EPI Newsletter

Expanded Program on Immunization in the Americas

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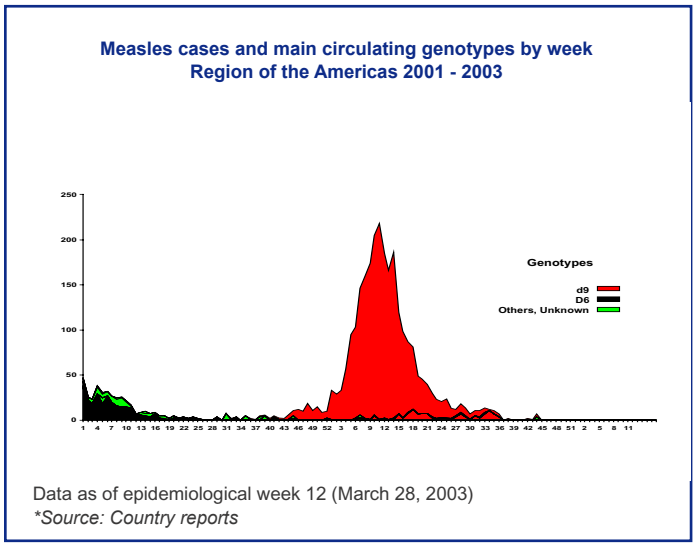
19 weeks without reported transmission of the d9 measles virus in the Western Hemisphere!

In 1994, the Region of the Americas adopted the goal of measles eradication. The regional plan of action for achieving this goal was endorsed by all ministers in 1995. As of March 28, 2003, the Western Hemisphere is free from known circulation of the d9 measles virus for an unprecedented 19 weeks. This is further evidenced by the Region's strong surveillance.

The Pan American Health Organization's recommended vaccination strategy includes: 1) a one-time nationwide campaign targeting children aged 1 to 14 years; 2) routine vaccination among 1-year-olds; and 3) nationwide *follow-up* campaigns conducted every ≤4 years, targeting all 1-4 year-olds. Rapid house-to-house monitoring for validation of the vaccination effort at the local level and active epidemiological and virologic surveillance are other key components of the strategy.

During 1997-2001, reported confirmed measles cases in the Western Hemisphere decreased from 53,683 to a record low of 541. In September 2001, known transmission of the measles virus of genotype D6, which had circulated in the Region since at least 1995, causing large outbreaks in Brazil, Argentina, Bolivia, the Dominican Republic and Haiti, was interrupted. That same month, a new measles genotype (d9) was introduced in Venezuela, by a traveler from Europe and resulted in an outbreak that spread to neighboring Colombia during January 2002. This outbreak occurred due to sustained low routine vaccination coverage in Venezuela. Unlike Venezuela, Colombia did not have a large build-up of susceptible children, and therefore control of the outbreak was more easily achieved. Following nationwide vaccination efforts by both countries, transmission of the (d9) measles virus was also interrupted. The last case occurred in Carabobo, Venezuela on November 16, 2002. The total number of cases during the outbreak was 2,501 in Venezuela and 140 in Colombia.

As of March 28, 2003, no circulation of the d9 measles virus has been reported anywhere in the Western Hemisphere for 19 weeks, despite strong surveillance efforts that included the reporting of 1,173 suspected cases, of which 191 (16.3%) are still under investigation and 7 (0.6%) were confirmed. Confirmed, sporadic cases have been reported from Canada (4), and the United States (3).



Data as of epidemiological week 12 (March 28, 2003)
**Source: Country reports*

This unprecedented achievement is a result of sustained high political commitment by Member Countries and full implementation of PAHO's recommended measles control strategies. It further demonstrates that global measles eradication is an achievable goal. Nonetheless, important challenges remain. Measles is still endemic in other regions of the world and sporadic cases continue to occur in the Western Hemisphere due to importations. Most countries have not sustained 95% routine measles vaccination coverage in all municipalities. Poor and underserved neighborhoods in large cities that attract migrants of rural origin are particularly at risk of measles outbreaks when the virus is reintroduced. Therefore, countries of the Americas have initiated interventions targeting people living in these areas for vaccination.

In this issue:

The importance of ensuring high quality and accurate data in EPI programs

During the last year, HVP/PAHO has published various articles in the EPI Newsletter concerning data quality. Articles have centered on data quality issues related to various aspects of EPI. The goal has been to highlight the importance of ensuring that the information collected and used within EPI is of the highest quality. Here, the discussion on data quality is expanded to cover aspects related to estimating coverage. Even so, and with PAHO's new emphasis on assessment of data quality, national managers need to ensure that the data used to calculate coverage is of the highest quality. Finally, this article focuses on issues related to the management of data and their subsequent use to calculate coverage. It does not address issues or activities related to actually raising coverage.

Achievement of high vaccination coverage levels (i.e. ≥95% per vaccine) is a key strategy for reaching regional goals of eradication, elimination and control of vaccine-preventable diseases. Accordingly, the ability to accurately measure and then monitor vaccination coverage levels is crucial to ensure and document that our goals are achieved. This implies that, at the local level, record-keeping practices must be efficient and accurate. In addition, data used to assess coverage levels must be of good quality and the methodology used to calculate coverage must be feasible and appropriate for the situation.

In general, countries in the Region report national coverage levels to PAHO annually based on what is referred to as an Administrative Method (doses administrated). This method has been, and continues to be, recommended by PAHO as the method of choice in calculating coverage levels and, for many years, has provided official national estimates of coverage that have been crucial to monitor national and regional EPI progress. The method involves dividing the numerator, i.e. the number of vaccine doses given, by a denominator equal to the population who should have received this dose of vaccine. This is recommended to ensure uniform reporting and to encourage collaboration between supervisory and management levels. Based on regional population figures, PAHO then calculates regional coverage levels for all of the EPI vaccines.

In addition, for the last several years, PAHO has requested that national programs monitor coverage via two additional measurements: 1) the proportion of municipalities with a given coverage level, e.g. 95%; and 2) the proportion of children in a given age group who live in a municipality with at least that coverage level. This reflects regional goals of ≥95% coverage levels at the local level. For example, for measles elimination, countries should monitor the proportion of municipalities with ≥95% coverage and the proportion of children 12-23 months of age who live in a municipality with coverage against measles of at least 95%. Ideally, these two measures of coverage should coincide. Unfortunately, this is not always the case.

Reported national coverage for measles vaccine by country for year 2001 is high, i.e. 95% among all children 12-23 months of age in the Region. However, this figure is not consistent with the proportion of municipalities with high measles coverage (57%), or with the proportion of children who live in municipalities with measles coverage of ≥95% (61%). Some countries with measles coverage ≥90% have a low proportion of both children and municipalities in situations of high coverage. In fact, although it is estimated that regional coverage was 95% in year 2001, only 7,525 (57%) of 13,302 municipalities in 17 countries with information had coverage of ≥ 95%. In addition, only 5,419,388 (61%) of 8,917,765 children one year of age live in municipalities with coverage of ≥ 95%.

The lack of concordance with these figures is of concern. These discrepancies may simply be due to inherent differences in how the measures are calculated. Some discrepancies, however, may represent true errors associated with poor record-keeping practices which consequently may reflect poor management of immunization services, and problems could lead to errors in doses administered calculations. Since this is the method of choice to calculate coverage to monitor our vaccination goals, it is imperative that efforts be undertaken to improve all aspects involved in the management of data, including record-keeping, and, importantly, its analysis and subsequent use at the local level to effect necessary change. This will ensure accurate data and ultimately ensure that children receive needed vaccines. To encourage national managers to place more emphasis on data quality issues within EPI, a discussion is provided below on potential biases and errors in the reporting and calculation of coverage, what can be done to remedy a problem when and if it arises, what PAHO is currently developing to assist managers to improve local practices and validate the quality of local data, and what criteria can be applied by managers to select the most appropriate method to calculate coverage.

A. Potential Biases (see shaded box for discussion)

B. Potential Solutions

Local managers must ensure good record-keeping practices in all health centers. Good managerial practices and frequent educational supervision are essential to achieve this. All efforts should be made to ensure the accuracy of vaccination data at the local level. Supervisory visits should include revision of doses administered data and correction of practices that lead to errors. Efforts should be made to evaluate and improve the accuracy of both the numerator, i.e. doses given, and the denominator, i.e. the population. Current supervisory efforts

Potential biases in the three measurements of vaccination coverage

The discrepancy may, in part, be attributed to inherent differences in how the three different measurements of coverage are calculated.

1. Proportion of municipalities with high coverage

This calculation may be problematic if municipalities with differing populations are given the same weight in calculations. Situations could arise in which a country could have many low-populated municipalities with low to moderate coverage and only a few highly-populated municipalities with very high coverage. If this were the case, national coverage, an average of all municipalities, could be high, although the majority of municipalities would have low coverage. This is often the case in countries with dispersed, hard-to-reach populations.

2. Proportion of children living in municipalities with high coverage

A problem with calculating this measure of coverage deals with the fact that children living in one municipality can be vaccinated in another neighboring municipality. Thus, situations could arise in which a country could actually have very high coverage, with the vast majority of its children vaccinated, but with only a few municipalities reporting high coverage due to record keeping practices, i.e., the municipality of residence would be unaware that its children had been vaccinated. In such situations, reported coverage by municipality would be under-estimated despite high national coverage. In addition, some children are vaccinated in the private sector and their vaccination is unknown by national managers and therefore not included in coverage estimates.

3. Doses administered data

Doses administered data, or the numerator, potentially may be inaccurate for a variety of reasons. Poor record keeping practices, i.e. not recording doses given, can result in under-estimates of coverage. Doses administered may be artificially inflated for various reasons. Children may also be vaccinated without the dose being recorded during a campaign or when a child appears at a clinic without his/her vaccination card and is considered unvaccinated and is therefore revaccinated.

Second, population figures, i.e. the denominator, are often outdated or not realistic, as many countries do not regularly perform censuses. In addition, due to political and social changes in the Region, in many countries, there has been internal migration. Migration from rural areas to urban areas results in an over-estimate of population figures in rural areas, i.e. an inflated denominator which would create a under-estimate of coverage, and an under-estimated population figure in urban areas, i.e. a lower than actual denominator resulting in an over-estimation of coverage.

Regardless of the bias discussed above, an important implication of any error is that local mangers may not be reviewing and then using their own data to direct their programs. Likewise, higher level managers, i.e. provincial or national levels, may not be conducting adequate revision of the information received from the local level nor conducting an analysis of the situation in different areas of their responsibilities.

in Bolivia include comparing different sources of information on the number of doses applied in a clinic, such as the number recorded in vaccination cards to the number reported in the clinic report to the number reported in higher administrative area's report. If the proportion of error is 10% or less (i.e. there is concordance of at least 90%), the figure is accepted as adequate for programmatic needs. In all cases, problems are identified and corrected. The establishment is re-visited regularly until the situation is improved. Similarly, in certain southern states in Mexico, local managers assess the accuracy of population data by comparing local figures from census data, if available, to data for DTP1 and BCG coverage, and population figures from other sources such as the malaria program or prenatal program. The population figure is accepted as reliable if there is a concordance of at least 90% between all sources. In Brazil, comparison of drop-out levels with coverage provides valuable "reality" checks on the potential accuracy of local coverage data. Their emphasis on encouraging data analysis at the local level helps to further the decentralization process and strengthen capacity building at the local level.

The occurrence of municipalities with coverage >100% should indicate the likelihood of errors in coverage calculations. Such coverage levels should be viewed with skepticism and should be critically evaluated. Comparison of drop out rates (i.e. from DTP1 to measles vaccination) and coverage levels should be conducted. High drop out rates (e.g. $\geq$5%) cannot be associated with high coverage.

Resolving the biases (see shaded box) associated with calculations for coverage by municipality and for the proportion of children living in high coverage municipality is more difficult. It may be prudent to monitor coverage at the community or local level in large or heavily populated municipalities. Inter-municipality coordination and communication is the first step and must be increased. Some local authorities in Brazil

have suggested that neighboring municipalities that vaccinate each other's children should combine their information and report the inter-municipality coverage levels. The key to developing a solution is that municipalities develop micro-plans of action to address their low coverage. Finally, managers should coordinate with the private sector to ensure that children vaccinated outside of the public sector are included in official coverage estimates for their area.

C. Future Plans

Currently PAHO is working on a tool for field use during supervisory visits to assess the quality of data at the local level. This tool is based on the work done in both Bolivia and in Mexico to validate vaccination information used in coverage calculations. Essentially, a supervisor and center manager work together to use the tool to compare doses administrated information from the health center's registry to different sources to ensure that there is consistency in reports. Similarly, different sources that provide data on local population are compared, e.g. census data, birth registries, malaria and nutrition program, to validate the denominator used in coverage estimates. Likewise, revision of BCG and DPT1 doses administered data and data of dropout rates are reviewed to ensure that local population figures are reliable. These activities provide a sense of the accuracy of the data and their reliability for use in coverage calculations.

Editorial Note: Achievement of high coverage levels is a key PAHO objective as well as that of national immunization programs. Methods are needed to monitor the progress towards achieving high coverage as defined by the three measures of coverage currently used in the Region. Importantly, these measures of coverage should be interpreted together and not in isolation. Inconsistencies in coverage estimates require detailed evaluation of the situation. Managers must understand that national data represent an average and can hide wide variations at the local level. Thus, monitoring coverage locally should be the main focus of activities.

This article highlights potential problem areas in the local management of data that, if uncorrected, could lead to inaccurate estimates of coverage and ultimately to inappropriate or inadequate vaccination actions. Regular assessment of record-keeping practices and of the quality of data at the local level must become an integral component of managerial practices and must be included in all supervisory visits. The tool, under development by PAHO, will hopefully provide guidance on how one can rapidly assess the quality of the data and whether activities to improve the quality are warranted.

In addition to the quality of data, the question can arise as to how to calculate coverage, i.e. what method(s) should be used? The answer to this question depends on what information is actually required. If an actual coverage level is required, then managers have two options: the use of doses administered data or a survey. As stated, PAHO recommends the use of doses administrated data. In general, surveys are time consuming, costly and the results are often late in providing useful information, especially at the local level. However, there are times when surveys are indicated, e.g. if no one sources exist to estimate coverage, if Ministries of Health need to confirm reported coverage, combine it with surveys for other health issues, to respond to donor requests for survey estimates, etc. However, if managers simply want to know if coverage is acceptable, e.g. above 90%, then Lot Quality Assurance Sampling can be an excellent method to rapidly and, generally, inexpensively determine if coverage is adequate. This methodology provides a probability that an areas's coverage is above, or below, a predetermined level. However, one cannot determine an actual coverage level with this method.

If managers need to monitor progress over time, doses administered data is best for the task. If one needs to rapidly evaluate if vaccination activities at the local level are being performed adequately and for the need to vaccinate or to direct vaccination activities either during a campaign or in routine services, then the Rapid Monitoring Tool developed by PAHO is an excellent solution. Although it can not provide an estimate of coverage, i.e. can not calculate coverage, it is extremely useful since it can provide information on whether children are actually vaccinated and through contact with parents provide needed information on why children are not vaccinated and obtain parental opinions on the quality of vaccination services.

Each of these methods has its advantages and its disadvantages. Managers should be clear about what is needed, and the limitations of each method. For achieving EPI coverage goals, the use of doses administered data supplemented with the Rapid Monitoring assessments during educational-oriented supervisory visits will provide the needed information. Accurate doses administered data in conjunction with denominator data on population can provide the necessary information for effectively measuring and monitoring coverage. The Rapid Monitoring Tool provides information on the presence of unvaccinated children in the community and the potential reasons for non-vaccination. This information is of great use to the local level by providing guidance on whether vaccination activities are warranted and whether previous activities have been successful and therefore,this is an excellent supervisory tool during both campaigns and in routine supervision.

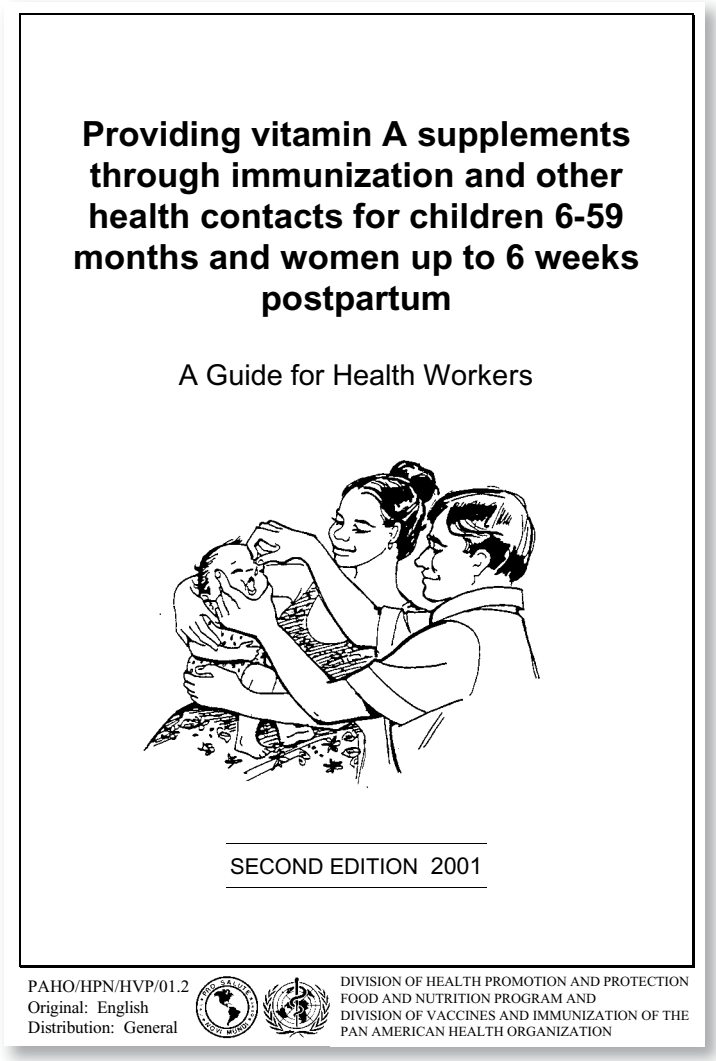
In summary, to effectively calculate coverage at the local level, national EPI programs must first ensure the accuracy of their data and ensure good data management practices. The information must be used and analyzed to identify high risk municipalities, i.e. those with sub-optimal coverage or with inadequate data management practices. Nonetheless, other methods can also be used to define high risk communities, i.e. via socio-economic indicators or underserved areas such as per urban areas of large cities that attract migrants. Once identified, local Micro-Action Plans for these municipalities must be developed and implemented. Local assessment of data quality should be an integral part of supervision as should rapid house-to-house monitoring of coverage and active search activities (i.e. actively looking for cases in health facilities and in the community).

Joint collaboration between the Expanded Program on Immunization and child survival initiatives: the case of Nicaragua

Nicaragua has a long tradition and considerable experience in organizing intensive vaccination campaigns through its National Immunization Days (NIDs), which are being held since the early 1980s. As a result of these efforts, poliomyelitis was eradicated in 1981, and the last cases of diphtheria and measles occurred in 1987 and 1994, respectively. The remaining vaccine-preventable diseases have also been brought under control in the past 10 years. Nicaragua's National Immunization Program has two principal strategies, routine immunization within the health services system, and National Immunization Days, with the objective of simultaneous administration of all biologicals that are part of the country's vaccination schedule, in a 3-4 week time frame.

To maximize the impact of the country's extensive efforts in social and resource mobilization in health, and to broaden the scope of NIDs, Nicaragua's Ministry of Health has added concrete, high-impact activities such as vitamin A supplementation, antiparasitic treatment, and specific health promotion and control activities, based on the country's priorities and epidemiological situation. This is the case of cholera control efforts in the 1990s and, more recently, basic sanitation and vector control activities to fight dengue.

Given their impact and sequelae in the population, Nicaragua's health authorities have made deficiency diseases a priority, as evident in their ongoing efforts to determine vitamin A deficiency levels in young children. The first large-scale survey, conducted in 1966 by the country with PAHO's Institute of Nutrition of Central America and Panama (INCAP), found the prevalence of vitamin A deficiency (levels of serum retinol < 20µg/dl) of 18% among children aged 1-4 years: 22% in rural areas, and 10.8% in the capital city of Managua. Among families in rural areas, 75% consumed less than 50% of the recommended daily allowance of vitamin A. A 1989 study in Nicaragua's IV Region (city of Managua) showed that 17% of pregnant women had serum retinol levels of less than 20µg/dl. In 1993, the first National Micronutrient Survey was conducted, which revealed that 7.9% of the population aged 12 to 59 months was suffering from severe vitamin A deficiency (serum retinol <10µg/dl), and that 23.4% had a moderate deficiency. The total prevalence of serum retinol levels of less than 20µg/dl (indicative of subclinical vitamin A deficiency) was 31.3%.



These results prompted national authorities to make vitamin A supplementation a compulsory and complementary activity during NIDs. Vitamin A supplements began to be administered during the first NID in 1994. Most recently postpartum women have been added to the supplementation program.

Since 1999, vitamin A supplementation is being administered in health units as part of routine health service activities. However, the proportion of doses administered to children aged 6 to 59 months under this strategy represents less than 2% of total doses administered. The percentage of supplementary doses administered in routine activities during the puerperium, in contrast, is considerably higher, representing 52%- 81% of the doses administered to this group. Based on the 2001 ENDESA, 65.3% of children ages 6-59 months had received Vitamin A supplementation in the last six months, while 26.7% of mothers had received a dose postpartum.

The second National Micronutrient Survey was conducted in 2000. This survey found that the proportion of children aged 1 to 4 years with serum retinol levels of less than 20µg/dl was 8.8%, while 10.9% of nursing mothers had levels of less than

30µg/dl. These values represent a 71.8% reduction in vitamin A deficiency in children aged 1 to 4 years since the first National Micronutrient Survey.

The operational ease of administering doses of vitamin A during intensive vaccination campaigns has allowed the simultaneous mass application of this strategy, obtaining the kind of coverage and impact that could currently be achieved only with difficulty through routine health service activities. It should be noted that the implementation of Nicaragua's NIDs, held twice a year and with an interval of two months, allows for the completion of the vitamin A dosing schedule for children.

Integrating primary care activities offers the opportunity to optimize resources, expand program coverage and outreach, make health activities more equitable, and obtain a high short-term impact. Vaccination programs in the Americas have the structure, organization, and experience necessary to achieve this integration.

Source: Dr. Juan José Amador (Department of Environmental Health and Epidemiology, Ministry of Health, Nicaragua), Dr. Omar Malespín (Department of Immunization, Ministry of Health, Nicaragua), Dr. Antonio Largaespada (Department of Nutrition/Ministry of Health), Miguel Mejía and Teresa Guerrero (Department of Statistics/Ministry of Health), Dr. Gloria Elena Navas (Nutrition, PAHO/Nicaragua), and Dr. Raul Montesano (Immunization, PAHO/Nicaragua).

South American countries plan joint immunization week in June
Reaching high-risk population groups

As of March 28, 2003, (refer to article page 1, *EPI Newsletter*, February 2003) no confirmed cases of measles have been reported in the Americas for an historical 19 weeks. This success is due in large part to the implementation of supplemental vaccination activities throughout the Region, and the strengthening of routine coverage levels. In an effort to safeguard the achievements of national immunization programs in South America, and in response to a measles outbreak in Venezuela and Colombia in 2002, the Ministers of Health of the Andean Region and Chile, signed an agreement, the *Sucre Agreement*, on 23 April 2002. The Agreement outlined a series of concrete steps aimed at preventing the regionalization of the measles outbreak that was affecting Venezuela and Colombia at the time, and also strengthening national immunization programs. A key recommendation of the *Sucre Agreement* was the simultaneous implementation of an annual National Vaccination Week, beginning in 2003, which an emphasis on reaching high-risk population groups within countries.

South American National Vaccination Week

- **Date:** First week of June, 2003
- **Participating countries**: Colombia, Venezuela, Ecuador, Peru, Bolivia, Chile, Argentina, Uruguay, Paraguay and Brazil.

Objective

- Multi-antigen vaccination of children and women of child-bearing age living in high-risk areas, including those residing in marginal urban areas, inter-country border areas, and indigenous communities.

Target population

- Approximately 4.3 million children under 5 years of age and 1.1 million women of childbearing age living in high-risk areas.

Organization

- Each participating country has formed a national coordinating committee, and an operational committee to run the campaign, with PAHO's support.
- Countries will define the activities to be performed during this week, following their national priorities and areas at risk of outbreaks.
- Each country is designating focal points for border areas, to expedite the exchange of coverage information and to identify the territorial units that are being covered by the Immunization Week.

Supervision

- Field supervision will be a priority activity and will include rapid house-to-house monitoring in all targeted communities, to assess the effectiveness of the vaccination efforts. Active search for measles cases will also be conducted.

Standard performance indicators for the South American Immunization Week

1. Administrative coverage achieved: Goal of 95%
2. Proportion of planned rapid monitoring assessment conducted: Goal of 90%
3. Proportion of areas with rapid monitoring assessment showing 95% of children vaccinated. Goal of 95%
4. Proportion of planned rapid monitoring assessment of the information campaign conducted: Goal of 90%

Evaluation

- The final evaluation of National Immunization Week will take place during the scheduled sub-regional meeting for Managers of National Immunization Programs of South American countries during the first week of September 2003.

Measles Surveillance in the Americas
Final Measles Surveillance Data, 2002

Country	Final 2002 Data					Total Confirmed Cases 2001
	Total Suspected Cases	Discarded	Confirmed Cases			
	Notified		Clinical	Laboratory and EPI Link	Total	
Bolivia	906	906	0	0	0	0
Colombia	4914	4882	17	123	140***	1
Ecuador	766	766	0	0	0	2
Peru	1705	1705	0	0	0	0
Venezuela	7525	5133	0	2392	2392	115
Brazil	23950	21712	0	1	1**	1**
Belize	38	38	0	0	0	0
Costa Rica	16	16	0	0	0	0
El Salvador	296	296	0	0	0	2**
Guatemala	447	447	0	0	0	0
Honduras	430	430	0	0	0	0
Nicaragua	409	409	0	0	0	0
Panama	530	530	0	0	0	0
Anguilla	7	7	0	0	0	0
Antigua & Barbuda	0	0	0	0	0	0
Bahamas	4	4	0	0	0	0
Barbados	17	17	0	0	0	0
Cayman Islands	0	0	0	0	0	0
Dominica	0	0	0	0	0	0
Grenada	18	18	0	0	0	0
Guyana	45	45	0	0	0	0
Jamaica	262	262	0	0	0	0
Montserrat	0	0	0	0	0	0
Netherlands Antilles	…	…	…	…	…	0
St. Kitts & Nevis	2	2	0	0	0	0
St. Lucia	0	0	0	0	0	0
St. Vincent & Grenadines	2	2	0	0	0	0
Suriname	19	19	0	0	0	0
Trinidad & Tobago	38	38	0	0	0	0
Turks & Caicos	3	3	0	0	0	0
British Virgin Islands	6	6	0	0	0	0
U.S. Virgin Islands	…	…	…	…	…	0
Cuba	919	741	0	0	0	0
Dominican Republic	739	739	0	0	0	113
French Guyana	…	…	…	…	…	…
Guadeloupe	…	…	…	…	…	…
Haiti	54	54	0	0	0	159
Martinique	…	…	…	…	…	…
Puerto Rico	…	…	…	…	…	0
Mexico	1633	1633	0	0	0	3**
Bermuda	…	…	…	…	…	0
Canada	6	0	0	6**	6**	34**
United States	49	13	0	42*	42*	109**
Argentina	492	492	0	0	0	0
Chile	109	109	0	0	0	0
Paraguay	276	276	0	0	0	0
Uruguay	11	11	0	0	0	0
Total	**46,643**	**41,761**	**17**	**2,564**	**2,581**	**539**

… No information provided
* Provisional data
** Due to importation (Brazil importation from Japan)
*** Of which 53 cases are imported

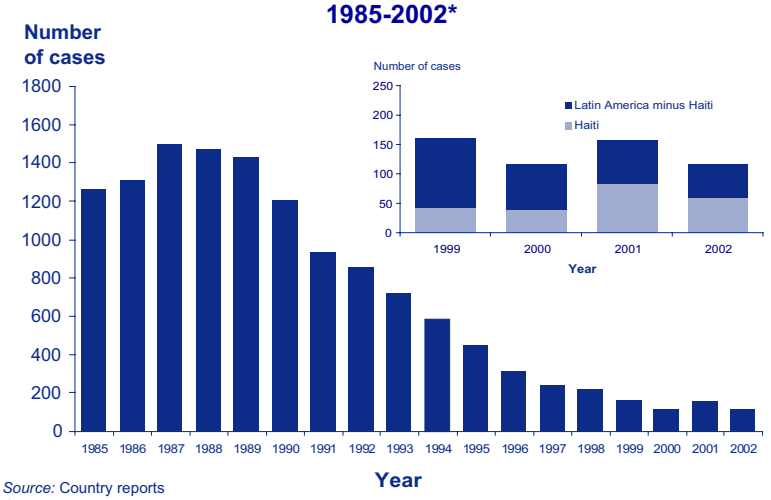
Source: MESS/HVP except for Brazil, Canada, Cuba and USA

Updated: 3 April 2003

Haiti launches initiative to eliminate maternal and neonatal tetanus

With roughly 8 million inhabitants, Haiti accounts for nearly 50% of all reported cases of maternal and neonatal tetanus in Latin America (total estimated population: 355 million) in the past three years (Figure 1). Most of these cases are occurring among mothers who are multiparous, have not received prenatal care, delivered at home, and were not immunized against tetanus. Previous surveys have pointed to widespread underreporting, and the real number of cases could be 10 times higher than those being notified. Besides the difficult socioeconomic and epidemiological surveillance conditions, as well as the limited development of the country's health system, part of the problem is that the regular immunization program covers only a small proportion of women of childbearing age. A survey carried out in 2000 has shown that only 25% of pregnant women had received 2 doses of tetanus toxoid (TT) vaccine.

Figure 1
Neonatal tetanus in Latin America
1985-2002*



Source: Country reports
*Provisional data
Countries with cases in the last 3 years: Argentina, Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru and Venezuela

In response, the Ministry of Health in Haiti has set the goal of eliminating maternal and neonatal tetanus by 2005, adopting the global goal of UNFPA, UNICEF, and WHO. In order to meet that goal, it will adapt the global strategies to local conditions, in an effort to vaccinate all women of childbearing age, promote childbirth practices under adequate hygienic conditions, as well as strengthen epidemiological surveillance. These efforts will initially target 1.4 million women of childbearing age living in 59 high-risk districts (the country has 133 districts and a total of 2.1 million women of childbearing age).

Field work has already begun, and vaccination activities are currently targeting 50,000 women of childbearing age. In addition to vaccination, efforts of the First Phase are centering on selecting strategies that will allow reaching the greatest number of women, and to an analysis of the conditions that facilitate or hinder vaccination in densely populated urban areas, as well as peri-urban and rural areas. During this First Phase, materials to be used in training, mass communication, supervision, and data collection and analysis will be field tested.

Prior to the initiation of the Second Phase (September-November 2003), which is targeting 200,000 women of childbearing age, monitoring activities will determine that ≥ 90% coverage was reached in the target population. An analysis of the most effective strategies and their costs is also planned. Health authorities are seeking to rapidly incorporate lessons learned and experience in the use of tools, in the implementation of the Second Phase. The initiative to eliminate maternal and neonatal tetanus has the backing of an Interagency Coordinating Committee (ICC) of Haiti's Immunization Program.

The EPI Newsletter is published every two months, in Spanish, English and French by the Division of Vaccines and Immunization (HVP) of the Pan American Health Organization (PAHO), Regional Office for the Americas of the World Health Organization (WHO). Its purpose is to facilitate the exchange of ideas and information concerning immunization programs in the Region, in order to promote greater knowledge of the problems faced and their possible solutions.

References to commercial products and the publication of signed articles in this Newsletter do not constitute endorsement by PAHO/WHO, nor do they necessarily represent the policy of the Organization.

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