



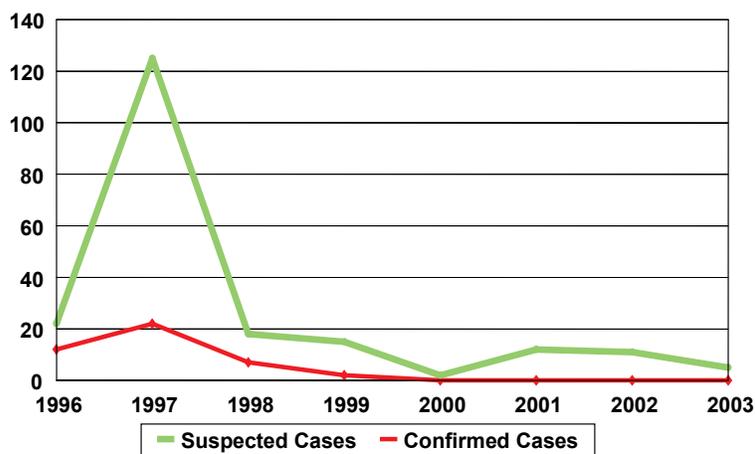
Immunization Unit
Family and Community Health Area



TWENTY-FIRST CARIBBEAN EPI MANAGERS' MEETING

FINAL REPORT

**Reported Suspected and Confirmed Cases of CRS
English-speaking Caribbean and Suriname, 1996-2003***



Source: MOH Reports to EPI-CAREC

* Week 43

**Belize City, Belize
15-18 November 2004**

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Executive Summary

Control of vaccine-preventable diseases remains exemplary in the countries of the sub-Region, and all should be congratulated on their efforts. No measles cases were confirmed up to week 43 of 2004 -despite careful surveillance- and there were no confirmed rubella cases for 2002, 2003, and 2004 to date. The last case of Congenital Rubella Syndrome (CRS) occurred in 1999 in Suriname.

More than 90% of the countries in the sub-Region are using a two-dose MMR (measles-mumps-rubella) strategy. Those countries must measure coverage of each dose, and calculate the number of children who have received two doses, one dose or no doses of vaccine. Coverage for the second dose of MMR must be 95% or greater to prevent the accumulation of susceptibles. According to the calculation of susceptibles for measles, the number of susceptibles exceeds the birth cohort of the Region. For both measles and rubella, importation still remains the greatest risk for re-emergence.

Integrated measles and rubella surveillance must be strengthened, especially for women who acquire rubella in pregnancy. The proportion of clinical specimens that were received by the laboratory within 5 days is still very low and must be improved. Every effort is being made to encourage countries to ship specimens to the CAREC laboratory as quickly as possible and have in-country mechanisms for specimen transportation.

Until the world is certified polio-free, oral polio vaccine (OPV) remains the vaccine of choice and there should be no change in the current policy. In 2004, the acute flaccid paralysis (AFP) rate was 0.5 in the sub-Region. Countries need to be diligent in identifying and investigating AFP cases. Seventeen of 21 countries have completed and submitted laboratory inventories, and only one (CAREC) holds material potentially infectious for wild polioviruses.

In 2004, due to hurricanes, several countries experienced widespread devastation. Countries need to ensure that written plans for disaster management including EPI are in place and that appropriate training of health care workers has been conducted.

With increasing interest in influenza and the potential for a pandemic, countries need to assess their influenza situation and determine whether introduction of the influenza vaccine is warranted. Surveillance of influenza infection must be strengthened.

The estimated total cost of EPI is US \$15.1 million, of which 95% will come from national budgets. Governments must ensure that invoices for vaccine supplies are paid in a timely way, within the 60 days allowed. Failure to pay for supplies on time jeopardizes maintenance of routine immunization and may lead to widespread, rather than localized, shortages.

Effective management and supervision of the implementation of country EPI Plans of Action remains the backbone of the Caribbean program. Countries in the Caribbean face challenges of staff shortages.

The EPI managers taking part in the XXIst EPI Managers' Meeting should be congratulated for their tireless efforts to reach all children and protect them from vaccine-preventable diseases. Governments must continue to keep immunization high on their lists of priorities. In some countries, there is a charge for vaccines which may be an impediment to maintaining high coverage. Governments should continue to strive to make vaccines free of charge.

We would like to congratulate Suriname for receiving the 2004 Surveillance Award. Awards for second and third place went to Trinidad and Tobago and Bahamas respectively. We would like to congratulate Belize for receiving the new EPI Award—the Henry C. Smith Immunization Award.

I. Introduction

The 21st Meeting of the Caribbean EPI Managers was held in Belize City, Belize, from 15-18 November 2004. Dr. Elizabeth Ferdinand, Acting Chief Medical Officer, Barbados, chaired the meeting. Dr. Jon Andrus, Chief, Immunization Unit, PAHO, served as Secretary. Participants were welcomed by Mr. Vildo Marin, Honorable Minister of Health and Environment. Mr. Marin stated that in Belize there is nothing more important than the health of the mother and child, therefore, high priority is given to the EPI program. The government of Belize publicly acknowledged the health workers, of which the majority are women, who run the EPI program. Dr. Jon Andrus noted that the Caribbean countries have been global leaders in EPI. The tools that have been developed here are being used by the Global Alliance for Vaccines and Immunization (GAVI) and other countries of the world to strengthen routine immunization services.

The meeting brought together over 60 health officials from 26 countries of the English-speaking Caribbean, Suriname, the Netherlands Antilles, Aruba, the French Department of Martinique, the United States, and Canada. Netherlands Antilles representatives came from Curaçao, Saba, St. Eustatius, and St. Maarten. PAHO/FCH staff and consultants as well as staff from the Caribbean Epidemiology Center (CAREC) and the Caribbean Program Coordination Office (CPC) also attended.

II. Objectives of the Meeting

In addition to EPI program reviews and development of annual work plans for 2005 by each country, the main objectives of the meeting included:

- Analyze the status of measles elimination;
- Evaluate the status of rubella/CRS elimination;
- Review progress to sustain polio eradication;
- Analyze the status of the EPI;
- Discuss status/improvement of monitoring of adverse reactions;
- Discuss the introduction of new vaccines;
- Review selected topics of interest, such as logistics and disaster management;
- Discuss rotavirus surveillance; and
- Develop country action plans with specific budgets for each activity in order to achieve the targets and objectives set for 2005.

III. Immunization and Vaccine-preventable Diseases

1. Immunization Coverage

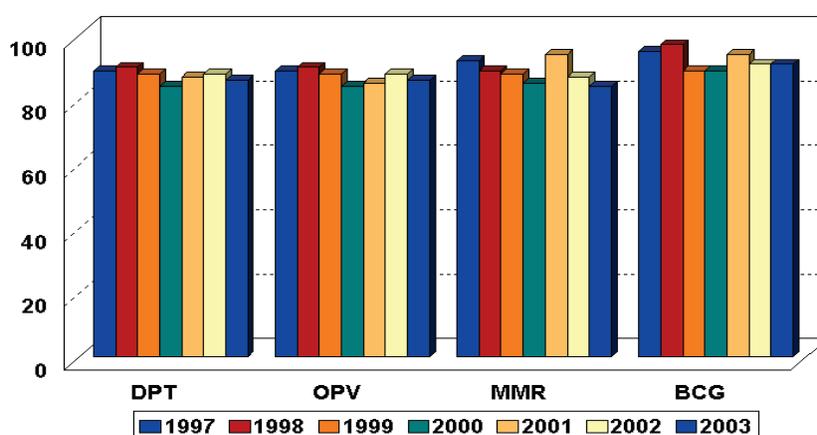
Immunizations, which are a major part of primary health care, are delivered through a series of government clinics throughout all the countries. The private sector continues to play an important role. In most countries the vaccination schedule is

harmonized and there is private sector representation in EPI technical committees. In some countries, the private sector is requesting to be more involved in EPI.

The Ministry of Health (MOH) in the majority of countries has accepted the role of auditing and monitoring of the EPI (such as cold chain status) in the private health sector. In most countries, immunization data of the private sector is usually sent to the MOH.

In 2003, the overall coverage for all 19 countries was DPT 86%, OPV 86%, MMR 84%, and BCG 91% (See Figure 1).

Figure 1. Immunization Coverage (%) for Selected Antigens, 1997-2003



Source: MOH Reports to FCH/IM/CAREC

The overall coverage has remained relatively constant except for Jamaica and Suriname. Possible explanations for the decrease in coverage includes the introduction of a fee for service and sporadic shortages of vaccine. Ten countries have sustained a vaccination coverage of antigens greater than 95%.

Vaccination coverage of selected countries was reviewed according to their geopolitical units. In 2003, Guyana had 6 regions with coverage 80 to 94% for most antigens. In Jamaica, only 1 of the 14 parishes has MMR coverage over 90% and 10 parishes have coverage less than 80% (See Table 1).

Table 1. Distribution of MMR Coverage (12-23 months) in Districts of Selected Countries, 2003

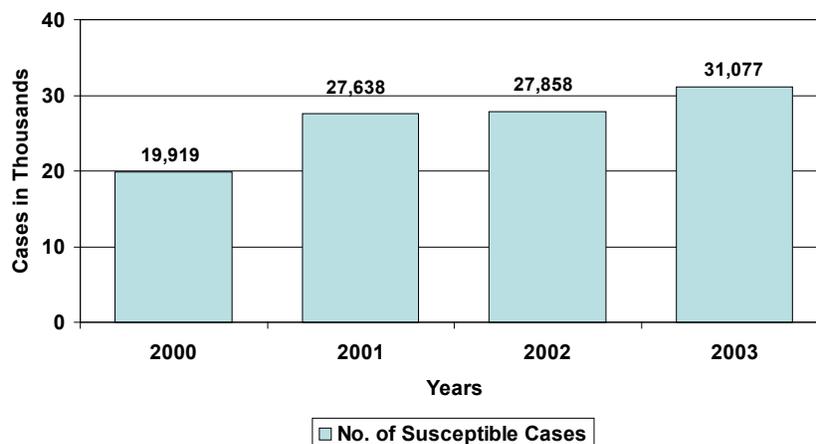
COUNTRY	TARGET POP. 2003	MMR COVERAGE (%)		# ADMIN. AREAS	ADMIN. AREAS MMR % COVERAGE 2003				POP. NOT REC'D MMR 2003
		2002	2003		<50	50-79	80-94	>95	
BELIZE	7,705	89	96	6 Districts	0	0	2	4	308
GUYANA	17,855	93	89	10 Regions	0	0	7	3	2,051
JAMAICA	51,947	86	79	14 Parishes	0	11	3	0	10,909
TRINIDAD/ TOBAGO	18,096	87	88	9 Counties	0	0	8	1	2,172

Source: MOH Reports to EPI/CAREC

Vaccination coverage in Jamaica and Suriname needs to be urgently strengthened for all antigens. In 2003, the vaccination coverage for OPV3 in Jamaica was 81% and that for Suriname was 74%.

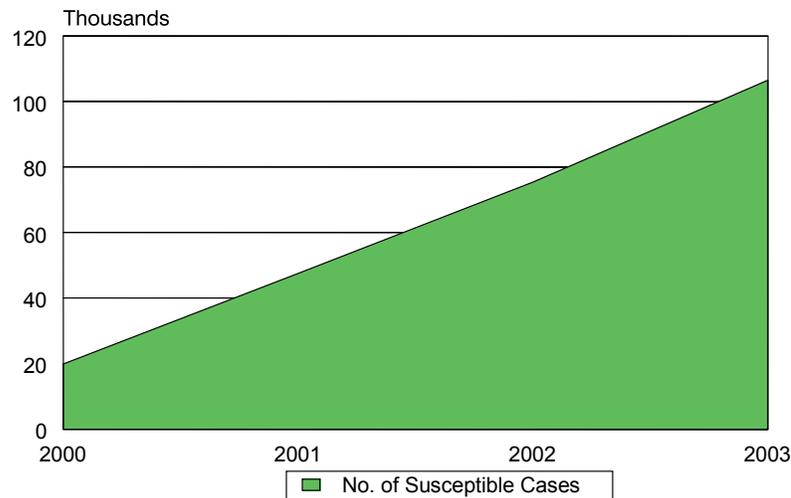
With routine vaccination coverage below 95% in 1-year-old children, measles susceptibles could have accumulated since 2000-2001, years of the last round of follow-up campaigns. The yearly population of 1-year-old children susceptible for measles was: 19,919 in 2000; 27,638 in 2001; 27,858 in 2002; and 31,077 in 2003 (See Figure 2). The estimated number of children susceptible for measles at the end of 2003 was 106,412 (Figure 3), corresponding to 86% of a typical birth cohort (123,176 in 2003). Theoretically, there is almost one birth cohort of susceptibles, and follow-up campaigns should be scheduled no later than 2005. However, all countries (except Suriname) are now routinely administering a second dose of a measles-containing vaccine, achieving coverage rate of this second dose close to or higher than 90%. Health authorities decided that, if the percentage coverage for the second dose of measles vaccine is less than 90%, countries should consider “mop-up” vaccination efforts.

Figure 2. Annual Number of Susceptibles English-speaking Caribbean and Suriname, 2000-2003



Source: Ministry of Health Reports to EPI/CAREC

**Figure 3. Accumulation of Measles Susceptibles
English-speaking Caribbean and Suriname, 2000-2003**



Source: MOH Reports to EPI/CAREC

Vaccines Introduced in the Infant Schedule:

Haemophilus influenzae type b (Hib) and hepatitis B vaccines are part of the infant immunization schedule in the public sector in all countries except Dominica and Suriname. Fourteen countries are using the pentavalent vaccine (DPT/Hep B/Hib). Suriname included this vaccine in their 2005 vaccine order to PAHO's EPI Revolving Fund.

2. Measles and Rubella Elimination

Confirmed measles cases in the Region of the Americas have decreased 99%, from 53,683 cases in 1997 to approximately 100 cases in both 2003 and 2004. The transmission of the D6 measles virus genotype which began in 1995 and caused large outbreaks in Argentina, Bolivia, Brazil, the Dominican Republic, and Haiti, was interrupted in September 2001. The subsequent transmission of the D9 measles virus genotype in Venezuela was interrupted in November, 2002 —14 months after it had started. The Venezuelan outbreak can be viewed as the last instance of widespread endemic transmission of the measles virus in the Americas.

The reported cases in 2003 and 2004 have been mostly linked directly or indirectly to importations of measles virus from other Regions of the world. One of several importations were also at the origin of 108 measles cases that occurred in Mexico between April 2003 and April 2004; no new case has occurred thereafter. A measles virus of the same genotype (H1) was isolated in specimens of twelve patients who had fallen ill in Mexico between May 2003 and March 2004. H1 genotype has been found circulating in Asia. However, it cannot be excluded that the Mexican cases are part of the same transmission chain that continued for 13 months, which would suggest re-establishment of endemic transmission.

The coverage data in the Americas document that forty-one percent of municipalities have a <95% coverage rate of measles-containing vaccines. In reviewing surveillance indicators, as of October 2004, 5 of the 6 indicators were 80% or higher at the regional level. Four indicators have consistently been met for over 4 years, while a significant improvement was achieved for the timely processing of blood sample at the laboratories (62% in 2000 to 80% in 2004). The only indicator that continues to be below the 80% threshold is the one regarding timely submission of blood specimens (72% in 2000 to 74% 2004). From a country perspective, thirteen countries met all six surveillance indicators, five met 4, and two met 3 (seven did not report/calculate indicators)

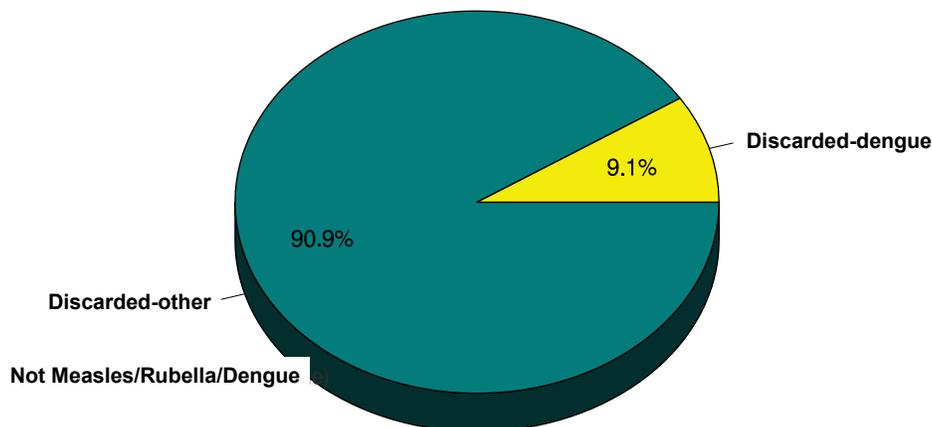
In 2000, based on available information, a panel of experts concluded that indigenous measles transmission has been eliminated in the United States. Measles is no longer endemic in the United States. Since 1997, the incidence of measles is extremely low, less than 1 case per 1,000,000 population. The majority of cases are imported. The population immunity is high. The surveillance system is sufficiently sensitive to allow detection of imported cases.

Despite the successes already achieved throughout the Region, important challenges remain. Measles is still endemic in other Regions, and sporadic cases continue to occur in the Region of the Americas because of importation. However, the experience in several countries shows that when high coverage with measles-containing vaccine exists, reliable detection and aggressive follow-up of suspect cases will limit the consequences of measles virus importations.

In the Caribbean community, the last reported case of measles was in 1991. The total reporting sites in the countries in 2004 (as of Week 42) is 733 sites. Ninety-nine percent of all reporting sites within countries have reported weekly.

For 2004 (as of Week 42), 247 fever/rash cases were reported from the Caribbean. Twenty-two (22) cases were laboratory confirmed as dengue and two hundred and twenty (220) cases (89%) were discarded as neither measles, rubella nor dengue. Five cases are still being investigated. There were no laboratory confirmed cases of rubella or measles in 2003 (See Figure 4).

Figure 4. Classification of Suspected Measles Cases in 2004, as of Week 42, English-speaking Caribbean and Suriname



Source: MOH Reports to EPI/FCH/IM/CAREC

Of the 247 fever rash cases that were reported, 58% were aged less than 5 years, 27% between 5 and 19 years, and 15% over 20 years.

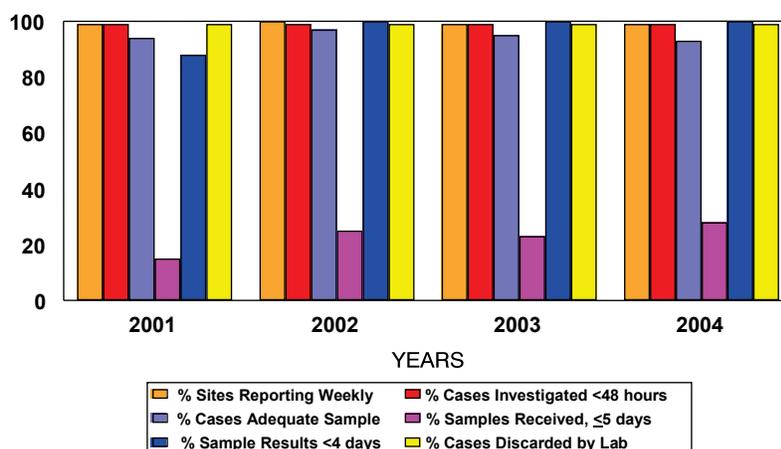
Ninety-three specimens from cases aged less than 5 years, whose test results were neither measles or rubella, were tested for human herpes virus type 6 (HHV-6). Twenty-nine or 31% tested IgM positive for HHV-6 or roseola.

Surveillance Indicators:

The percentage of samples reaching the laboratory in less than five (5) days has remained unacceptable; for example, in 1997, only 14% of the specimens arrived at the regional laboratory in less than 5 days, while in 2001 the percentage was 35% and in 2003 and 2004 (Week 42) it was 23% and 28%, respectively.

In 2003, 99% of sites reported weekly; 99% of cases were investigated within 48 hours; 95% had adequate samples taken; 100% received laboratory results in less than 4 days; and 99% were discarded by laboratory testing (See Figure 5).

**Figure 5. Status of Measles Surveillance Indicators, 2001-2004*
English-speaking Caribbean and Suriname**



Source: MOH Reports to EPI/CAREC

* As of Week 42

For 2004 (as of Week 42), 99% of sites reported weekly; 99% of cases were investigated within 48 hours; 93% had adequate samples taken; 100% received laboratory results in less than 4 days; and 99% were discarded by laboratory testing. Only 28% of specimen arrived at the CAREC laboratory within 4 days of phlebotomy.

Recommendations:

The data presented highlight the need to rapidly implement the recommendations of the 2004 Technical Advisory Group (TAG) on Vaccine-preventable Diseases.

Recognizing that endemic measles virus transmission has likely been interrupted in the Americas, countries should strive to continue maintaining the highest level of

commitment towards sustaining past achievements. In the Caribbean, the measles coverage has been low, thus resulting in the accumulation of measles susceptibles. Specific recommendations include:

- To avoid outbreaks, high coverage rate ($\geq 95\%$) with measles-containing vaccines should be maintained in all municipalities. In particular, supplemental immunization activities should target low-coverage municipalities, as well as underserved or hard-to-reach population groups.
- To harmonize practices among PAHO-reporting countries, countries should endorse the definitions of elimination, re-establishment of endemic transmission, and imported/import-related cases recommended by the ad-hoc experts meeting held in Washington, D.C. in March 2004. See PAHO EPI Newsletter of April 2004 (Vol.XXVI (2):1-3).
- To ensure adequacy of measles/rubella surveillance system and investigation of cases, countries should stress the importance of the EPI indicators that are currently reported in the PAHO Measles/Rubella Bulletin, with revisions suggested in PAHO's EPI Newsletter (Vol.XXVI(2):1-3). Three indicators are critical: the proportion of suspected cases with adequate investigation, the proportion of suspected cases with an adequate blood sample, and the proportion of transmission chains with representative samples for virus isolation.
- One surveillance indicator that has been modified is the definition of an adequate case investigation. An adequate case investigation includes a home visit within 48 hours of notification, completeness of relevant data (i.e., date of notification, date of investigation, date of rash onset, date sample taken, type of rash, presence of fever, dates of previous measles/rubella vaccinations), and active case-searches.
- One surveillance indicator that needs special attention is the percentage of specimens that arrive at the CAREC laboratory within 5 days of their collection. Countries should make every effort to get their specimens to CAREC within 5 days.

Rubella and CRS Elimination:

In September 2003, the 44th Directing Council of the Pan American Health Organization adopted a resolution to eliminate rubella and CRS by 2010 and urged Member States to prepare national plans of action in support of that objective. The elimination of rubella and CRS in the Americas has been defined as the successful interruption of endemic transmission of rubella in all the countries without the occurrence of CRS cases associated with endemic transmission.

As of July 2004, approximately 99% of new birth cohorts in the Region of the Americas have had access to the combination MMR vaccine. Only Haiti has yet to include the vaccine in its immunization schedule. Since 1996, all the countries of the Region have conducted one or more rounds of follow-up campaigns (second vaccination opportunity for children aged <5 years) using the measles-rubella (MR) vaccine, often achieving $>95\%$ coverage. Many countries have introduced a second MMR dose in their national childhood immunization schedules. From 1998 to July 2004, Costa Rica, the English-speaking Caribbean, Ecuador, El Salvador, and Honduras conducted adult

vaccination campaigns using MR vaccine and targeting men and women. Campaigns in Brazil and Chile targeted only females. Coverage in the Caribbean reached 80%, with the other countries achieving coverage rates of over 95%.

The remaining countries in the Region plan to conduct vaccination campaigns between 2005 and 2007. Some technical and operational aspects associated with the difficulties posed by adult vaccination campaigns merit special attention, such as identification of population to be vaccinated, monitoring of vaccine safety, the adoption of safe immunization practices, and methods for monitoring and evaluation. In addition, since individuals cannot donate blood for one month following rubella vaccination, campaigns must be coordinated with blood banks to avoid shortages in blood supplies.

Since the introduction of the vaccine and launch of vaccination campaigns, rubella incidence has fallen 99.3% -from 135,000 reported cases in 1998 to only 923 cases in 2003. While only 18 countries/territories in the Americas reported on CRS in 1998, by 2003 the entire Region was conducting CRS surveillance. In total, 44 cases were reported in 1998, 63 in 1999, 90 in 2000, 41 in 2001, 24 in 2002, and 14 in 2003. However, surveillance of CRS is still incomplete.

Since 2001, there has been no laboratory-confirmed case of rubella in the Caribbean, although 1,055 laboratory specimens were tested for measles and rubella. In 1999, there were 70 rubella cases reported (24 laboratory-confirmed cases in the Measles Elimination Surveillance System/MESS), 21 cases in 2000, and 6 cases in 2001. There has been no confirmed rubella case in 2002, 2003, and up to week 42 in 2004.

The 6 laboratory-confirmed cases in 2001 were from Belize, where only females had been vaccinated. In April 2004, Belize conducted a MMR vaccination campaign targeting males aged 5-35 years (target population 66,801) and females who were not yet vaccinated. A total of 64,792 (96.9%) males, 10,500 females, and 2,836 children aged 1-2 years were vaccinated. The overall coverage for Belize for males and females is now 96.9%.

In 2004 (Week 42), 11 suspected cases of CRS in the Caribbean were referred for testing and 44 cases for TORCH studies. All were laboratory-investigated for rubella. They were all negative. The last confirmed CRS case reported in the English-speaking Caribbean was in 1999.

Since 2001, less than 25 cases of rubella have been reported annually in the United States. Only 8 cases were reported in 2003. Since 2002, there has been only one reported outbreak resulting from an imported virus. Between 2001-2004, 72% of the rubella cases were still among adults. Since 2001, less than half of the reported cases were of Hispanic origin, compared to more than 70% of cases in prior years. The last CRS case reported in the United States was in 2003.

Recommendations:

The data presented highlight the need to rapidly implement the recommendations of PAHO's 2004 TAG.

- To harmonize practices among countries reporting to PAHO, all countries should incorporate the rubella/CRS suggestions and definitions based on the deliberations of the Meeting of Ad-hoc panel of experts in rubella and measles, held in Washington, D.C. in March 2004, and cited in PAHO's EPI Newsletter of April 2004 (Vol.XXVI, Issue 2). The definitions cited in the measles section apply in full to rubella elimination as well.
- For elimination purposes, full integration of measles and rubella surveillance, including integrated laboratories, is required, with an emphasis on active surveillance. Except for outbreak settings, all specimens will be tested for both measles and rubella.
- To ensure adequacy of rubella surveillance system and investigation of cases, countries should stress the importance of the EPI indicators that are currently reported in the PAHO Measles/Rubella Bulletin, with revisions suggested in PAHO's EPI Newsletter (Vol.XXVI, Issue 2).
- Three indicators are critical: the proportion of suspected cases with adequate investigation, the proportion of suspected cases with a timely blood sample, and the proportion of transmission chains with representative samples for viral isolation.

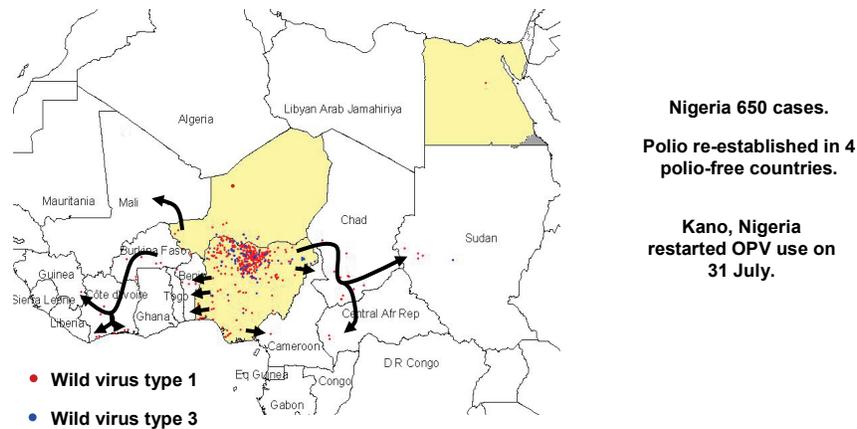
An adequate case investigation includes a home visit within 48 hours of notification, completeness of relevant data (i.e., date of notification, date of investigation, date of rash onset, date sample taken, type of rash, presence of fever, dates of previous measles/rubella vaccinations), and active case-searches.

- Efforts should continue to monitor reported measles/rubella cases by age, sex, location, and vaccination status.
- In the context of elimination, high quality CRS surveillance requires an active component and a sensitive case definition. The definition for a suspected CRS case is: *A health care worker at any level of the health care system should suspect CRS in an infant when: (1) one or more of the following birth outcomes are detected: congenital cataracts, congenital cardiac defects, purpura, or deafness; or (2) An infant's mother was known to have had laboratory confirmed or suspected rubella infection during pregnancy.* For diagnosis, a more specific definition may be appropriate, with laboratory confirmation remaining the gold standard.
- During elimination, all suspected CRS cases should have specimens collected for IgM testing and virus isolation.
- All countries will need to ensure that strategies are in place to detect and vaccinate those still requiring vaccination. These strategies may include: 1) reminding all health staff about measles and rubella elimination and ensuring that screening tools are in place to detect those that are not vaccinated, and 2) screening of antenatal women (asking for proof of vaccination) and vaccinating the unvaccinated post-delivery

3. Polio Eradication

The global polio eradication initiative has made much progress. As of 1 September 2004, the intensified efforts in Asia and Egypt were on track. After a marked increase in campaign quantity and quality, polio transmission in Afghanistan, India, Pakistan, and Egypt has been reduced. Only 61 cases have been reported since 1 January, compared with 168 over the same period in 2003. In contrast, sub-Saharan Africa experienced epidemic polio; the number of cases in Nigeria and Niger soared to 495 (compared to 111 in 2003) and the virus spread to 12 previously polio-free countries (Figure 6).

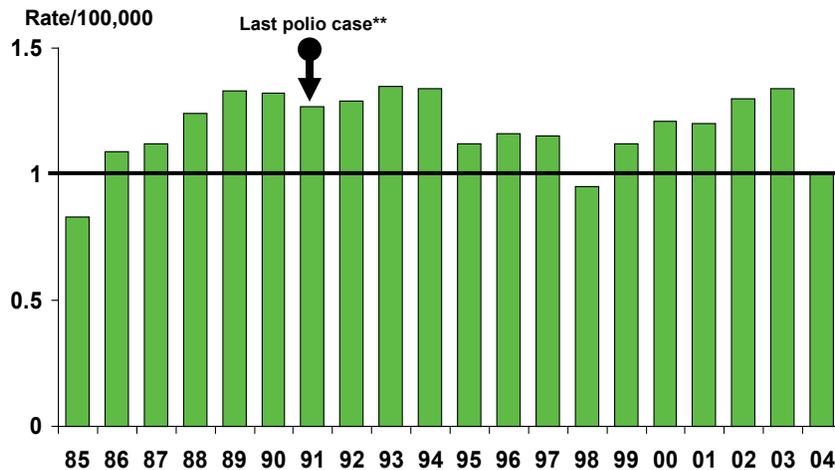
**Figure 6. Impact of OPV Suspension, Nigeria
Poliovirus spread, 2004**



The success of this intensified polio eradication effort now depends on: (a) direct oversight by national authorities and participation from all political, traditional, religious and community leaders; (b) action by the international community to rapidly close the US \$200 million funding gap for the intensified eradication activities during 2004-2005; and (c) continued high-quality surveillance and routine immunization coverage in polio-free areas.

The eradication of polio from the Western Hemisphere was achieved in 1991 and the Region was certified as free of the circulation of the indigenous wild poliovirus in 1994. After thirteen years of maintaining the Americas polio-free, the Region continues to sustain an adequate level of AFP surveillance and has taken steps aimed at achieving high coverage in every district, as well as avoiding importations and the circulation of Sabin vaccine-derived viruses in its territory. The AFP rate continues to be above 1/100,000 in children aged <15 years and the proportion of adequate specimens continues to be 80% (Figures 7 and 8).

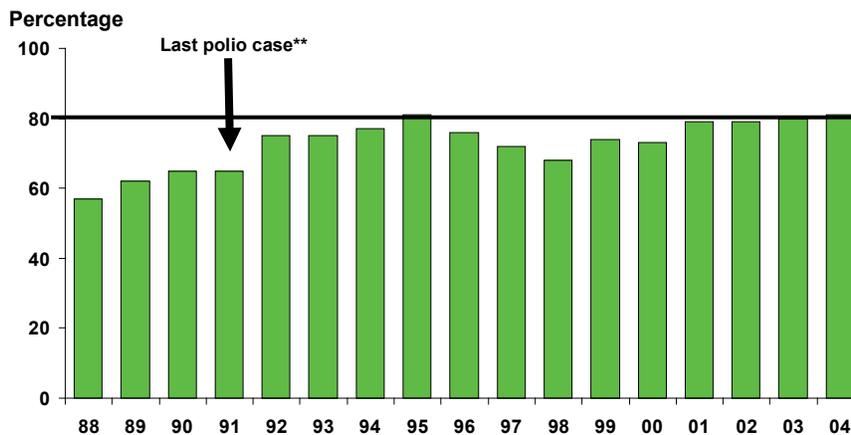
**Figure 7. AFP rate per 100,000 children aged <15 years
Region of the Americas, 1995-2004***



* 2004: last 52 weeks (Weeks 39/03 to 37/04)
** Associated with indigenous transmission

Source: FCH-IM

**Figure 8. Percent of AFP Cases with Adequate Stool Specimens
Region of the Americas, 1988-2004***



* From Week 42/03 to 40/04
** Associated with indigenous transmission

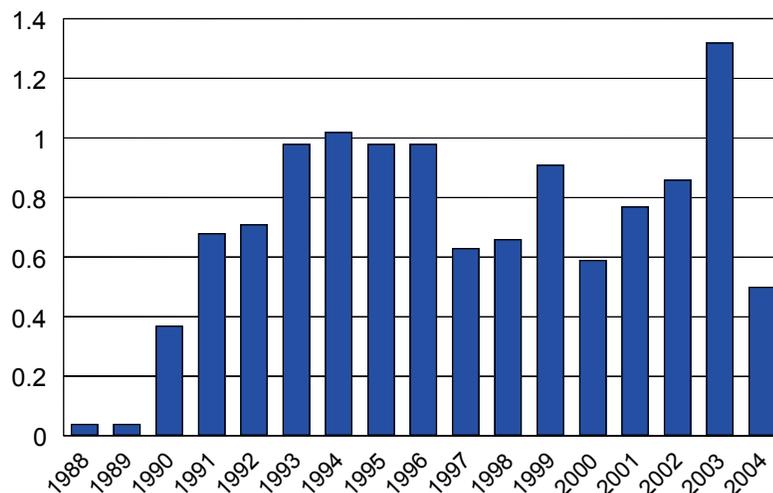
Source: FCH-IM

Last year, a Sabin-derived poliovirus was isolated in an immunodeficient child in Peru. Intensive active case-search and thorough review of district coverage were immediately conducted and no further AFP cases were found. OPV coverage was consistently found to be above 95% in all surrounding areas.

The last case of poliomyelitis in the countries of the Caribbean Community was in 1982. AFP surveillance continues from five hundred and five (505) reporting sites. Ninety-nine percent (99%) of the sites have reported weekly in 2004 (Week 42). Between the years 1994-2004 (Week 42), two hundred and two (202) AFP cases (<15 years) were reported from over ten countries.

The annual AFP rate ranged from 1.0 per 100,000 population aged <15 years in 1994 to 0.86 in 2002 and 1.32 in 2003. So far in 2004 (Week 42), the rate is 0.5 (See Figure 9).

Figure 9. Annual Rate of Acute Flaccid Paralysis (AFP) Cases, per 100,000 Population <15 years English-speaking Caribbean and Suriname, 1988-2004*



Source: MOH Reports to EPI-CAREC

* As per Week 42

In 2003, 43 suspect cases of all ages were reported, ranging in age from 7 months to 61 years. Of those 43 cases, there were 29 AFP cases in children aged <15 years, who had been notified from 4 countries, namely Guyana, Jamaica, Suriname, and Trinidad and Tobago. Of the AFP cases, 93% were investigated within 48 hours and all had stool specimens collected. Suriname, Jamaica, and Guyana have met all 4 surveillance criteria for AFP, while Trinidad and Tobago have met 3 of the 4. The AFP rate for 2003 is 1.32 which exceeds the expected rate of 1.0.

In 2004 (Week 42), 22 suspect cases with age ranging from 1 to 62 years were reported. Stool samples were submitted for 18 (81%) of the cases and stool samples were submitted for all cases aged <15 years. Eleven (50%) suspect cases were AFP cases and were reported from Belize, Guyana, Jamaica, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago. Belize, Suriname, and Guyana met all 4 surveillance criteria.

Validation:

In the Caribbean, the AFP surveillance system was evaluated in 2004 in Antigua & Barbuda and Dominica. Hospital logs in both countries were reviewed. The findings of the review in both countries had good correlation with the reported surveillance information. No AFP case was found in neither countries that had not been previously reported to CAREC.

Polio Containment:

Laboratory containment of wild polioviruses remains a priority of the Global Polio Eradication Initiative in the Americas. PAHO conducted a survey of countries to evaluate the status of laboratory containment. Survey forms were sent to the following 21 countries: Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, Belize, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, French Guiana, Jamaica, Montserrat, Netherlands Antilles, Saint Lucia, Saint Kitts and Nevis, Saint Vincent, Suriname, Trinidad and Tobago, Turks and Caicos Islands. The Chief Medical Officer, National Epidemiologist, Permanent Secretary, or Laboratory Director of the 17 countries completed the inventory. Health officials in the four non-responding countries were contacted by telephone and electronic mail. The results indicate that no laboratories contain infectious or potentially infectious material for wild polioviruses. The laboratory at CAREC was the only one identified to have potentially infectious material; this material has not yet been destroyed.

Recommendations:

- Countries must maintain adequate AFP surveillance, sustain high OPV coverage in every municipality, and comply with the Plan of Action for Containment of Wild Poliovirus in Laboratories.
- Until the world is certified as polio-free, OPV remains the vaccine of choice for the final phase of the global eradication of polio. OPV provides intestinal immunity, is substantially less expensive than IPV, is easy to administer, and protects contacts in the family and community, thereby conferring herd immunity.
- Until the world is certified polio-free, there will be no change in the current OPV policy. The countries of the Caribbean should continue to use OPV in the routine program to maximize population immunity until global polio eradication is achieved.
- The Region should advance in the post-certification period in close accordance with the global policies stated by the Global Certification Commission on Polio Eradication.

4. Yellow Fever

In late 2002 and 2003, Venezuela reported 40 confirmed cases of yellow fever (YF). The 24 states affected were classified according to risk areas: 9 high-risk states; 8 medium-risk states; and 7 low-risk states. The control strategies included vaccination in municipalities with viral circulation that have not reached 100% of administrative coverage in all age groups and vaccination of high, medium and low risk municipalities. Immunization was focused on children aged 1 year and travelers towards areas with viral circulation. The routine coverage with YF vaccine in the 1-year age group reached 18% in 2000, 80% in 2003, and 92% in the first half of 2004.

In Trinidad and Tobago, the areas at risk are the forested areas in the southern counties and other areas. Their current strategies include: YF vaccine in routine

childhood immunization schedules, YF surveillance, and preparation of detailed plans for emergency immunization and urban vector control activities

As a response to the outbreak in Venezuela, Trinidad & Tobago focused on sea and airport surveillance, surveillance of fever cases, entomological surveillance and veterinary public health surveillance.

Other activities included ensuring high immunization coverage, sensitizing health care personnel, enhancing vector control measures, promoting health measures, and ensuring intersectoral collaboration between Port Health, other Ministries, and non-governmental organizations.

Recommendations:

- Countries with enzootic areas should view yellow fever as a public health priority, providing political, technical, and financial support for the implementation of national plans for yellow fever prevention and control.
- Epidemiological surveillance of yellow fever should be strengthened using the icteric syndromic approach, to allow for rapid implementation of control activities when an outbreak or an epizootic is detected.
- In countries with enzootic areas (Guyana, Suriname, Trinidad and Tobago, and French Guiana), yellow fever coverage should be maintained >95% among children aged 1 year, jointly with the measles vaccine.
- Non-enzootic areas should strengthen measures for outbreak control, including enhancing the sensibility of the surveillance system, improving the capability to respond timely to outbreaks, vector control, and vaccination of travelers to enzootic areas.
- An adequate yellow fever vaccine supply should be maintained both for the regular program and campaigns, including reserves for control of possible outbreaks.
- Epidemiological monitoring of adverse events supposedly associated with the yellow fever vaccine should be strengthened.

5. Other Vaccine-preventable Diseases in the Caribbean

Tetanus, Diphtheria and Pertussis:

From 2003 to date, there was no case of neonatal tetanus reported. There has been no case of diphtheria during this period, while for pertussis and neonatal tetanus (NNT) there were less than ten reported cases. NNT vaccination was introduced in Suriname in November 2004 after one case (1996) in the hinterland and 3 cases (2002) in the coastal area, in newborns of the Maroon group. Before the introduction of NNT vaccine in the national vaccination schedule, tetanus vaccination was not routinely provided for in the national immunization scheme, except for the pregnant women in the hinterland.

Since introduction of the NNT vaccine, all primary care clinics provide routine vaccination against NNT. Some private physicians with cold chain facilities are also involved. Pregnant women attending prenatal clinics, where no cold chain facilities are available, are referred to the health centers of the Regional Health Services for their vaccinations.

Rotavirus:

Rotavirus (RV) is one of the most common causes of severe diarrhea worldwide and accounts for an estimated 440,000 deaths per year, representing approximately 5% of all deaths among children aged <5 years. Of those, 82% occur in developing countries.

In the Region of the Americas, RV constitutes an important public health problem in the majority of the countries, where it is estimated that it causes more than 15,000 deaths and 75,000 hospitalizations each year.

There are two vaccines close to entering the market. One vaccine is derived from a single strain of human rotavirus of serotype G1, the most common strain in circulation that has been attenuated by repeated cell culture passages. Preliminary results from studies have indicated that the vaccine was safe and had an >84% efficacy against severe rotavirus disease. The second vaccine is a reassorted bovine-human strain that includes the main neutralization antigens from the five major rotavirus serotypes in circulation (G1-G4 and P1). Preliminary data indicate that this vaccine will also be safe and effective in preventing severe rotavirus diarrhea.

At the 6th International Rotavirus Symposium in Mexico in July 2004, Ministries of Health representatives called upon the PAHO and its Revolving Fund for Vaccine Procurement, to facilitate the introduction of vaccines against rotavirus at prices accessible to all countries of the Region as soon as they become available.

A surveillance project to estimate the incidence of rotavirus diarrhea has been implemented in four Caribbean countries. Data collection is done using an aggregated data/daily tally sheet, looking at the total number of outpatients and inpatients aged <5 years seen at sentinel hospitals and the number of outpatients and inpatients with gastroenteritis aged <5 years seen at sentinel hospitals. Data is collected weekly from sentinel hospitals by the national EPI manager. At one site, RV was isolated in 26% of diarrheal cases. Updated data is not yet available from the other sites.

This surveillance project demonstrates that hospital surveillance generates data that is essential to evaluating the need for a rotavirus vaccine and its impact in the CMC's. The use of General Hospitals in most English-speaking Caribbean countries is ideal as these hospitals cover the whole population and have laboratory facilities.

Recommendation:

- Countries are encouraged to expand their diarrheal/rotavirus surveillance activities.

6. Hib, Meningococcal and Pneumococcal Surveillance

All countries are reporting cases of Hib and hepatitis B infection as part of the national weekly surveillance reports to CAREC. In 1998, 50 cases of Hib meningitis were reported from 2 countries, while in 1999 five countries reported a total of eighty cases. Fifty cases of Hib meningitis were reported in 2002 from Jamaica. Forty-six (92%) of cases were in the 1-4 years age group. Two of these cases (aged 1 year) died. Sixty-six Hib isolates were sent to CAREC for serotyping during 1999 to 2002. The most common serotype was type b (97%) and 3% were type a.

For 2003, Jamaica reported 32 cases of Hib meningitis with 17 cases in the 1-4 years aged group and 14 cases in children aged <1 year. There were also 3 cases of streptococcal pneumonia, of which 2 were aged <4 years and 1 from the 5-9 years age group.

The invasive bacterial infection surveillance system was implemented in five countries –Barbados, Guyana, Jamaica, St. Vincent and the Grenadines, and Trinidad and Tobago. During the period from 1999 to 2002, one hundred and fourteen (114) pneumococcal isolates were referred to CAREC for serotyping. The most frequent serotypes identified were 14, 6B and 6A. Of those with information on age, 63% were aged <2 years.

In 2003, 40 pneumococcal isolates were referred to CAREC for serotyping. The specimens were from blood and cerebro-spinal fluid (CSF). The most frequent serotypes identified were 14 (13 cases), 6B (12 cases), and 6A (4 cases). Of those with information on age, 58% were aged <5 years. Twelve (12) Hib isolates were referred to CAREC for serotyping. These isolates were equally from blood and CSF. Eleven isolates were type b and 1 was type a.

Recommendation:

- Countries must strengthen surveillance of bacterial invasive disease. Identification of serotypes of pneumococcal isolates is critical for introduction of affordable vaccines in the future.

7. CAREC Regional Communicable Diseases Surveillance System

The surveillance project for the Eastern Caribbean (OECS) countries pilots the revision and strengthening of the CAREC Regional Communicable Diseases Surveillance System. Such a revision was recommended in 2001 by the CAREC Scientific Advisory Committee.

Implementation of the pilot phase started in November 2003 with five countries (Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines). Two country evaluations were conducted. Several areas for improvement were identified. These include non-integration of the surveillance system, gaps in understanding of the significance of surveillance by various health care groups, and biosafety issues in the laboratory. Several recommendations were made, including increasing etiological investigation of communicable diseases in patients; simplifying

data collection and reporting tools; increasing the availability of rapid diagnostics; ensuring biosafety conditions in laboratory; expanding training; establishing policy frameworks for communicable disease prevention; and developing communication means across the health care system.

This CAREC project is supported by the French Technical Cooperation and PAHO through the National Center for Infectious Diseases-sponsored surveillance of emerging infectious diseases in the Caribbean sub-region.

8. Vaccine Procurement and Logistics

Interruption of vaccine supply in some countries in 2003 and up to 2004 (Week 42) was minimal. All countries had an adequate supply of syringes and needles. Natural disasters in some countries have resulted in the loss of vaccines and equipment. Bahamas, Cayman Islands, Curaçao, Grenada, Jamaica, and Tobago experienced the ravages of the hurricanes that developed this season.

The supply of vaccines and syringes to respond to the demand was increased for most of the countries through the EPI Revolving Fund. Countries are still experiencing difficulties with payment of invoices before 60 days. Lessons learnt in 2004 include the importance of effectively managing changes in the demand forecast, eliminating arrears with the Revolving Fund, and identifying options in particular cases and/or special arrangements with third parties. To avoid jeopardizing the maintenance of routine immunization services, countries should ensure financial sustainability of the EPI program. To facilitate timely delivery of vaccines, countries can prepay vaccine purchase, where funding difficulties persist.

Recommendations:

- All countries should ensure timely placement of orders, payment and notification of receipt.
- All countries should update their demand forecast for 2005, with emphasis on forecast accuracy for the 1st and 2nd quarters and Vaccination Week activities.

9. EPI Evaluations - Antigua/Barbuda and Dominica

In 2004, PAHO in conjunction with the Ministries of Health conducted external reviews of the EPI programs in Antigua/Barbuda and Dominica. The purposes of the EPI reviews were to:

- Assess the status of planning, organization and execution of services of the immunization program, including cold chain and biosafety procedures, and validate the surveillance system;
- Define strengths and weaknesses, along with factors that facilitate and hinder the achievement of program objectives;
- Use the data gathered for timely decision-making and development of a five-year Plan of Action aimed at strengthening the program; and
- Determine user satisfaction.

Vaccination coverage rates have consistently been greater than 90% in both countries. EPI is given high priority at all levels, and health providers are dedicated to achieving program objectives. The governments have demonstrated their commitment by adhering to vaccination and surveillance strategies for measles, rubella, and poliomyelitis, and successfully conducting measles follow-up vaccination campaigns in 1996 and 2000/2001 and introducing a 2nd dose of MMR vaccine into the routine schedule. In July 2000, DPT/HepB/Hib vaccine was introduced in the infant vaccination schedule in Antigua and Barbuda and a hepatitis B vaccination program for children and adolescents was implemented in schools in the early 2000s. In Dominica, financial difficulties have precluded the vaccine use in the public sector.

For Dominica, some issues need to be addressed in order to sustain successful program implementation. To this end, recommendations focus on developing a quarterly work plan and quarterly schedule, conducting training for monitoring of vaccination coverage, improving vaccine and cold chain management, addressing final disposal of used needles and syringes, performing comprehensive EPI training, enhancing surveillance and supervision, conducting sensitization programs for epidemiological surveillance at all levels, and implementing a computerized health information system in all districts.

Dominica successfully implemented some of the recommendations including development of a vaccine coverage chart, ensuring adequate cold chain capacity in the vaccine central storage, availability of biohazard containers, proper disposal of used syringes/needles, and use of registers for vaccine adverse reactions and adult vaccines.

Challenges ahead include sustaining a >95% coverage for all antigens, maintaining the absence of indigenous cases of polio, measles, rubella, and CRS, and strengthening surveillance for all diseases, especially vaccine-preventable diseases.

The EPI evaluation in Antigua and Barbuda yielded several general findings: program plans are not done for all levels of the system; nursing boundaries do not correspond with those of parishes or villages; refrigerators in some centers are not dedicated to vaccines; central supply area for vaccines needs refurbishing and air-conditioning; nursing staff 's knowledge of surveillance concepts and case definition is limited; health information is not computerized, and immunization registers need to be standardized and printed.

Antigua and Barbuda has begun to implement the recommendations made. These include formulation in June 2004 of orientation procedures (by Community Health Aides), staggering of time for the luncheon period to ensure continued service provision, and distribution of the National EPI Plan of Action to the Zone Supervisors.

In-service training on EPI topics is to begin in the 1st quarter of 2005. Random checks for clinic records are to be conducted before the end of December 2004 to ensure continuation; re-sensitization of staff has begun and will continue zonally as part of the continuous in-service education program. A minimum quantity of vaccines is stocked in Barbuda.

Quarterly vaccination coverage reports are kept at the main centers. These reports will be distributed to sub-centers and private doctors by the 1st quarter 2005.

10. Vaccination Week in the Americas

At the PAHO's Directing Council in September 2003, the Ministers of Health passed a resolution (CD44.R1) to continue yearly Vaccination Weeks. The underlying principles of the Vaccination Week in the Americas (VWA) are equity, access, and Pan-Americanism. Activities have targeted high-risk municipalities with low coverage, urban fringe areas, border areas, indigenous populations and ethnic minorities, and remote areas.

In 2003, 19 countries of South America, Central America, and the Caribbean joined efforts and participated in the first VWA. These countries vaccinated 13,583,888 children aged <5 years and approximately 2,700,000 women of childbearing age (WCBAs). By 2004, this event grew to include 35 countries and seven territories in the Americas.

In 2004, 43 million people were vaccinated, according to the following age groups: 15 million children aged <5 years, 9 million adults aged <60, 13 million adults aged >60 years, 3 million WCBAs, and 2 million individuals from other risk groups. Of the children aged 1-4 years who received the DPT vaccine, approximately 23% had not previously received a vaccine dose, i.e., they had no access to immunization.

An essential element of the VWA has been the formation of strategic partnerships and the strengthening of interagency cooperation at both the regional and international levels. PAHO, the Centers for Disease Control and Prevention (CDC), the United Nations Children's Fund (UNICEF), and many other organizations combined technical and financial efforts to support the countries. The VWA coincided with the National Child Vaccination Week of the CDC, so that PAHO and the CDC combined their slogans to promote their efforts more widely throughout the Americas. The themes "Vaccination: An Act of Love" and "Love them; protect them; vaccinate them" were used together equally in most of the published literature.

There was intense trans-border coordination, resulting in over 22 binational launches together with a regional launch along the border between Haiti and the Dominican Republic. Five presidents, several first ladies and ministers of health, and many community leaders participated in the launching of the Vaccination Week and others activities.

An evaluation of the impact of the VWA was conducted in Paraguay and Nicaragua. Important factors were detected in order to improve the performance and quality of the immunization program. The results showed an increase in vaccination coverage in underserved areas. They also allowed for identification of important factors that will improve the performance and quality of immunization programs.

Activities in the Caribbean included marches, campaigns, media events, and distribution of tee shirts and vests.

Recommendations:

- In the interest of Pan-americanism, countries should attempt to schedule their National Vaccination Week activities in conjunction with the scheduled VWA.

- Maintain the VWA as a strategy to strengthen immunization programs throughout the Region, increase visibility, and encourage advocacy in the political agenda.
- Target interventions in population groups traditionally underserved.
- Through operational evaluations, document the reduction in vaccination inequities, by determining VWA contributions reaching zero-dose children.
- Use the VWA as an opportunity to strengthen interagency and intersectorial cooperation, NGO involvement, and participation from the private sector, promote special efforts to sensitize medical practitioners, and focus on strengthening border activities among countries.
- Guarantee the sustainability of the VWA within the EPI Plans of action.
- Countries should consider sharing expertise and personnel in the Region to assist countries with their activities, in particular catch-up campaigns.
- Use VWA to support rubella and CRS elimination in the Region.

11. Influenza

Influenza is a viral disease that affects millions of people and kills approximately one million people worldwide every year. The age groups most affected are children aged <2 years and adults aged >60 years. The disease burden attributed to influenza is even more significant in developing countries. In addition, it can cause pandemics responsible for high social disruption and economic losses. However, many of these cases and deaths can be avoided through the use of safe and highly effective vaccines.

The Region has experienced success with regards to routine vaccine use in older adults, chronically-sick individuals, immunosuppressed populations, health professionals, pregnant women, and, more recently, in children aged ≤ 23 months. Studies on disease burden, cost-effectiveness, and vaccine impact are being conducted to assist in the decision-making process with regard to introducing new vaccines and maintaining routine immunization at the national level.

Recommendations:

- Countries that have introduced influenza vaccination into their program should conduct studies on disease burden including surveillance and the economic impact of annual influenza epidemics to support influenza immunization policies within the context of other national health priorities.
- All the countries of the sub-region should develop and implement plans for preparation against an influenza pandemic, in accordance with WHO guidelines. The recent epizootic in Asia, with the occurrence of human bird flue cases characterized by a high case-fatality rate, demonstrated the need for countries to be adequately prepared to face a possible pandemic.

- If countries should decide to introduce influenza vaccine, it has been recommended that older adults, chronically-sick individuals, immunosuppressed populations, health professionals, pregnant women, and children aged 6-23 months should be vaccinated, giving priority to the population aged >60 years.

12. Immunization Safety

Almost all countries have implemented surveillance systems for immunization safety (adverse events, needle stick injury). There have been no reports of anaphylactic reaction, but serious events associated with vaccinations were reported from 2 countries. The events were death of an infant and seizures in an infant within 48 hours of vaccination. In the case of the death of the infant, the post mortem showed that the cause of death was attributed to congenital cardiac anomaly, and for the infant with seizures, those were attributed to cerebral infarct.

Recommendation:

- For all reported adverse events, clear and careful documentation is critical.

13. Disaster Management

This year several hurricanes have caused widespread devastation in the Caribbean. EPI programs should have pre- and post-disaster plans in place that can be activated when countries are alerted of potential disasters.

Recommendations:

- A written plan for pre-and post- disaster management should be in place.
- EPI programs should ensure the security of freezers/refrigerators during disasters.
- Health care staff should be trained concerning the disaster management plans well before a disaster occurs.

IV. Financial Analysis of 2005 National Work Plans

All 23 countries presented their 2005 National Work Plans of Action, outlining the technical components and activities, including the cost per activity and per area of action.

The total cost for the EPI in the English, French, and Dutch-speaking Caribbean and Suriname for 2005 is in the order of US \$15.1 million, of which 95% will come from national budgets.

The following is the distribution of these funds by source of funding, as requested by the national representatives. It may be noted that funds from the external agencies were not committed as of this meeting; further negotiations are required at the country

level. Operational cost estimates improved this year; however EPI managers should carefully consider in their estimates the salaries of personnel for routine delivery of immunization services.

National Funds	US \$	14,200,000
PAHO	US \$	444,000
UNICEF	US \$	430,000
OTHER	US \$	40,000
TOTAL	US \$	15,114,000

Special attention was paid to quantifying requirements for 1) VWA 2005; 2) Cold chain replacements in response to hurricanes; 3) Conducting country evaluations; and 4) Outlining a fundraising strategy with the support of the Caribbean Community (CARICOM).

All countries will use their Plans of Action to assure national commitments within their budget processes and to negotiate with partners.

Recommendation:

- To ensure sustainability of their routine immunization programs, countries should include in their budgets funding for preventive maintenance of their cold chain.

V. Caribbean Surveillance Award

An annual Surveillance Award has been established to recognize countries that have performed outstandingly in the surveillance component of their program during the previous year. The Award is based on two main criteria: on-time reporting and percentage of sites reporting. The analysis was based on data received at CAREC.

The Award consists of a certificate and the inscription of the name of the country on a plaque that is kept by the winning country during the following year, until a new country is selected to receive the Award. The Award is announced during the annual Manager's Meeting.

Suriname received the 2004 Surveillance Award. Awards for second and third place went to Trinidad and Tobago and Bahamas, respectively.

A new EPI award –the Henry C. Smith Immunization Award- was presented this year. The award is in honor of Mr. Henry Smith who was the first PAHO EPI technical officer for the Caribbean sub-region. His service in the region spans 18 years. The immunization trophy is awarded to the country which has made the most improvement in EPI. This year, Belize received the Award. Belize is the country with the most improved immunization coverage over the past years, has successfully conducted a male MMR vaccination program, and has implemented activities to boost coverage for the second dose of MMR vaccine.

Participants at the 21st Caribbean EPI Managers' Meeting congratulated these countries and extend their compliments to all their health workers for such outstanding performances.

**The 22nd EPI Managers' Meeting will be held
in Bermuda in November 2005.**



TWENTY-FIRST CARIBBEAN EPI MANAGERS' MEETING
Belize, November 2004

AGENDA

Monday, 15 November 2004

8:00 a.m. Registration

8:30 a.m. Welcome

Dr. Jon Andrus, Chief, Immunization Unit
Dr. Peter Figueroa, TAG Member, Chairman of Meeting

Remarks of Collaborating Agencies:

CARICOM
CCF
CDC
CPHA
UNICEF

8:45 a.m. Official Opening

Vote of Thanks

9:20 a.m. ***Coffee Break***

9:40 a.m. Summary of XVI TAG Meeting

Dr. Peter Figueroa

Overview of EPI in the Countries of the Caribbean Community

Dr. Janice Woolford

POLIO ERADICATION EFFORTS

Global Polio Eradication/ Status of Polio Eradication in the Americas

Dr. Jon Andrus

AFP Surveillance in the English Speaking Caribbean
and Suriname 1994 -2004
Polio Eradication Commission

Ms. Victoria Morris-Glasgow

PROGRESS OF MEASLES ERADICATION

Measles Eradication in the Americas: Progress and Challenges

Review of Fever and Rash Surveillance 1991-2004

Dr. Janice Woolford

Status of Measles and Rubella Surveillance System: Country Reports

- Belize
- St. Maarten

Discussion

Review of Fever and Rash: Laboratory data, 1995-2004

Ms. Victoria Morris-Glasgow

Progress of Measles Eradication in the U.S.A.

Dr. Susan Reef

Discussion

12:30 p.m. Yellow Fever in the Americas: Update

Dr. Jon Andrus

Yellow Fever Activity in Venezuela
Response to Yellow Fever Activity in Venezuela

Dr. Renato Gusmao

Discussion

1:00 p.m. Lunch

2:00 p.m. Work Group

3:45 p.m. Coffee Break

4:00 p.m. Work Group

5:30 p.m. Adjournment

Tuesday, 16 November 2004

8:00 a.m. Francis Joseph

8:10 a.m. Panel discussion - Accumulation of Measles Susceptibles Is routine 2nd dose the way to go?

Country:

- Barbados
- Suriname
- Jamaica
- Grenada

Discussion

RUBELLA ELIMINATION: GAINING EXPERIENCE

Status of CRS Surveillance: in the Caribbean 1996-2004

Dr. Beryl Irons

Status of Rubella/CRS Eradication in the U.S.A..

Dr. Susan Reef

Rubella Elimination efforts in the Americas

Dr. Carlos Castillo-Solórzano

Rubella Mass Campaign for males

Belize

Discussion

INFLUENZA VACCINE: COUNTRY EXPERIENCES

Status and proposed use in member countries:

Dr. Peter Figueroa

- Bermuda
- Bahamas
- Cayman Islands

Discussion –Status of countries with use of vaccine

10:15 a.m. Coffee Break

10:30 a.m. ROTAVIRUS SURVEILLANCE

Update on Rotavirus Vaccine

Update on the Rotavirus Surveillance Project

Dr. Rosalba Salas

Rotavirus surveillance in St. Vincent & Grenadines

St. Vincent & Grenadines

Discussion

Update on the Surveillance Project for OECS

Dr. Yvan Souares

Discussion

EVALUATION OF EPI – RECOMMENDATIONS/IMPLEMENTATIONS

- Dominica
- Antigua and Barbuda

Discussion

System Barriers Study – Guyana

Discussion

Continuation of Workgroups

12:30 p.m. Lunch

1:30 p.m. Continuation of Workgroups

3:45 pm Coffee Break

5:30 p.m. Adjournment

Wednesday, 17 November 2004

8:00 a.m. Vaccination Week in the Americas: An overview

Mr. John Fitzimmons

Country:

- Barbados – Defaulters' Study
- Montserrat
- Antigua & Barbuda
- Jamaica

Dr. Elizabeth Ferdinand

Discussion

PROGRAMME MANAGEMENT

VACCINE FORECASTING

8:00 a.m. Vaccine Ordering - New Policies and Quantifying needs

Mr. John Fitzimmons

Discussion

EPI PLAN OF ACTION

Results of Survey on EPI Plan of Action Amendment

Ms. Claudia Ortiz

Proposed computerized Programme for Plans of Action:

Feedback

IMMUNIZATION ISSUES

- Vaccination issues surrounding Polio Eradication
- Certification Committee – Polio Eradication
- Policy Implemented for Neo-Natal Tetanus Prevention

Dr. Jon Andrus
Dr. Peter Figueroa
Suriname

Discussion

10:10 a.m. Coffee Break

10:20 a.m. IMMUNIZATION SAFETY: ADVERSE EVENTS COMMITTEE AND SURVEILLANCE

- British Virgin Islands

Pre and post disaster Management of the EPI – Country Experiences

- Cayman Islands
- Grenada
- Jamaica

1:00 p.m. *Lunch*

2:00 p.m. Continuation of Work Groups

4:00 p.m. *Coffee Break*

5:30 p.m. Adjournment

Thursday, 18 November 2004

8:00 a.m. EPI MANAGEMENT AND DISEASE SURVEILLANCE FOR THE FUTURE

Electronic Family Health Registry – Demonstration

Bermuda

Discussion

Presentation of Highlights from Each Work Group.

General Discussions, Questions, Recommendations and Conclusions.

Open discussion by EPI Managers (Question and Answers)

10:15 a.m. *Coffee Break*

10:30 a.m. Financial and Other Procedures for Implementing Country Work Plans

Mr. John Fitzimmons

Presentation of Awards – Surveillance & Others

Review of Draft of Final Report

Dr. Jon Andrus

Final Vote of Thanks

Closure of Meeting



TWENTY-FIRST CARIBBEAN EPI MANAGERS' MEETING **Belize, November 2004**

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