of the municipalities in the country with coverage rates over 95% for Sabin, DPT/HB/Hib and SRP, even though in the 2003 –2005 period one can observe an increase in the municipalities with coverage rates under 95%, specifically for 2003 regarding 2004 where the number of municipalities with coverage rates under 95% increased for Sabin by 11% (31 municipalities); DPT/HB/Hib by 9% (27 municipalities) and for SRP there was an increase of 15% (46 municipalities) regarding 2003 (Table 2, Graph 1).

TABLE 2. VACCINATION COVERAGE RATES FOR THE POPULATION UNDER TWO YEARS OF AGE BY IMMUNOBIOLOGICAL AGENT AND MUNICIPALITY, HONDURAS 2001-2005*

AÑOS	SABIN				DPT/PENTAVALENTE				SRP			
	< 95%		>95%		< 95%		>95%		< 95%		>95%	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
2001	111	37	187	63	161	54	137	46	62	21	236	79
2002	139	47	159	53	138	46	160	54	85	29	213	71
2003	153	51	144	49	156	52	142	48	121	41	177	59
2004	184	62	114	38	183	61	115	39	167	56	131	44
2005	185	62	113	38	189	63	109	39	158	53	140	44

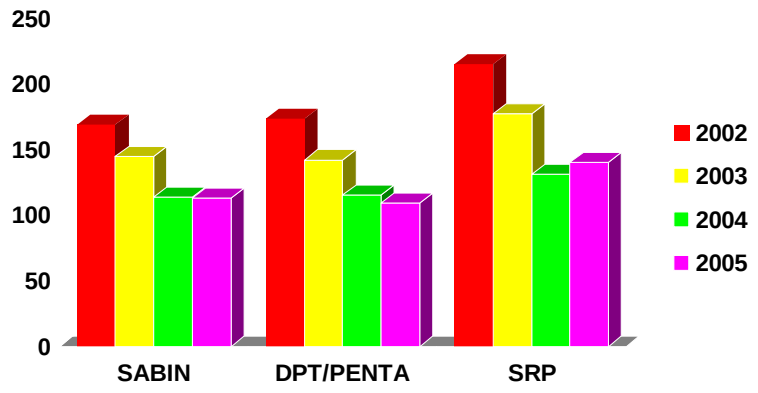
* DATOS PRELIMINARES

Fuente: PAI/SS

- Regarding the coverage rates for the population under two years of age by immunobiological material and municipality for the 2002 – 2005, by Health Departmental Regions, it can be observed that there is a general increase in the number of municipalities at risk due to coverage rates under 95%, regarding 2001. It is

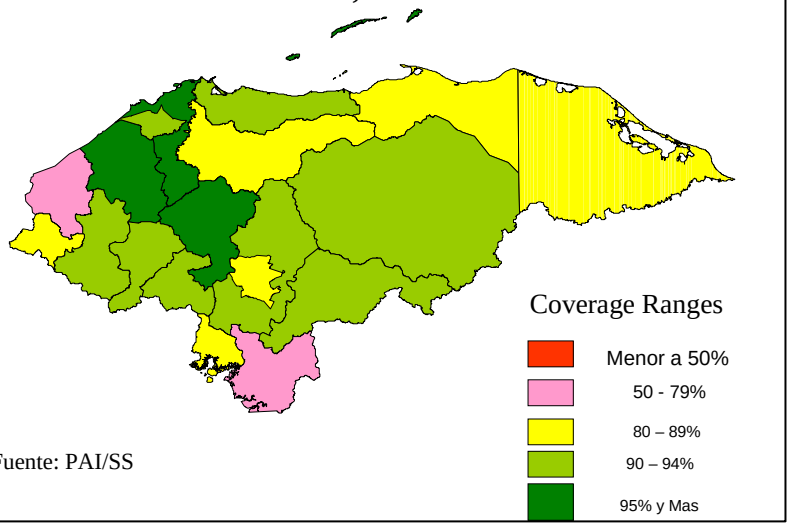
important to highlight that for 2004, only two of the 298 municipalities (San Miguelito in Francisco Morazán and San Jerónimo in Copan) presented coverage rates under 50% for Sabin and DPT/HB/Hib, and in 2005 only the municipality of El Triunfo in the Departmental Region of Choluteca presented coverage rate for SRP under 50%, the rest of the municipalities are within the 80% to 94% coverage rate range (graph 1 and Map 1,)

GRAPH 1. NUMBER OF MUNICIPALITIES WITH COBERAGE ARTES ABOVE 95% PER VACCINE TYPE, HONDURAS, 2002-2005



FUENTE: PAI/SS

MAP 1. PENTAVALENT VACCINE COVERAGE RATE IN POPULATION UNDER ONE YEAR OF AGE PER DEPARTMENT, HONDURAS 2005



Fuente: PAI/SS

- The vaccination coverage rates for all the EPI immunobiological materials, for the population under five years of age, since 1998 are over 95%, numbers validated during the seventh National Epidemiological and Family Health Survey (ENESF), carried out in 2001, indicating a coverage rate around 95% for BCG, Sabin, DPT/HB/Hib and SRP for the population under five years of age, and in 2004 the National Life Condition Survey (ENCOVI), found that the coverage rates for this age group are over 85% .

- One of the indicators to measure the efficiency of EPI and the lost opportunities for vaccination is the drop-out rate for the Sabín, DPT/HB/Hib and SRP vaccines, which has been under 5% for the period, showing an improvement in the opportunities taken advantage of for vaccination. Even then, for 2005 there still are drop-out rates for Sabin, DPT/HB/Hib and SRP, negatives, with a slight improvement compared to 2004, evidencing new problems regarding the record of the information in almost all Departmental Regions of Health, only the departmental regions of Atlántida, Copan, Cortes and the Bay Islands presenting a drop-out rate within the limits established for Sabin, Copan, the Bay Islands, Lempira and Yoro for DPT/HB/Hib. At the departmental level, the drop-out rate established in 5% was surpassed in the department of Copan, which explains not being able to surpass 80% in coverage rates (Table 3).

TABLE 3. DROP-OUT RATES PER VACCINE TYPE FOR POPULATION UNDER TWO YEARS OF AGE, HONDURAS 2001-2005

AÑO	SABIN			D.P.T. / PENTAVALENTE			SRP		
	1era.	3era.	%	1era.	3era.	%	1era. D.P.T.	UN. SRP	%
2001	197,171	194,522	1.34	183,300	180,582	1.48	183,330	199,109	- 8.61
2002	175,972	181,825	- 3.33	174,507	182,333	- 4.48	174,507	184,911	- 5.96
2003	166,386	178,285	- 7.3	168,677	178,800	- 6.00	168,608	178,514	- 5.80
2004	171,782	175,742	- 2.3	171,824	175,127	- 1.92	171,824	173,505	- 0.90
2005	172,050	177,975	- 3.44	171,640	178,958	- 4.26	171,131	172,571	- 0.84

FUENTE: PAI/SS

- In 2001, within the process of update the EPI norms, it was established to apply two upshots for DPT to the population between one and four years of age. In 2005 there was a decrease in the coverage rates for the first DPT upshot, achieving 88% at the national level; only the Health Departmental Regions of Colón, Cortés, Valle, MSPS, Copan, Choluteca and MDC did not surpass 90%; regarding the second upshot, 80% was surpassed except in 2004, being the greatest problem the Departmental Region of Yoro, surpassing 50%, fact that could condition the presence of localized epidemic appearance of whopping cough due to the low coverage for the upshots of DPT.

- Regarding the women at fertile age (WFA), for the period the national coverage rates ar maintained, with second doses of TT/Td over 100%, due to the re-vaccination of WFA who lost their record card. Reason why since 1999 the

coverage is monitored with third, fourth and fifth doses. In 2005, 55% (11) of the Health Departmental Regions of the country achieved their goal of coverage rates over 95% for the third doses of Td, but not for the fourth and fifth doses, and continue to begin vaccination schematics for Td for WFA, achieving national accumulated coverage rates for the third dose of 94%, 66% for the fourth dose, and 54% for the fifth dose, reducing the municipalities with coverage rates under 90%.

- According to the updated EPI norms, beginning in 2001, there is the application of one upshot of Td for the population at eleven years of age. In 2005 national coverage rates of 86% were achieved, therefore for 2006 the same population should be vaccinated at twelve years of age.

- In 2005, the risk group vaccination continued with Hepatitis B and the influenza vaccine was incorporated for risk groups, the population over 60 years of age concentrated in nursing homes, and retired, as well as for the health personnel caring for these populations, achieving influenza coverage over 90% toward the target population.

- The analysis of the efficacy of the program through the vaccination coverage rates shows great achievements for the last decade. Achievements which, without the political will manifested by the Central Government, through the authorities at the highest levels of the Secretariat of Health, and the tireless work of the health personnel at the different levels, particularly at the local level, would not have been possible. Never the less it is important to indicate that there still are limitations regarding the vaccination services, such as:
    - The lack of systematic supervision of the Region – Municipality – Local level.
    - The lack of a systematic delivery of the basic health package (BHSP) in difficult geographical access locations at risk.
    - Closed local health units (HU), for long periods of time due to the lack of human resources, vacations, multiple vacations, maternity licenses.
    - Constant opening of HU without the guarantee of the basic minimum equipment for the vaccination services (cold unit).
    - Increase in delinquency due to the increase of gangs within the neighborhoods developing in the main cities of the country, which limits the access of health personnel for the services, being their security at risk; and the population not accessing the health services due to fear of the same delinquency.
    - Problems in the program management at regional level for some regions and municipalities, due to the absence of the analysis and characterization of the causes for the municipalities at risk, re-incidence of coverage rates under 95%, conditioned by the absence of monitoring and monthly analysis at the HU level, of health areas, and the lack of immunobiological material for more than two weeks at the local level.

- Scarce quality control of the information generated from the vaccination actions in most of the Health Regions.
- Estimate of the population denominator for children under one year of age in some departmental regions (Copan, Choluteca and Santa Bárbara).

2.2. PROCESS INDICATORS

A. CURRENT SITUATION OF THE COLD CHAIN

- The Cold Chain, considered the spinal cord of the Expandend Program of Immunizations (EPI), is the main component, since it is the logistics process where the cold equipment which conform it must function at 100% capacity and guarantee conservation, management and distribution of the immunobiological material, with 100% security.
- The Cold Chain constitutes the essential component for the functioning of the Program at local level; maintaining it in optimal conditions at national level (green) over 80% for the 2001 – 2004 period.
- In 2005, there was a slight decrease, achieving – according to the alert surveillance system – that 79.2% of the cold equipment working in optimal conditions (green). In Yellow, the average is of 1%, in Red it is of 5.2%, and 14.6% of the HU do not report the state of their cold chain equipment, situation that must be corrected. The cold chain technicians are responsible – at the departmental regions level – to monitor and report the functioning of the equipment assigned to them for care, as well as the execution of the financing assigned for the procurement of spare parts and fuel, in order to reduce the equipment in Yellow (enough supply of fuel and spare parts) and Red (technical failures, lack of fuel and spare parts) due to these causes.
- By the end of the year 2000, a process of inventory at the national level began for the Cold Chain to determine the needs at national level, regarding the function of opening new health centers, the deterioration of the cold equipment due to ending their useful lifetime. Currently, considering the distribution in the departmental regions, the inventory at the national level has been carried out in 80%, excepting the departmental regions of Atlántida and the Bay Islands where the process has been finished; the rest should retake the inventory to update it during the first half of 2006.

For the 2006 – 2010 period, the cold chain component must be strengthened in the areas of management, infrastructure and equipment, being the following lines the priority:

- ✓ Follow up on the departmentalization process for the Cold.
- ✓ Construction of the biological material warehouse in new Departmental Regions (Lempira, La Paz, Intibuca, Colon, El Paraíso, Francisco Morazán, Bay Islands, Ocotepeque, Santa Bárbara, Valle, Yoro and the Metropolitana rea of S.P.S).
- ✓ Finish the re-adequation of the regional workshops for the cold chain.

- **Compliance with the epidemiological surveillance for the certification of the eradication of Polio.**

Within the framework of the eradication plan for Polio, four surveillance indicators have been established for the AFP. During the 2001 – 2005 period, there is compliance rates over 90% for:

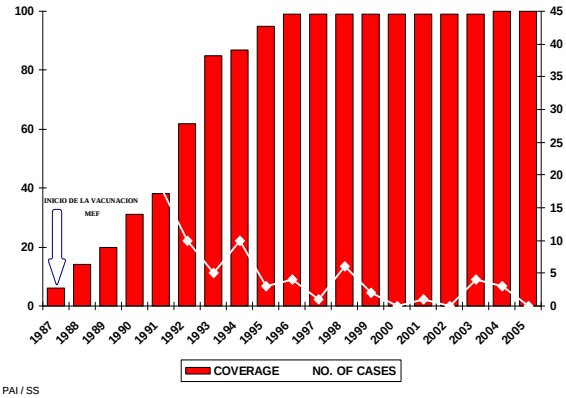
- Negative weekly notification; this indicator had over 90% rate during the 2001 – 2005 period.
- 94% of the AFP cases have been investigated within 48 hours after the notification.
- Feces sample taking for the AFP cases during the first 14 days of the paralysis; 99% during the period except in 2005 where it decreased slightly to 96% taking samples adequately.
- The AFP rate at national level is kept over the expected rate of 1X100, 000 children under 15 years of age for the 2001 – 2005 period.

It is important to highlight that in 2005 the National Commission for the Classification of Polio Cases (CONEPO) classified for the first time after 16 years of having notified the last case in the country, one compatible case of Polio from the Departmental Region of Cortes, due to faults in the epidemiological surveillance upon taking a sample 23 days after having initiated the paralysis, and due to clinical findings and a case classified as an adverse event associated to the vaccine from the Metropolitan Region of San Pedro Sula; therefore in 2006 – 2010 period, the surveillance for AFP will be retaken at hospital level carrying out a request and rendition of accounts regarding the management of cases according to levels.

D. ADVANCES OF THE NATIONAL PLAN FOR THE CONTROL OF NEONATAL TETANUS

- Regarding the vaccination of Women at Fertile Age (WFA) during the period from 1990 to December 2005, at national level the yearly national accumulated coverage rates are maintained over 100% with a second dose of TT/Td in women at fertile age (WFA) due to the revaccination of WFA who lost their record card; therefore, beginning in 1999, the coverage rates are monitored with third, fourth and fifth doses. Achieving to December 2005 national accumulated coverage rates with a third dose over 95%, 66% for the fourth dose, and 54% for the fifth dose of Td. It is important to point out that the Metropolitan Health region of SPS, Cortes, Yoro, Choluteca, El Paraíso and Santa Bárbara are the only ones not to achieve coverage rates over 60% for the fourth dose. For the fifth dose, only the departmental region of Lempira surpassed 80%. In 2006, the Departmental Regions must comply with the EPI norms, carrying out an analysis regarding the second and third dose, which allows for the reorientation of actions searching for the fourth and fifth dose, identifying the WFA who can not document with a records card or verbally, their vaccination state, to begin the five dose schematic, emphasizing on women born before1990, considering that the five neonatal tetanus cases in 2003 – 2004 were in WFA under 20 years of age, without any Td dose (Graph 8).

GRAPH 8. NNT CASES, COVERAGE WITH TWO DOSES OF TT IN WOMEN IN CHILD BEARING AGE, HONDURAS 1987 TO 2005



FUENTE: PAI / SS

In the 1998 – 2004 period, there have been 17 TNN cases registered, from the Departmental Health Regions of El Paraíso, Metropolitan Area of SPS, Choluteca, Yoro, Copan, Atlántida and Olancho. In 2005, there were no cases. Of the total number of cases for the period, 60% are from the rural areas, and 40% of the urban areas.

- The epidemiological surveillance of neonatal tetanus allowed to begin in 1993 the surveillance of the not neonatal tetanus; in the 1998-2005 period there have been 133 cases, maintaining a rate under 1 X 100.000 habitants, being in decendant order the Regions of: Santa Bárbara, Metropolitan Area of SPS, El Paraíso, Yoro and Olancho which report the most cases (Table 6).

TABLE 6 . NNT INCIDENCE RATE HONDURAS, 1998-2005

YEAR	NUMBER OF CASES	RATE X 100,000 HAB.
1998	18	0.3
1999	16	0.2
2000	9	0.15
2001	18	0.28
2002	17	0.27
2003	23	0.06
2004	13	0.1
2005	19	0.2

SOURCE: EPI/SH

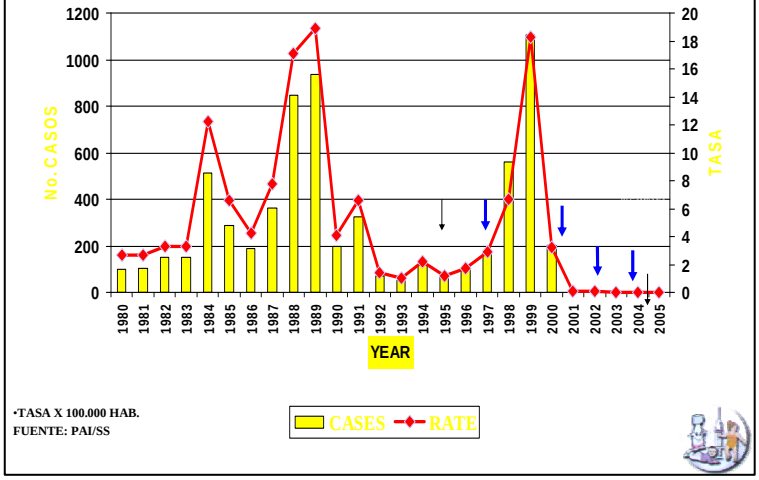
♦ In 2005, the characterization of non neonatal tetanus cases, by age group, the most affected are those over 15 years of age with 95% (18) cases, from which 50% correspond to the ages between 15 and 49 years, the rest are over 50 years of age. There was only one case under 15 years of age. 68% of the cases are from the urban area, 84%

of the cases are male, with a lethality rate of 58%. Confronting this situation, the Program broadened the vaccination to other risk groups of both sexes, intensifying the vaccination actions to groups at risk in the municipalities identified for the 2001 – 2005 period.

E. ELIMINATION OF RUBELLA AND THE CONGENITAL RUBELLA SYNDROME.

- Within the framework of the eradication of measles, the surveillance for rubella has been strengthened, integrated with the measles surveillance, which has allowed the systematization of the notification when cases occur. Rubella has been endemic with a high rate of sub-registration, reporting during the 90s an annual average of 133 cases, with an incidence rate of 2.55 cases x 100.000 habitants, being the most affected group those under one year of age, followed by the 1 – 4 years range (Graph 9).

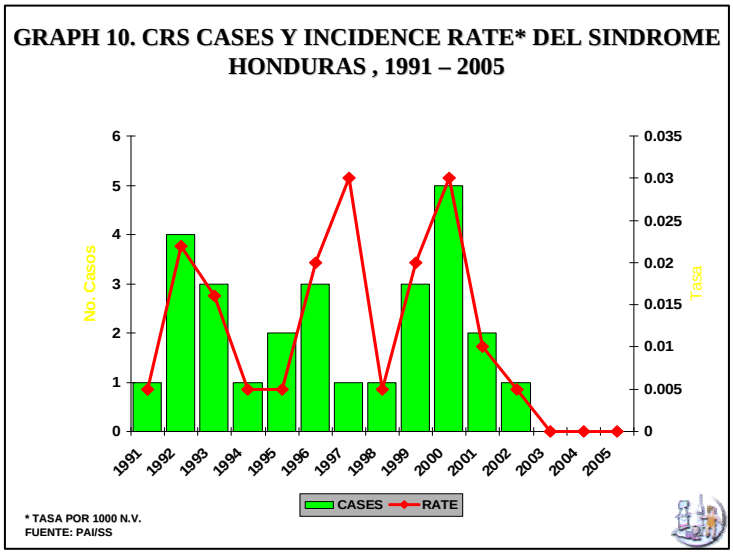
GRAPH 9. RUBELLA CASES AND RATE*
HONDURAS 1987-2005



- In 1997, after the introduction of the Measles, Rubella and Parotiditis vaccine, the rubella and congenital rubella syndrome surveillance was systematized, studying during the 1998 – 1999 period a total of 2,291 suspected cases, of which 66% (1,507) were confirmed by laboratory testing, 36% (535) confirmed in clinic and epidemiological nexus, and the rest were discarded. During the 2000 -2001 period, there was a drastic reduction of the number of rubella cases from 87% (210) during the 1998-1999 period, and only 7 cases during the 2002 - 2004 period (five in 2002 and one in 2003 and 2004, respectively). No cases were registered in 2005. Of the total number of cases for the 2002 – 2004 period, 71% (5) were in children over 15 years of age, and 57% of the cases were female patients.

CONGENITAL RUBELLA SYNDROME (CRS)

- The systematization of the epidemiological surveillance of the CRS beginning in 1998 has allowed the study of 203 suspected cases during the 2000 – 2005 period, confirming 8 cases through laboratory testing, whose main congenital malformation is cataracts. In the 2003 – 2005 period no cases were confirmed. In 2005 there were 48 cases studied at hospital level, which were investigated, confirming the impact of massive vaccination for RS in women and men for the 2002 – 2003 period (Graph 10).

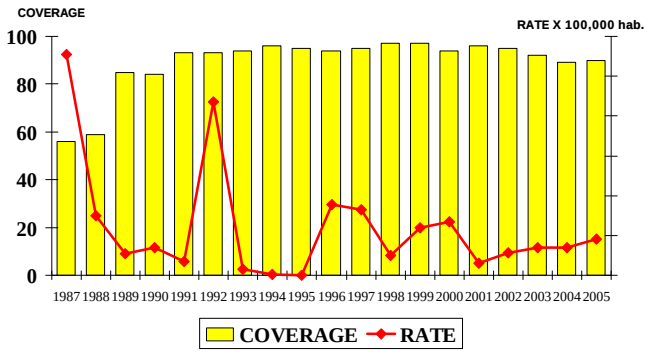


F. DISEASES UNDER CONTROL

WHOPPING COUGH

- Whopping cough is a disease under control, with an irregular behavior for the last few years. For the 1998 – 2005 period there have been 810 confirmed cases, maintaining an incidence over 1 X 100,000 habitants since 2002. During the same period, there have been 20 registered deaths (Graph 11).

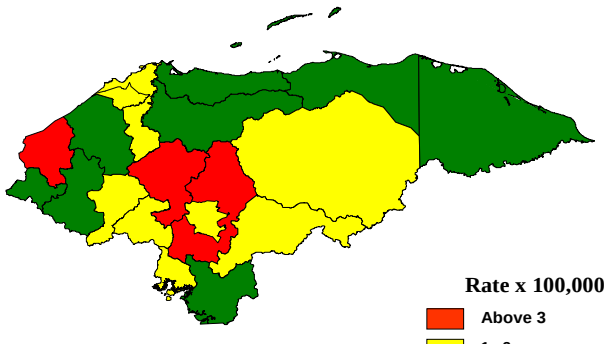
GRAPH 11. PERTUSSIS AND COVERAGE RATE WITH DPT/PENTA IN POPULATION UNDER 1 YEAR OF AGE, HONDURAS 1987-2005



*Hasta semana No.26
FUENTE: PAI/SS

- In 2005 there were 132 cases of whopping cough for a rate of 1.8 for each 100,000 habitants, registering the highest number of cases in descending order for the departmental regions of Metropolitan Area of MDC (28) cases, Copan (18), Comayagua, Cortes and El Paraíso with 12 cases each, Metropolitan Area of SPS (11 cases) and Francisco Morazán (9 cases). Only one case (0.7%) was confirmed through laboratory testing (nasal – pharyngeal culture) from El Paraíso, presenting three surges in the departments of Copan, Comayagua and Cortes, 99% (131) were confirmed as compatible at the clinic and/or epidemiological nexus. The most affected group were those under one year of age (49.1 X 100,000 Rate), followed by the 5 to 14 year old range (0.0001 x 100,000 Rate). From the total number of cases under one year of age (96), only 19% (18) had a complete schematic according to their age, 46% (45) were under two months old, therefore not having the age to begin the vaccination schematic, the remaining 36% had not started and/or finished their vaccination schematic. All surges have been documented, registering five deaths (Map 2).

MAP 2. PERTUSSIS INCIDENCE RATE ACCORDING TO DEPARTMENTAL REGION, HONDURAS 2005



*Fuente: PAI/SS

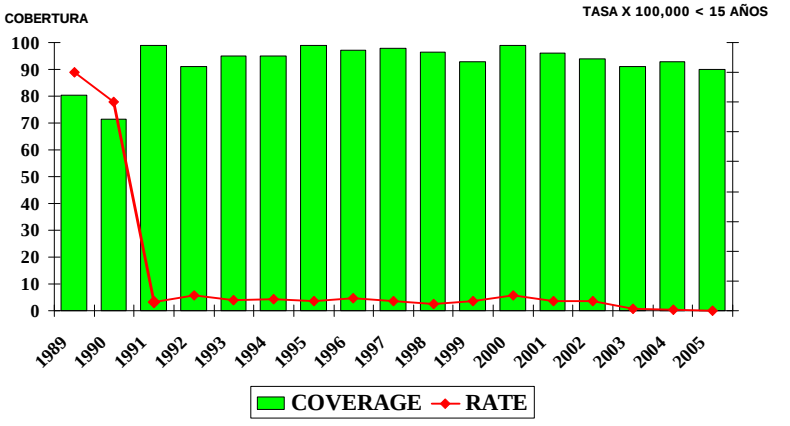
DIPHTHERIA

- 24 years ago there were no diphtheria cases in the country, maintaining an active surveillance, having the diagnostic media at the laboratories. In 2005 no suspected cases were reported.

MENINGITIS DUE TO TUBERCULOSIS

- Upon analysis of the cases registered during the 1998 – 2004 period, there is a rate under a case per 100,000 habitants under 15 years of age, with an average of 10 cases per year, being the Departmental Region of the Metropolitan Area of SPS the one registering near 30% of the cases annually, followed by the Departmental Regions of Comayagua and Atlántida. Considering that the BCG vaccination protects the children against acute extra-pulmonary forms such as the meningitis and linphohematogena due to tuberculosis (milliard) upon carrying out the relationship among children under five years of age, one can observe a decrease in the number of cases; which evidences the impact of the BCG vaccination on the population under one year of age (Graph 12).

GRAPH 12. INCIDENCE RATE OF TUBERCULOUS MENINGITIS TUBERCULOSA AND BCG COVERAGE RATE IN POPULATION UNDER 1 YEAR OF AGE, HONDURAS 1989-2005



- Beginning in the 1004 – 2005 period, the cases of meningitis TB presented in children under five years of age were analyzed, registering 3 cases in the departments of Comayagua, Choluteca and La Paz in 2004; and in 2005 only two cases were confirmed in Francisco Morazán and Yoro, being the most affected group the children under one year of age.

MENINGITIS DUE TO Hib.

Since the year 2000 there is surveillance for the bacterial meningitis at the national hospital sentinel level (Hospital Escuela, at the DC municipality).

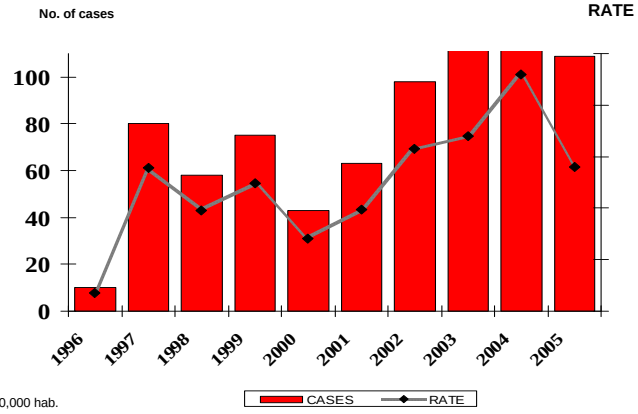
Observing a steady decrease in the number of suspected cases between the ages over one month old and five years of age. During the 2004 – 2005 period there were 43 suspected cases notified, carrying out a complete investigation in 95% of the cases (41) which were studied at the laboratory. 100% were negative by Hib, isolating other bacteria in 11% (5) (Streptococcus viridans and Neisseria meningitidis), and 89% (38) resulted negative.

HEPATITIS "B"

- In order to document the prevalescence of Hepatitis B in the country, surveillance began in 1996, registering during the 1998 – 2005 period, 727 cases at hospital level.

  In 2005 there were 109 confirmed Hepatitis B cases for a rate over 1 per 100,000 habitants. The most affected group were those at and over 15 years of age, at the departments of Olancho, Metropolitan Area of MDC, El Paraíso and Cortes, reporting 69% (75) of the total number of cases. 78% of the cases are of acute infection, 17% are carriers and 4.5% present chronic infection (Graph 13).

GRAFPH 13. CASES AND INCIDENCE RATE*
HEPATITIS B, HONDURAS 1996 - 2005



*Por 100,000 hab.
*Fuente: PAI/SS

PAROTIDITIS

- Parotiditis has been endemic in Honduras, but the sub-registration is high; according to the Secretariat of Health statistics, in 1994 the incidence rate was of 1.82%, and beginning in the 22nd epidemiologic week of 1997 the weekly report was incorporated, with an incidence rate of 10.82 per 100,000 habitants. In 2005 the rate was of 6.4 per 100,000 habitants. The most affected group were those at the 1 – 4 years of age, followed by the 5 – 14 years of age group. By incorporating the

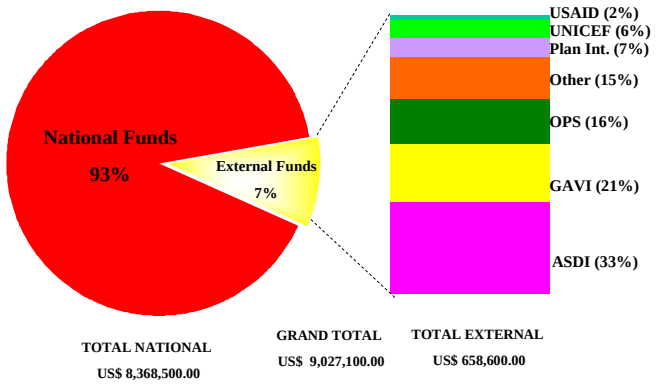
SRP vaccine, there will be a reduction impact on the medium term at the school age population.

III. FINANCING.

A. Government Contribution.

- During the 1998 -2005 period, which corresponds to the multi-annual plan, in average, 90% of the total EPI costs corresponds to national funds; representing 93% for 2005, and the remaining 7% to foreign funds. This is a great achievement for EPI, which guarantees the program sustainability at a national level. Also, for the fourth consecutive year, the travel expenses for the National Vaccination Campaign were incorporated into the budget, as well as the funds for repairs and fuel for the cold chain (Gráfico 14).

GRAPH 14. EPI FINANCING BY SOURCE, HONDURAS, 2005



B. Contribution of the Cooperation Agencies and other donors

- During the 1998 – 2005 period, the financial support from the cooperation agencies behaved similarly, being the most important amount from USAID, followed ASDI, PAHO/WHO, Plan International (beginning in the year 2000), UNICEF, and starting in 2004, the Global Alliance for Vaccination and Immunization and the Vaccine Fund (GAVI/FV). In 2004, the government of Finland gave their support through the Cold chain project. The cooperation agencies have focused their cooperation in some health departments, which has created problems for the financial assignment, specially in those departments that are not project beneficiaries.

IV. EPI OBJECTIVES, GOALS, AND STRATEGIES.

The Objective Mission of EPI: "Lessen the morbidity and mortality in children due to diseases which can be prevented through vaccination for the population under five years of age, with an emphasis on the population under two years of age, fertile age women and risk groups through vaccination in order to continue being certified for the eradication of polio, according to the world declaration, and guarantee the eradication of measles, the elimination of neonatal tetanus, the elimination of rubella and congenital rubella, and the control of serious forms of infant tuberculosis, whooping cough, diphtheria, parotiditis, hepatitis B and invasive diseases by Hib, influenza, diarrheas due to rotavirus, and pneumonias, promoting the popular, local government, public and private sector, and civil society participation".

The Objective Vision of EPI, "Is a technical and normative program, responsible for guarantying the access to indoor and outdoor vaccination services, according to the national vaccination schematic and a target population in a permanent and free form; being able to respond in effective and timely manner to the offer and demand of the population regarding quality, equal vaccination through normative technical processes, and an administration with wide social participation, within the decentralization and co-management policy framework of the Secretariat of Health".

OPERATIVE OBJECTIVES OF EPI, are oriented to improve the efficacy and efficiency of EPI:

1. Promote the spontaneous offer and demand of vaccination services in a consistent form at a health worker level and for the beneficiary population in the context of the healthy municipality policy and the poverty reduction strategy.
2. Supply the service network of the 20 departmental regions with immuno-biological agents, syringes, material, reactants, elimination boxes, document forms and equipment for the execution of vaccination activities, epidemiological surveillance and safe injections.
3. Achieve annual coverage for vaccination of the population under two years of age with two types of immuno-biological agents, eleven year old population, WCBA (12 to 49 years old) and risk groups, over 95% at national levels.
4. Keep the epidemiological surveillance active for the event of diseases preventable through vaccination which are in process of eradication, elimination, and control, through an efficient and timely response according to the disease being treated, complying with the international epidemiological surveillance indicators and the EPI epidemiological surveillance norms.
5. Keep the cold chain equipment working for all levels of service for the 20 departmental regions, guarantying storage and conservation of immuno-biological agents according to the EPI norms.
6. Guarantee the safe application of injectable immuno-biological agents to the EPI target population, implementing bio-security norms, to protect the subject of the vaccination, the health worker and the general population.

National Immunization Schedule, 2006

Type of vaccine	Dose according to schedule and age group					
BCG	**Newborn**					
Sabin	**2 months**	**4 months**	**6 months**	**1-4 years adicional dose***		
DPT/HepB/Hib	**2 months**	**4 months**	**6 months**			
DPT				**18 months**	**4 years**	
MMR	**12 months**					**4 years**
Td	**11 years**	**WCBA 1st dose**	**WCBA 2nd dose**	**WCBA 3rd dose**	**WCBA 4th dose**	**WCBA 5th dose**
Yellow Fever	**Older than 1 year** una dosis**					
Hepatitis B	**Risk groups 3rd dose**					
Influenza	**Risk groups *** one annual dose**					
Pediatric Dt	**Risk groups ****					
Salk***	**2 months**	**4 months**	**6 months**	**4 – 6 years**		

*In annual national campaign
** travelers to endemic zones
***older than 65 years, health services personnel y population from 6 months to 64 years with chronic disease
**** patients with adverse reactions to DPT
***** risk groups immune-suppressed patients and cohabitants of children under 5 years of age

EPI GOALS

1. Homogeneous vaccination of at least 90% of the population under five years of age, with an emphasis on those under two years of age, the population eleven years old, FAW, the population over 60 years of age and risk groups, with EPI vaccines through out the country's municipalities.
2. Sustainability of the eradication certification for polio until achieving a world free of polio.
3. Eradication of measles.
4. Continue the elimination of neo-natal tetanus.
5. Elimination of rubella and the congenital rubella syndrome.
6. Control of whooping cough, diphtheria, serious forms of tuberculosis, mumps, hepatitis B and invasive diseases (meningitis, pneumonia, epiglottis, cellulitis) due to bacteria, Haemophilus influenzae type b, influenza, diarrheas due to Rotavirus and pneumonia.

7. Introduction of two new vaccines (Rotavirus and pneumococcus) into the national vaccination schematic and broadening the coverage of other groups with Hepatitis B (newborns) influenza (population over 60 years old).

Baseline Vaccination and Supplementation, Estimated Annual Targets 2005-2010

Number	**Initial data and goals**							
	Base year	Year of GAVI application	Year 1 of the program	Year 2 of the program	Year 3 of the program	Year 4 of the program	Year 5 of the program	Year 6 of the program
	20 05	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Births	197,159	197,208	199,968	201,388	203,059	204,744	206,443	208,156
Infant deaths *****	5,718	5,719	5,799	5,840	5,889	5,938	5,987	6,036

Surviving infants		191,441	191,489	194,169	195,548	197,170	198,806	200,456	202,120
Pregnant Women		231,351	232,009	235,256	235,896	238,893	240,875	242,874	244,889
Infants vaccinated with BCG		178,776	180,445	183,971	187,290	188,845	194,507	196,121	197,748
BCG Coverage*		91	91.5	92	93	94	95	95	95
Infants vaccinated with VPO3		178,930	179,459	183,970	187,290	190,875	194,506	196,121	197,748
VPO3 Coverage**		91	91	92	93	94	95	95	95
Infants vaccinated with DPT3 ***		179,330	179,459	183,970	187,290	190,875	194,506	196,121	197,748
DPT3 Coverage**		91[a]	91	92	93	94	95	95	95
Infants vaccinated with DPT1 ***		173,797	180,400	184,890	189,314	192,906	197,580	199,217	201,911
Rate of waste[1] in the base year and expected rates for later years		7	7	6	5	5	5	5	5
Infants vaccinated against measles		173,637	176,153	178,085	182,519	185,771	187,311	188,866	190,433
** Measles vaccine coverage		92[b]	92	93	94	95	95	95	95
Pregnant women vaccinated with TT+		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TT+ Coverage****		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vitamin A supplement	Mothers (<6 weeks from delivery)	180,445	183,971	187,290	188,845	194,507	196,121	197,748	114,880
	Infants (>6 months)	91.5	92	93	94	95	95	95	785,330

[a] The country's vaccination coverage rates for the population less than 1 year of age has been calculated based on the total number of births and not on the surviving infants. Considering that the country still does not have a reliable infant mortality registration, and even when there is registration at the departmental level, it is also unreliable due to sub-registration, therefore the data obtained for the country are based on surveys carried out every three or tour years. This will avoid the health personnel from taking for granted the achievement of optimum coverage rates considering the lack of registration.

[b] In the case of MMR, the denominator for the population of 12-23 months of age corresponds to the surviving infants of the previous year (189,169), as seen in table 4, numeral 4075 of the 2005 JRF.

*****Infant mortality rate diminishes from 23 per 1,000 LB to 29 per 1,000 LB in 2005.

STRATEGIES

EPI has defined six intervention strategies to achieve its' objectives and goals, which are:

1. Sustained Horizontal Vaccination:
   a. Indoors, which includes all population demanding vaccination services as well as other medical services, especially within the 8 AM to 4 PM, Monday through Friday. The population is spontaneous demand or is identified upon medical checkup (indoors).
   b. Outdoor Vaccination, are the vaccination services offered to the population that does not demand the service, due to different causes such as: geographical inaccessibility, cultural or economic reasons. They can receive care through a

[1] Formula to calculate the rate of waste for a vaccine (as a percentage): [(A – B) / A] x 100. Where : A = Number of doses distributed according to supply record, correcting for remainders at the end of the supply period; B = number of immunizations with the same vaccine in the same period. In the case of new vaccines, see table α , after Table 7.1.

basic service package offered (outdoor). Health personnel programs two or three visits to the communities or Influence Geographical Area (IGA) during the year; allowing for the application of the pending doses, and to increase and achieve optimum coverage. The outdoor vaccination is programmed in anticipation, promoted, logistic support is sought, and vaccination listings are revised (LINVI) of the US, in order to assign priorities to the visits.

2. Special Vaccination Operations, are carried out in risk locations due to the low coverage and high incidence of cases attributed to diseases that can be prevented through vaccination, applied at fixed locations or home to home. Special vaccination operations are carried out when a suspected case occurs in a community; field visits are carried out in order to vaccinate susceptible patients. This includes document revision (vaccination record card), application of immuno-biological agents, sample taking for laboratory confirmation if necessary or possible, and follow up to guarantee the effective control of the problem.

3. Massive Vaccination: It is carried out through out the country, at least once each year, for a short period of time but with specific objectives and goals within the disease elimination and eradication framework, and seeks to apply the most doses possible of a vaccine, through the coordination and effort from all sectors, which allows access to the service for all localities of the country. In Honduras there is an annual massive vaccination or "Jornada Nacional de Vacunación" (in 1984 the first vaccination week took place), for a short period of time, and seeks to apply the most doses possible of a vaccine, through the coordination and effort from all sectors, focusing efforts mainly in the municipal authorities, being they the responsible organization for the well being of the municipality and the rest of the health units it has.

4. Basic health service package. It is a characteristic from EPI in order to guarantee the delivery of a standardized intervention package which assures cost effective care for the extreme poverty population, including autochthonous groups, who consider the actions regarding: morbidity care, promotion services for health for children including nutrition; integral care for pregnant women; surveillance and control of vectors, vaccination and community organization.

5. Epidemiological surveillance of diseases targeted for vaccination: The surveillance of the whole public and private service network allows for the detection, notification, investigation and documentation of all suspicious case of diseases that can be prevented through vaccination, for the execution of control measures. Special operations are carried out for vaccination when a suspicious case occurs in a community; field visits are carried out in order to vaccinate susceptible patients. This includes document revision (vaccination record card), application of immuno-biological agents, sample taking for laboratory confirmation if necessary or possible, and follow up to guarantee the effective control of the problem.

6. The information, education and communication plan, related to the audio-visual material production activities, based on the interpersonal and group communication

at the health service level, oriented towards modifying the knowledge, attitudes and practices of the population and health workers regarding vaccination.

7. Social Participation. Within the framework of the pact for the children to achieve the vaccination goal, all sectors of civil society are incorporated through the local governments (Municipal Corporations) and the private enterprise.

8. Development a implementation of a computerized information system for EPI, at a departmental and municipal level, since this is one of the weakest aspects due to the lack of equipment and human resource for the proper implementation of an updated system.

V. STRATEGIC LINES BY COMPONENT IN THE MULTI-ANNUAL (FIVE-YEAR) PLAN 2006-2010.

1. Political Priority And Legal Bases

- Application of the vaccination law to guarantee the budget annual assignment from the National Income and Outcome Budget, and compliance with the vaccination agreement between the Secretariat of Health and PAHO, for the monthly payment and timely supply of vaccines, syringes and materials to EPI.
- Follow up on the reformulation of the vaccination law by National Congress to incorporate into it the cold chain components, the epidemiological surveillance, social mobilization, supervision and monitoring, and evaluation components, each with its' budget.
- Follow up on the approval of the national procedures for solid waste disposal.
- Reformulation and approval of the obligatory decree for the vaccine registration card
- Follow up on the compliance of the agreements and commitments related to EPI (RESSCAD, Trifinio)
- Incorporation of the EPI Topic, in at least three Minister Council Meetings.
- Continue with the Ruling of the vaccine registration and suppliers.

2. Programming And Planning.

- Trimester monitoring of the AOP/EPI, tracing indicators of EPI/PRS/PNNA
- Follow up on the estimation process of the EPI target population by location; implementation of the programming notebook.
- Strengthening of the EPI information subsystem, reinstalling and follow up of the SIVAC and LINVI computer system to achieve homogeneous 95% coverage.
- Follow up and formulation of financial resource mobilization projects.

3. Organization And Coordination

- Establish an incorporation agreement for the vaccination actions and safe vaccination (feasibility study for safety trenches at the municipal capital), as a

responsibility of the municipal governments with the Municipal Association (Asociación de Municipios de Honduras - AMHON) , and the Honduran Institute of Social Security (Instituto Hondureño de Seguridad Social - IHSS) and the Private enterprise.

- Follow up meetings for the school coordination and FCM to maintain the EPI program updated
- Meetings with CCIS/ CCNI/CONEPO.
- Organization of the multi-disciplinary committee to generate policy regarding injection safety at the national level.

4. Biological Material, Supplies, Equipment And Infrastructure.

- Supply of immuno-biological agents, syringes, syringe elimination boxes, supplies and other EPI materials, at a national level, according to updated norms.
- Incorporation into the national schematic of new vaccines, 2006 Hepatitis B to newborns and Influenza to people older than 60 years of age, 2007, Rota virus to the population under one year of age, 2009, vaccine against Neumococo population under one year of age.
- Establishment of agreements for the procurement of up-shots against the Influenza pandemic.
- Strengthening of the virology and microbiology laboratory facilities by supplying reactants, materials and supplies, to diagnose the diseases that can be prevented through vaccination, within the epidemiological surveillance framework, and quality control of the vaccines supplied at all levels of the service network..
- Supply of documents and programming notebooks for the cold chain and epidemiological surveillance, for the control, monitoring and assessment at different levels of the service network.
- Continue with the adecuation, remodeling and furniture supply process for the vaccination environments of at least 50% of the health centers, and procurement and supply of needle destroyers to be used in vaccination of at least 60% of the HU in the service network.
- Continue with the procurement process to supply information equipment to the municipal capitals, to work with the EPI information subsystem (SIVAC) and LINVI for the monitoring of adverse events.

5. Cold chain.

- Annual computerized inventory of the cold chain in 100% of the service network in the 20 departmental regions, allowing for the identification of equipment needs, equipment substitution, and rehabilitation.
- Evaluation of the work conditions of the departmental warehouses, to follow up on the regulation and ruling of these; rehabilitation and/or reconstruction if required, to maintain the optimum storage conditions of the immuno-biological material, reducing the possibilities of contamination.
- Construction and equipment of three departmental warehouses in the departments of la Paz, Intibuca and Lempira.

- Continue the supply process of spare parts and fuel to the cold chain at national level
- Continue with the readecuation process of the cold chain workshops in the departmental regions, even though the process of strengthening the cold chain has not started through the supply of the cold chain equipment (substitution of kerosene refrigerators with electric and/or solar, freezers, thermoses, thermometers and ice packs).
- Formulation and implementation of the national / departmental plan for technical logistic preventive and repair plan of the cold chain functioning, emphasizing on solar energy equipment.
- Strengthening of the surveillance system of the cold chain through a process of monitoring, supervision and assessment of the cold chain in the 20 health departmental regions, following up on the performance process of the cold chain technicians in nine departmental regions.

6. Training

- Training of the technical team of EPI at central and departmental levels, through scientific meetings, congress, auto-instruction modules, and other training modalities.
- Continue the training process and updating of the human resource training schools regarding health, medical science faculty, professional associations regarding health (physicians, nurses, other), regarding the application of the updated EPI norms, for the different components, with an emphasis in the eradication, elimination, and control plans for diseases that can be prevented through vaccination, safety injection and cold chain plans.
- Continue the training process for the departmental teams, on the implementation and follow up for auto-instruction modules for safe vaccination at the institutional and community levels; community EPI module; LINVI system; cold chain; and development of educational material of local production to reduce the lost opportunities for vaccination, lessen the waste of vaccines, and safe vaccination
- Incorporate at national and departmental levels of the public hospital sector, medical sector, IHSS, NGOs, PDOs, and community leaders into the norm update process, with an emphasis on the vaccination schematic, epidemiological surveillance, cold chain and safe vaccination through specific training processes in service.
- Development of a training plan for the public, private and community sector personnel, on the introduction of new vaccines 2006 Hepatitis B to newborns and Influenza to people older than 60 years of age, 2007, Rota virus to the population under one year of age, 2009, vaccine against Neumococo population under one year of age

7. Communication And Social Mobilization

- Follow up on the implementation process of the IEC/EPi plans at the departmental, municipal, local and community levels, and the development of local plans for

vaccination, epidemiological surveillance, and injection safety, through the participation of local governments, civil society, and community leaders, for the self management of the resources with in the political framework of Citizen Power, documenting and systemizing the actions.

- Consolidate the design, validation and printing of educational material, radio announcements, radio education programs, TV spots and video documentaries on the EPI norms, with the departmental participation supporting the national vaccination campaigns and the sustained program for the reduction of the lost opportunities for vaccination, strengthening the production of educational material at a local level, and the incorporation of the private enterprise in its' production.
- Strengthening the rescue process for local success full EPI initiatives for their systematization, follow up and development of successful experience Exchange events at the departmental and municipal level, for their implementation at the national level according to the characteristics of each departmental region.
- Concert and incorporate the media, public and private sector into the management and strategic covenant establishment supporting the sustained program, and the national and departmental campaigns, to distribute the education messages and other communication and information activities.
- Carry out five national vaccination campaigns per year, and a follow up campaign for measles (2008), three campaigns for the promotion and introduction of new vaccines (2006 Hepatitis B to newborns and Influenza to people older than 60 years of age, 2007, Rota virus to the population under one year of age, 2009, vaccine against Neumococo population under one year of age), incorporating the public sector, private enterprise and municipal governments within the framework of the IEC/EPI plan, and the citizen power strategy.
- Strengthening the IEC/EPI plan at the departmental and municipal level through the supply of loud speakers, tape recorders and megaphones, for the execution of local promotion delivering messages that support the sustained program and the national and departmental campaigns.
- Consolidate at the national and departmental level the incentive plan according to the performance of the departmental regions regarding the efficiency and efficacy of EPI, incorporating the municipal governments and the private enterprise in supplying the incentives.
- Development of a pilot experience of incorporating the municipal governments as co-managers of EPI, in risk municipalities, through the execution of projects and the development of a municipal EPI registration, within the IEC/Infancy Pact plan and the citizen power strategy.
- Management and search for additional funds to strengthen the critical EPI components, through the formulation and presentation of projects to the international cooperation, NGOs, PAHO, and the private enterprise at the national and departmental level.

8. Operation Expenses

- All the activities of this component are oriented towards the management of the EPI functioning, in reference to the personnel salaries, materials and office supplies,

public services, preventive maintenance of office equipment, buildings and vehicles, as well as the shipment of simples and customs procedures of vaccines and syringes.

9. Supervision And Monitoring

- Consolidation of the monthly and trimester monitoring of the vaccination coverage, epidemiological surveillance, cold chain and financial execution at the national, departmental, municipal and local level, incorporating the municipal corporations in the process.
- Follow up of the EPI supervision process, in all the components at the national, departmental, municipal and local level and the national and/or follow up campaigns, at the planning, programming and execution stages, identifying and documenting the achievements, problems and interventions proposed, and determining the responsibility level according to the service network.
- Systematization and consolidation of the rapid monitoring process of coverage, twice per year, and incorporating it as an element in the supervision according to the service network levels.
- Conformation and training of the national technical team for supervision, with the participation of departmental epidemiologists and coordinators
- Strengthening of the EPI information subsystem, developing and implementing a quality control plan for the information generated by EPI at the different service network levels.

10. Epidemiological Surveillance

- Strengthening the regular vaccination program through the actions of indoor vaccination, outdoor vaccination, Basic service package, to reach the annual homogenic coverage of 95%, in 80% of the municipalities of the country, and implementing the national and departmental plan formulated by the departmental technical teams in 2005.
- Execution of five national vaccination campaigns. One per year within the eradication of polio framework through the massive vaccination of the population under five years of age, with an additional dose of Sabin, a follow up campaign for measles with the application of a dose of SR to the population between 1 and 4 years of age, in order to eradicate measles, and the execution of a national campaign against influenza, starting in 2006.
- Follow up, characterization, and assigning of priorities of the interventions in risk municipalities and localities with coverage rates under 95% in the 20 departmental regions of the country, and rescue the local vaccination strategies, with community leaders following up and searching for susceptible population under two years of age.
- Retake, systemize, and document the incorporation of the private medical sector into the vaccination, epidemiological surveillance, and safe vaccination actions in the departmental regions of DC, San Pedro Sula, Cortes, Atlántida and Choluteca.
- Execution of the departmental vaccination campaigns for regions with coverage rates under 90% (one per year), and of special operations for vaccination in

municipalities in risk of new or re-incident cases, and mancommunities with priority interventions.

- Documentation and systematization of the vaccine control process with an emphasis on the loss percentage through the follow up of the application in the programming notebook.
- Certification of the massive vaccination campaign against rubella, following PAHO/WHO methodology and country reporting.
- Follow up on the implementation process of basic indicators from EPI, at the Analysis Unit, national and departmental levels.
- Strengthening of the epidemiological surveillance of diseases that can be prevented through vaccination and adverse events, at the national, public sector, private sector levels, allowing detection, training, investigation, sample taking, and follow up on the execution of control measures in 100% of the suspicious cases, and/or shipment of samples of those cases suspicious of diseases subject to eradication and elimination, to reference labs at the international level.
- Strengthening the surveillance of hepatitis B, congenital rubella syndrome, diarrhea due to rotavirus in sentinel hospitals to be implemented in 100% of the hospitals before the introduction of the rotavirus vaccine in 2007, and meningitis and pneumonia in National Hospitals, to be broadened to all hospitals in the country before introducing the neumococus vaccine in 2009.
- Follow up on the eradication plans for polio, measles, the elimination of rubella and SRC, and the control and elimination of neonatal tetanus, as well as control of all the other EPi diseases, and the safe injection plan.
- Implementation and systematization of the weekly monitoring of the epidemiological surveillance parameters for acute flaccid paralysis (PESS), measles / rubella (MESS) and SRC at national level in the 20 departmental regions.
- Strengthening of the vaccination and epidemiological surveillance action at border departmental regions through the execution of meetings and assessment work with technical teams from El Salvador, Guatemala and Nicaragua.
- Formulation, editing, and printing of three national bulletins on EPI epidemiological surveillance to inform on EPI advances.
- Systematization of the active search protocol for diseases that can be prevented through vaccination, twice per year in the 20 departmental regions, with an emphasis at the hospital level, CESAMOS and CESAR, at institutional and community levels (education centers, markets, other).

11. Investigation

- Development of specific investigations coordinated with the Medical Sciences Faculty (FCM) for Undergraduate programs, and for Masters programs in Public Health and Epidemiology, being interest topics for EPI.
- National distribution of investigation results, carried out at all service network levels, PDOs, NGOs, and other.

12. Evaluation.

- Preparation and execution of the EPI international evaluation in 2006; distribution of results and implementation of recommendations at national level.
- Execution of ten national evaluation meetings (two per year) regarding the technical and administrative capacity of EPI in all its' components, with the participation of the technical teams.
- Development of final evaluation protocols for the national plan of injection safety (GAVI/FV) in 2006, distribution of results and printing of the final report.
- Computerized systematization of the bimestrial and annual evaluation process of EPI.

Main lines of action	**Term**
1. Application of the vaccine law to guarantee annual budget allocation in the Honduras' general revenue and disbursement budget and **annual** compliance with the vaccines agreement between the Ministry of Health and PAHO for the monthly payment and timely supply of vaccines, syringes, and EPI input	**Annual**
2. Strengthening of the EPI information subsystem, reinstatement, and monitoring of computerized SIVAC and LINVI operations to improve the quality of information registries at all levels	**2007-2010**
3. Strengthening of the cold chain through the provision of equipment to Health Units (substitution of kerosene refrigerators for electric and/or solar ones, freezers, thermos, thermometers and packages of ice) and implementation of a maintenance plan	**2006-2008**
4. Monitoring of the implementation of IEC/EPI at the municipal, local, and community levels and development of local plans for vaccination, epidemiological surveillance, and injection safety with the participation of local governments, organized civil society, and community leaders in the self-management of resources within the health sector policy framework, documenting and systematizing actions	**2006-2010**
5. EPI supervision of all components at every level, including social security and the private sector, identifying and documenting achievements, problems, and proposed interventions, determining the level of responsibility according to the services network	**2006-2010** **Ongoing process**
6. Strengthening of the regular vaccination program to achieve 95% annual uniform coverage in at least 80% of the country's municipalities through: Sustained intramural vaccination; Delivery of the Basic Health Services Package (PBSS) Vaccination operations every 2 months in cities and remote areas Execution of a vaccination campaign in at-risk areas; Execution of a national vaccination campaign to search for susceptible individuals; Coordination and co-management of municipal governments.	**2006-2010** **Ongoing process**
7. Evaluation of all EPI components through two annual meetings with the participation of national technical, departmental, and cooperating teams.	**2006-2010** **Ongoing process**

Summary of the Action Plan for the Expanded Program on Immunization and Funding Source, Honduras 2010

Component	Type of Cost	External Funds									National Funds						General Total
		PAHO/Country	PAHO/Reg.	USAID	UNICEF	SIDA	Int. Plan	GAVI	Total	%	IDB	EP/GM	USAID F. COUNTER	Government	National	%	
1 Political Priority and Legal Bases	INV.																
	REC.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	11.0	100.0	11.0
	TOTAL	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**11.0**	**11.0**	**100.0**	**11.0**
2 Programming and Planning	INV.																
	REC.	2.0	0.0	0.0	0.0	0.0	10.0	3.0	15.0	26.8	0.0	0.0	8.0	33.0	41.0	73.2	56.0
	TOTAL	**2.0**	**0.0**	**0.0**	**0.0**	**0.0**	**10.0**	**3.0**	**15.0**	**26.8**	**0.0**	**0.0**	**8.0**	**33.0**	**41.0**	**73.2**	**56.0**
3 Organization and Coordination	INV.																
	REC.	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	14.3	0.0	0.0	0.0	12.0	12.0	85.7	14.0
	TOTAL	**2.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2.0**	**14.3**	**0.0**	**0.0**	**0.0**	**12.0**	**12.0**	**85.7**	**14.0**
4 Biologicals and Supplies	INV.																
	REC.	2.5	0.0	0.0	0.0	0.0	10.0	0.0	12.5	0.1	0.0	25.5	5.0	15935.0	15965.5	99.9	15978.0
	TOTAL	**2.5**	**0.0**	**0.0**	**0.0**	**0.0**	**10.0**	**0.0**	**12.5**	**0.1**	**0.0**	**25.5**	**5.0**	**15935.0**	**15965.5**	**99.9**	**15978.0**
5 Cold Chain	INV.						15.0	5.0	20.0								20.0
	REC.	0.0	5.0	0.0	0.0	0.0		5.0	10.0		0.0	0.0	79.3	342.0	421.3		431.3
	TOTAL	**0.0**	**5.0**	**0.0**	**0.0**	**0.0**	**15.0**	**10.0**	**30.0**	**6.6**	**0.0**	**0.0**	**79.3**	**342.0**	**421.3**	**93.4**	**451.3**
6 Training	INV.																
	REC.	0.0	34.5	0.0	0.0	0.0	7.0	0.0	41.5	9.7	0.0	0.0	5.8	380.0	385.8	90.3	427.3
	TOTAL	**0.0**	**34.5**	**0.0**	**0.0**	**0.0**	**7.0**	**0.0**	**41.5**	**9.7**	**0.0**	**0.0**	**5.8**	**380.0**	**385.8**	**90.3**	**427.3**
7 Mass Communication and Mobilization	INV.																
	REC.	0.0	8.0	46.2	8.0	0.0	26.0	10.0	98.2	28.0	0.0	86.6	10.0	156.0	252.6	72.0	350.8
	TOTAL	**0.0**	**8.0**	**46.2**	**8.0**	**0.0**	**26.0**	**10.0**	**98.2**	**28.0**	**0.0**	**86.6**	**10.0**	**156.0**	**252.6**	**72.0**	**350.8**
8 Operating Expenses	INV.																
	REC.	4.5	0.0	0.0	0.0	0.0	0.0	0.0	4.5	4.3	0.0	0.0	16.5	84.0	100.5	95.7	105.0
	TOTAL	**4.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.5**	**4.3**	**0.0**	**0.0**	**16.5**	**84.0**	**100.5**	**95.7**	**105.0**
9 Supervision	INV.																
	REC.	3.0	0.0	0.0	0.0	0.0	0.0	9.6	12.6	13.1	0.0	0.0	9.5	74.0	83.5	86.9	96.1
	TOTAL	**3.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**9.6**	**12.6**	**13.1**	**0.0**	**0.0**	**9.5**	**74.0**	**83.5**	**86.9**	**96.1**
10 Execution	INV.																
	REC.	5.0	10.0	0.0	19.0	218.7	0.0	20.0	272.7	69.1	0.0	20.0	2.0	100.0	122.0	30.9	**394.7**
	TOTAL	**5.0**	**10.0**	**0.0**	**19.0**	**218.7**	**0.0**	**20.0**	**272.7**	**69.1**	**0.0**	**20.0**	**2.0**	**100.0**	**122.0**	**30.9**	**394.7**
11 Epidemiological Surveillance	INV.																
	REC.	4.0	10.0	0.0	0.0	0.0	0.0	0.0	14.0	16.9	0.0	0.0	0.0	69.0	69.0	83.1	83.0
	TOTAL	**4.0**	**10.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**14.0**	**16.9**	**0.0**	**0.0**	**0.0**	**69.0**	**69.0**	**83.1**	**83.0**
12 Research	INV.																
	REC.	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5	1.2	0.0	0.0	0.0	40.0	40.0	98.8	40.5
	TOTAL	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.5**	**1.2**	**0.0**	**0.0**	**0.0**	**40.0**	**40.0**	**98.8**	**40.5**
13 Evaluation	INV.																
	REC.	0.0	20.0	0.0	0.0	0.0	15.0	20.0	55.0	69.6	0.0	0.0	0.0	24.0	24.0	30.4	79.0
	TOTAL	**0.0**	**20.0**	**0.0**	**0.0**	**0.0**	**15.0**	**20.0**	**55.0**	**69.6**	**0.0**	**0.0**	**0.0**	**24.0**	**24.0**	**30.4**	**79.0**
	INV.						**15.0**	**5.0**	**20.0**								**20.0**

TOTAL	**REC.**	**23.5**	**87.5**	**46.2**	**27.0**	**218.7**	**68.0**	**67.6**	**538.5**		**0.0**	**132.1**	**136.1**	**17260.0**	**17528.2**		**18066.7**
	TOTAL	***23.5***	***87.5***	***46.2***	***27.0***	***218.7***	***83.0***	***72.6***	***558.5***	***3.1***	***0.0***	***132.1***	***136.1***	***17260.0***	***17528.2***	***96.9***	***18086.7***