directing council | *regional committee*

PAN AMERICAN HEALTH ORGANIZATION

XXXVIII Meeting

WORLD HEALTH ORGANIZATION

XLVII Meeting

Washington, D.C.
25-30 September 1995

Provisional Agenda Item 5.6.B

CD38/15 (Eng.)
24 July 1995
ORIGINAL: ENGLISH

ELIMINATION OF MEASLES IN THE AMERICAS

The 116th Meeting of the Executive Committee reviewed the progress report by the Director on the elimination of measles from the Americas (Document CE116/15, annexed). The report presented the Plan of Action, together the strategies and technical components as well as the estimated budget needed to carry out the Plan.

The Executive Committee observed that progress has already been made towards the elimination goal but stressed that much still remains to be done if the goal is to be accomplished. One of the major obstacles to the measles elimination program is the accumulation of susceptible children, particularly in the age group under four years, which requires periodic vaccination campaigns targeting that age group every four to five years to prevent outbreaks should the disease be introduced from an endemic area. Surveillance is still in the process of being expanded and a laboratory network is now being organized. A laboratory test that could make the correct diagnosis at field level is in the process of development and, when available, will be of great value for the elimination initiative.

The Executive Committee adopted Resolution CE116.R7 below, which recommends that the Directing Council review the progress report and consider adoption of the resolution it proposes.

MEASLES ELIMINATION IN THE AMERICAS

THE 116th MEETING OF THE EXECUTIVE COMMITTEE,

Having reviewed and discussed the plan of action and progress report by the Director on measles elimination in the Americas,

RESOLVES:

To recommend to the XXXVIII Meeting of the Directing Council the adoption of a resolution along the following lines:

THE XXXVIII MEETING OF THE DIRECTING COUNCIL,

Having reviewed and discussed Document CD38/15, containing the plan of action and a progress report on the national and regional efforts towards the elimination of measles from the Americas by the year 2000;

Noting with satisfaction that nearly all countries have adopted the strategies outlined in the plan of action and have made considerable progress towards measles elimination;

Observing that, in spite of the major efforts made with the implementation of national campaigns and improvements in routine vaccination programs, the number of susceptible children is accumulating every year in every country;

Realizing that measles surveillance requires considerable resources, both financial and human, but cognizant that a surveillance system is essential to future developments of communicable disease surveillance, including emerging and re-emerging infections; and

Bearing in mind the level of funding needed to implement the activities between now and the year 2000,

RESOLVES:

1. To approve the Plan of Action for Measles Elimination in the Americas by the year 2000 as presented in the progress report of the Director (Document CD38/15).

2. To urge all Member States to adopt the strategies outlined in the Plan of Action and allocate the resources needed for its smooth implementation.

3. To congratulate Governments for the efforts implemented thus far and the strides already made towards the elimination of measles from the Americas by the year 2000.

4. To request the Director to make every possible effort to secure the international resources needed to support the national efforts.

Annex

executive committee of the directing council

PAN AMERICAN HEALTH ORGANIZATION

working party of the regional committee

WORLD HEALTH ORGANIZATION

116th Meeting
Washington, D.C.
June 1995

CD38/15 (Eng.)
Annex

Provisional Agenda Item 4.8

CE116/15 (Eng.)
27 March 1995
ORIGINAL: ENGLISH

MEASLES ELIMINATION IN THE AMERICAS

This progress report by the Director is presented to the 116th Meeting of the Executive Committee in response to Resolution CSP24 R16 of the XXIV Pan American Sanitary Conference, held in Washington, D.C., in September 1994.

The report summarizes the progress achieved by national immunization programs in increasing immunization coverage and in controlling vaccine preventable diseases. The successes include the eradication of poliomyelitis from the Americas, an accomplishment certified by the International Commission in August 1994, after the last case of paralytic poliomyelitis was detected in Junín, Peru, on 23 August 1991; the nearly complete control of neonatal tetanus in several countries; and the 99% reduction in measles transmission between 1984 and 1994. The last resulted in the decision of the XXIV Pan American Sanitary Conference to target the elimination of measles from the Western Hemisphere by the year 2000.

A summary of the strategies and technical components of the Plan of Action for measles elimination in the Americas by the Year 2000 is presented and discussed, with analysis of the cost components and implications.

The Executive Committee is requested to review the report and approve the strategies and plan of action as presented or with any modifications that it may deem appropriate.

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EXECUTIVE SUMMARY

On 29 September 1994 the International Commission for the Certification of Poliomyelitis Eradication certified the Region of the Americas polio-free.

For neonatal tetanus, the Region has already met the goal established by WHO of less than 1 case per 1,000 live births.

As a result of the measles initiatives undertaken by several countries in the Region and the dramatic impact that the strategy has had on the incidence of measles, the XXIV Pan American Sanitary Conference adopted a resolution calling for the elimination of measles transmission from the Western Hemisphere by the year 2000.

The measles elimination strategy calls for the achievement and maintenance of 95% measles vaccine coverage in all counties or districts in every country; careful fever and rash surveillance for the detection of possible measles cases; aggressive outbreak response; and intensive social mobilization of nongovernmental organizations (NGOs) and community groups to support the effort and to enhance the community's role in the prevention of disease. Drawing on the experience of polio eradication, it is expected that the measles elimination effort will further reinforce the value of preventing diseases through immunization.

The regional measles elimination initiative will have a duration of five years (1996-2000) and will cost an estimated US$ 53.0 million, including the provision of approximately $7.0 million from PAHO and WHO regular budgets and voluntary funds. These resources are a complement to an estimated $650,000,000 which is invested by the countries themselves in their national immunization services and will be critical to address issues related to surveillance, laboratory diagnosis, supervision, social mobilization, training, research, and supplemental vaccine for catch-up campaigns, program evaluation, and documentation.

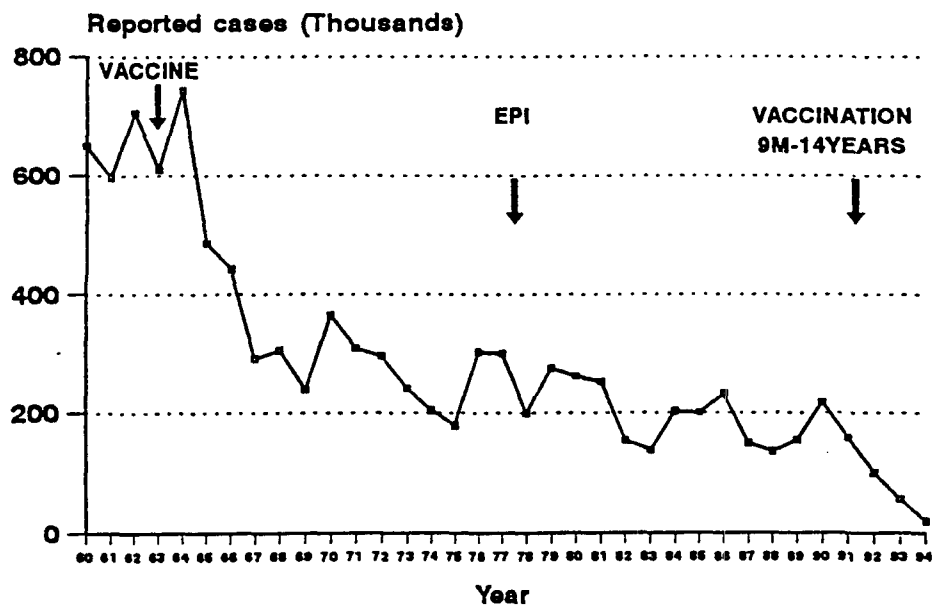
1. Background

Since the Expanded Program on Immunization (EPI) was launched in the Region of the Americas in 1977, immunization coverage has improved considerably. In 1978, less than 10% of children under one year of age lived in countries where coverage with the EPI vaccines was at least 50%. By 1993, nearly 80% of the children in this age group lived in countries with coverage of at least 75% for DPT and BCG vaccines and over 80% for polio and measles vaccines.

Poliomyelitis was certified as eradicated in 1994, neonatal tetanus has been brought under control, and a considerable decline has been observed in diphtheria and pertussis.

The impact of the high coverage with measles vaccine and the national measles elimination campaigns can be seen in Figure 1, which shows the absolute number of cases reported each year during the period 1960-1994 and a reduction of 99% between 1984 and 1994. This reduction can only be maintained if additional efforts are initiated which aim at elimination of transmission.

Figure 1. Annual Number of Reported Cases of Measles, Region of the Americas, 1960-1994*



Source: PAHO
*1994 data provisional as of 27 Jan 1995

By November 1994, three years had elapsed without measles cases in Cuba and the English-speaking Caribbean, and two years with no confirmed cases in Chile. This impressive and rapid reduction in disease burden, resulting from increased coverage with the measles vaccine and its application in mass campaigns, paved the way for the decision on 29 September 1994 of the XXIV Pan American Sanitary Conference to establish the goal to eliminate indigenous transmission of measles from the Western Hemisphere by the year 2000.

2. Objectives

The following are the proposed objectives of the Plan of Action:

(a) to eliminate indigenous transmission of measles in the American Region by the year 2000;

(b) to sustain surveillance for vaccine-preventable diseases already in place and strengthen surveillance for other communicable diseases of public health importance;

(c) to promote the overall development of the Expanded Program on Immunization in the Region and to speed up the attainment of its objectives.

3. Strategies

In order to achieve the goal of elimination of indigenous transmission of measles in the Americas by the year 2000, it will be necessary to intensify the use of all components of the EPI strategies currently being implemented, and to modify them as required on the basis of practical experience. Other essential elements are coordination of international agencies at the Regional and country levels and assuring the availability of sufficient funds from both national and international sources to fund all activities related to this goal.

The key strategies which will enable the Region to reach the measles elimination objectives listed above include:

- mobilizing national resources supported by international resources, where necessary;

- achieving and maintaining vaccine coverage of greater than 90% of the target population in every district of each country;

- conducting periodic "catch-up" campaigns in countries which have accumulated a large number of unprotected children capable of sustaining measles transmission;

- expanding the Regional surveillance system that was put in place for polio eradication to include surveillance of fever and rash illnesses (suspected measles cases) at Regional and national levels, so that they are immediately investigated and appropriate control measures to stop transmission are rapidly implemented;

- making laboratory diagnostic services available to all countries, permitting laboratory studies of all reported cases of febrile rash illness that are suspected of being measles;

- disseminating information within countries and throughout the Region;

- identifying research needs and resources to support essential research needs;

- developing a certification protocol to declare the countries and the Region free of indigenous transmission of measles;

- evaluating all ongoing program activities.

4. Technical Components

4.1 *Mobilization of Country Resources*

Recognizing the limited resources available within the ministries of health in many of the countries, it will be crucial to concentrate efforts on the mobilization of all country resources to complement those available.

To this end, intersectoral coordination and nongovernmental organization (NGO) collaboration will be essential to estimate the potential of existing resources and to mobilize the necessary additional resources. The mobilization of the social and economic sectors, social security, and other organizations will be essential elements in this endeavor.

4.2 *Immunization Activities*

The foremost requirement of the strategy will be achieving and maintaining an immunization coverage among children of at least 95% with potent measles vaccine in every district of every country. Given that most countries in the Region have already

every district of every country. Given that most countries in the Region have already implemented mass vaccination against measles of all children between 9 months and 14 years of age, it is recommended that the age for primary vaccination be 12 months of age. Therefore, the primary target age group will be children 12-15 months of age.

Since the measles vaccine is not 100% effective, even with very high levels of coverage, there will be an accumulation of susceptible children, which could fuel an outbreak should the measles virus be introduced. Therefore, it will be necessary to implement periodic mass campaigns targeted at reducing or eliminating this pool of susceptibles. The frequency and target age group for these periodic "catch-up" campaigns will be determined from epidemiological investigations and coverage data.

Advantage should be taken of the national immunization days to administer DPT and polio vaccines, as well as tetanus toxoid for women of childbearing age in areas at risk for neonatal tetanus.

All countries should ensure that the vaccines used in the program meet WHO requirements. Vaccine distribution will be a key component of immunization activities.

4.3 *Training*

There will be a major emphasis on training personnel in the components of program operations critical for success. To assist in this endeavor, PAHO will ensure that the field guide on the technical basis of measles elimination is broadly available in all Member States. This field guide will serve as a prototype for countries to produce country-specific field guides adapted to local circumstances.

4.4 *Social Mobilization*

In order to stimulate reporting of the disease, a primary goal will be education of the population with respect to the importance of the health sector detecting and reporting the existence of measles cases as soon as possible. The mass media will be used for this purpose. Families, neighbors, and schoolteachers will be encouraged to report suspected cases to health facilities as early as possible.

4.5 *Epidemiological Surveillance and Outbreak Control*

The foundation of a proper surveillance system is the immediate investigation of suspected measles cases. This is one of the most critical components of the elimination effort. For operational purposes, the definition of an outbreak is the occurrence of three or more probable cases of measles in a defined geographical area within a one-month

potential sources of notification of suspected cases of measles in the countries must be incorporated into surveillance activities. Weekly calls to all outpatient facilities that might see measles cases should be considered as a routine part of the surveillance mechanism.

Proper containment actions should be taken to prevent spread of measles in the event of a probable case or cases occurring. This will require the immunization of contacts at risk within the population. In addition, a geographical area around the case or cases should be demarcated and containment vaccination performed among the identified target age group.

Another key element in the reinforcement of measles surveillance will be the inclusion of providers in the private sector. They are often the first health-related authorities to see cases of measles. This is important, as the private sector is a significant provider of health care in many countries of the Region.

Reports on all outbreaks and case importations will be published and disseminated. When intraregional importation has occurred, the country of origin of the case will be notified and an investigation team will be available to assist in the investigation of the origin of that infection.

4.6 *Laboratory Support*

A major component of surveillance activities will be laboratory confirmation of probable cases of measles. All probable cases will have specimens collected for serological confirmation. A Regional network of 8 to 10 laboratories will be created to work in close collaboration and participation with the national laboratories in the serological study and testing of suspected measles cases. The Regional network of laboratories will monitor the quality of the work performed by the national laboratory in each country through proficiency testing.

A simplified serological test which is now under development and which can be used in the field will facilitate surveillance activities.

To the extent possible, the regional laboratory network created for the polio eradication effort and the laboratories involved with dengue surveillance will participate in this activity. For countries without adequate laboratory capacity, reference laboratories will be identified to assist in the confirmation of cases. These reference laboratories will assist countries to develop in-country virological capacity.

In addition to the laboratory studies related to surveillance, there is a need to develop further laboratory support for potency testing of vaccines. This activity will be assigned to the Vaccine Quality Control network laboratories, which will be used as reference centers.

4.7 *Information Dissemination*

In addition to the reports on measles activity contained in the EPI Newsletter and CAREC Surveillance Report, the weekly measles bulletin prepared by PAHO Headquarters will be distributed widely to all countries in the Region.

Countries will be encouraged to include a section on measles in their national epidemiological bulletins, with distribution to all health care workers in the network.

PAHO will implement a Regional computerized information system to track rash and fever cases in each country and will assist the countries in implementing the system nationally.

An essential ingredient in polio eradication from the Western Hemisphere was the meetings of the EPI program managers. These meetings, sub-Regional and Regional, served as a forum for mutual assistance and information dissemination. As in the polio eradication effort, these meetings will be decisive in maintaining momentum and facilitating communication in the Region, as well as in serving as a forum for interagency coordination within the Region.

4.8 *Identification of Research Needs*

Recognizing that questions remain to be addressed in the field of measles elimination, both in technical and operational areas, support for research will be provided. Research needs identified by the EPI Technical Advisory Group will be implemented within the first two years of the project. It is also recognized that questions will continue to arise as some problems are solved and others appear in their place. Participation in addressing research needs will be encouraged by all Member States. Some of the issues to be addressed immediately include identification of additional target populations for catch-up vaccination after the measles mass elimination campaigns, reasons for non-reporting among private-sector physicians, simpler diagnostic methods (such as the IgM Elisa allowing confirmation from a single rather than paired specimens), improved inoculation procedures, and better equipment for injectable vaccine.

4.9 *Evaluation and Certification Procedures*

Recognizing the critical nature of evaluation for monitoring success and detecting and resolving problems, there will be continued emphasis on evaluation. Knowledge, attitude, and practice (KAP) studies related to measles and its prevention will be part of these studies. Results of these surveys will be used as a basis for modifications of strategies to optimize the efficacy of interventions.

The laboratory network will be evaluated at regular intervals to guarantee the high level of support needed. Part of the laboratory evaluation process will include a retesting of original specimens by the reference laboratories, as well as specimens sent by the reference laboratories to the country laboratories for testing.

An international certification commission will be established to determine the criteria and timing for certification procedures to be initiated, based on the findings of studies conducted and the need to include other criteria to detect the measles virus.

5. Organization and Administration

5.1 *Country Level*

Each country should include activities related to measles elimination in their overall national work plan for EPI and should sign a letter of agreement with PAHO and other collaborating agencies for their implementation. As part of this process, all countries will continue to use the EPI Interagency Coordinating Committee as the mechanism for coordination of inputs and program activities.

The national work plan will identify the roles of all of the participating agencies in the country's effort and should identify additional cooperation needed from PAHO and other participating agencies. These needs should be reflected in the agreements.

It is critical that "seed" funding be available at the time of design of the plans of action and signing of agreements.

5.2 *International Participation*

To assist in guiding the elimination effort, the EPI Technical Advisory Group (TAG) will cooperate in the identification of research needs, oversee the progress of studies underway, and review protocols and results. At its regular meetings, the TAG will review progress and problems encountered in the measles elimination effort.

The EPI Interagency Coordinating Committee (ICC), with representation from all of the international agencies collaborating in the effort (e.g., the Governments of Spain and France, CARICOM, UNICEF, Rotary International, USAID, IDB, World Bank, CIDA, and the Task Force for Child Survival and Development) will ensure the Regional coordination of all international agency inputs. Any additional agencies which provide assistance to the effort—such as the French, Swedish, Danish, and Dutch cooperation agencies as well as the European Union, the Japan International Cooperation Agency, and the Office for Development Assistance of the United Kingdom—will be included in the ICC.

The Regional ICC will meet as frequently as necessary (quarterly, semiannually, or annually) to review progress and needs for additional assistance. The PAHO EPI program office will serve as secretariat to both the TAG and the ICC.

6. Funding and Financial Components

It is important to note that investments in immunization programs in the Region of the Americas between 1987-1991 were in the order of $543 million, with approximately $430 million (80%) from national sources and $113 million (20%) from international agencies and organizations. For the period 1992-1996, an estimated $715 million is being invested in immunization programs, with $654 million (91%) from national sources and $61 million (9%) from international sources. The increase in national investments and the decrease in international funding reflect the maturity of the immunization programs and their sustainability.

It is estimated that, between 1996 and 2000, approximately $700 million will be invested in immunization programs in the Region of the Americas. This amount includes salaries and operational costs at country level, vaccines for routine immunization programs, and other supplies such as syringes and cold chain.

To ensure that the objective of measles elimination by the year 2000 is achieved, it is estimated that 7.5% of this amount, $53 million, will have to be made available from international sources. Of this, $7 million will be made available from PAHO and WHO regular and voluntary funds covering financing of permanent personnel and other operational expenses. Another $46 million will have to come from other international sources in support of national programs (see Table 1). Of this, approximately $25 million should be managed as extrabudgetary resources by PAHO to ensure the necessary regional coordination of the initiative. The cost of extra vaccine, syringes, and needles needed for implementation of catch-up vaccination campaigns may be made available by other donors, such as UNICEF, NGOs, or other national sources.

The projected plan of action requirements to be fulfilled through international cooperation from 1996 to 2000, not including $7 million from PAHO, total $46 million, with the following components: personnel, $7,750,000; documentation and information, $1,500; vaccine and syringes, $9,500,000; meetings, $1,650,000; laboratories, $2,500,000; surveillance and supervision, $6,000,000; social mobilization and promotion, $4,000,000; training, $2,000,000; cold chain and logistics, $2,500,000; evaluation, $1,600,000; research, $2,000,000; and contingency funds, $5,000,000.

A more detailed cost breakdown is presented in Tables 2 and 3. When individual country plans are designed, an economist should participate in costing the program. Cost figures will be identified and will include salaries for additional personnel, transportation

Table 1
Total Contributions which would be Needed to Implement the Plan of Action, 1996-2000
(in thousands of US dollars)

Year	PAHO	Other Sources	Total
1996	$1,200.0	$10,419.3	$11,619.3
1997	$1,300.0	$ 7,262.2	$ 8,562.2
1998	$1,400.0	$10,460.0	$11,860.0
1999	$1,500.0	$ 7,325.4	$ 8,825.4
2000	$1,600.0	$10,533.1	$12,133.1
TOTAL	$7,000.0*	$46,000.0	$53,000.0

* Includes funding of permanent posts and other operational costs

costs (including but not limited to airfares), per diem costs, expected expenditures for investigation of identified suspected cases, vehicles, gasoline, vaccine, cold chain equipment, and laboratory development costs (including costs for reagents, transportation, and shipping of specimens). All recurrent and capital expenditures should be taken into account in the program design. Budgets will also include the cost of media time and production of educational materials.

PAHO will coordinate with all participating agencies in obtaining the necessary funding to guarantee the achievement of this goal, and could serve as the coordinating agency for the financial assistance provided to the effort. It is expected that, by the time of the Directing Council meeting in September 1995, commitments to cover estimated needs for at least the first three years of the program will already be identified.

It is important to assure that funds which are committed are allocated and available in a short time to permit rapid implementation of the targeted activities.

Table 2
Cost Components, 1996-2000
(not including $7 million from PAHO)

Additional Personnel to be Hired by PAHO	$7,750,000	
11 National consultants, local contracts ($30,000/year x 5 years)	1,650,000	
4 Intercountry epidemiologists x 5 years	3,100,000	
1 Project administrator and one programmer	875,000	
Short-term consultants ($8,500/month x 250 months)	2,125,000	
Documentation and Information		1,500,000
Vaccine and Syringes		9,500,000
Meetings		1,650,000
Subregional -- 4/year x 5 years	1,000,000	
TAG -- 1 meeting/year x 5 years	600,000	
ICC -- Interagency Coordinating Committee	50,000	
Laboratories		2,500,000
Viral diagnostic labs (9 x $50,000 x 5)	2,250,000	
Diagnostic kits (10,000 kits x $5 x 5)	250,000	
Surveillance/Supervision (travel and per diem)		6,000,000
Social Mobilization/Promotion (media time, radio, TV, press)		4,000,000
Training		2,000,000
Cold Chain/Logistics		2,500,000
Evaluations		1,600,000
Research		2,000,000
Contingency Funds		5,000,000
GRAND TOTAL		$46,000,000

Table 3
External Costs by Component and by Year, 1996-2000
(in thousands)

Budget Item	Year					
	1996	1997	1998	1999	2000	2001
Personnel						
Epidemiologist, Washington,D.C.	291.8	302.0	313.0	327.2	346.0	1,580.0
Epidemiologist, Bolivia (1)	138.2	137.5	142.5	149.0	157.8	725.0
Epidemiologist, Haiti (1)	151.3	150.5	156.4	163.0	173.0	795.0
Project administrator, Washington,D.C.	91.5	93.4	96.8	101.2	107.1	490.0
Programmer, Washington,D.C.	71.5	73.5	76.3	79.5	84.2	385.0
11 National consultants	330.0	330.0	330.0	330.0	330.0	1,650.0
Short-term consultants	425.0	425.0	425.0	425.0	425.0	2,125.0
Subtotal	1,449.3	1,512.2	1,540.0	1,575.4	1,623.1	7,750.0
Documentation/Information	300.0	300.0	300.0	300.0	300.0	1,500.0
Meetings						1,650.0
TAG (1 x $120.0 x 5)	120.0	120.0	120.0	120.0	120.0	600.0
Subregional (4 x $50.0 x 5)	200.0	200.0	200.0	200.0	200.0	1,000.0
ICC (1 x $10.0 x 5)	10.0	10.0	10.0	10.0	10.0	50.0
Laboratories/Diagnostics						2,500.0
Virology labs (9 x $50.0 x 5)	450.0	450.0	450.0	450.0	450.0	2,250.0
Diagnostics (10.0 KITS)	50.0	50.0	50.0	50.0	50.0	250.0
Social Mobilization/Promotion	800.0	800.0	800.0	800.0	800.0	4,000.0
Surveillance/Supervision	1,200.0	1,200.0	1,200.0	1,200.0	1,200.0	6,000.0
Training	400.0	400.0	400.0	400.0	400.0	2,000.0
Cold Chain/Logistics	500.0	500.0	500.0	500.0	500.0	2,500.0
Evaluations	320.0	320.0	320.0	320.0	320.0	1,600.0
Research	400.0	400.0	400.0	400.0	400.0	2,000.0
Vaccines	2,000.0		2,000.0		2,000.0	6,000.0
Syringes/Needles	1,170.0		1,170.0		1,160.0	3,500.0
Contingency	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	5,000.0
GRAND TOTAL	10,419.3	7,262.2	10,460.0	7,325.4	10,533.1	46,000.0