EPI Newsletter

Expanded Program on Immunization in the Americas

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Certification One Step Closer

No indigenous wild poliovirus has been detected in the Americas since August 23, 1991. This achievement has set the stage to certify that all the countries in the Region have eradicated the virus. Polio eradication is such a tremendous achievement for the countries of the Americas that the process of certification should receive high priority.

During 1994 national commissions should make major efforts to obtain and review surveillance reports indicating readiness for certification. PAHO Technical Paper No. 39, "Plan of Action for Certification of the Eradication of Indigenous Transmission of Wild Poliovirus in the Americas," lays out the guidelines for the certification process, the most salient of which are paraphrased below.

So far, the only experience in eradicating a vaccine-preventable disease is that of smallpox eradication, which underlined the importance of allowing sufficient time to elapse between the last known case and certification, and of maintaining a comprehensive surveillance system. The additional challenge in polio eradication is that cases are often asymptomatic and therefore more difficult to detect.

The smallpox campaign also emphasized the diligence required of the official certification committee reviewing national data as well as the level of political support needed to comply with the certification criteria.

National Certification Commissions for polio eradication are now being organized in each country to oversee the precertification activities. In the interest of maintaining objectivity, they will include public health experts who do not have a direct role in the national polio eradication program. They will be briefed properly regarding specific plans of action for the areas they are reviewing.

Four activities will be essential for generating country reports that would justify certification:

1. Surveillance of AFP;
2. Surveillance of wild poliovirus, such as laboratory analysis of stool samples;
3. Active searches for AFP in areas of poor surveillance, such as those where confirmed or "compatible" cases occurred in the past or from which reports were not received, and
4. Documentation of mass immunization campaigns in areas of risk such as those where confirmed or "compatible" polio cases have occurred.

Generally, the effectiveness of these four activities will determine how prepared a country is to deal with any importations of wild poliovirus. Countries will need to document what additional strategies they can implement to prevent the spread of such an importation.

The International Certification Commission on Polio Eradication (ICCPE), formed in July 1990, hopes to meet in August 1994 to review the progress reports of the national commissions. The operational objectives for ICCPE are to formulate and review certification procedures and to evaluate individual country reports.

Ultimately, it will be the responsibility of the ICCPE to reach one of two conclusions: either that the transmission has been interrupted, or that specific additional measures have to be undertaken to satisfy the certification criteria.

Copies of Technical Paper No. 39 may be obtained from PAHO country representative offices or by writing to: EPI Newsletter, HMP/EPI, Pan American Health Organization, 525 23rd Street, N.W., Washington D.C. 20037

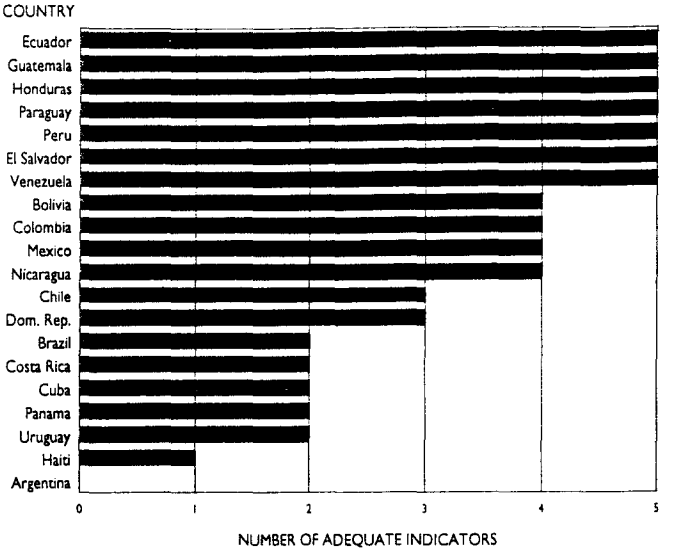
In this issue:

AFP Surveillance Indicators Meeting Certification Criteria, Latin America, by Country, 1993

Good surveillance for acute flaccid paralysis is the cornerstone of the poliovirus eradication certification process. AFP surveillance data are now being monitored to guide efforts in the Americas. For surveillance to be considered adequate, the following five criteria must be met:

1. Weekly negative notification from at least 80% of all weekly reporting units;
2. Detection of a rate of at least 1.0 cases of AFP per 100,000 children under the age of 15;
3. Investigation, by a trained epidemiologist, of at least 80% of cases of AFP, within 48 hours of notification;
4. Collection of two stool specimens within two weeks of paralysis onset, from at least 80% of AFP cases;
5. For at least 80% of AFP cases, collection of stool samples from at least five contacts.

Efforts to raise AFP surveillance to adequate levels throughout the Americas will be important in reaching the goal of certification. The accompanying chart shows where things stood at the end of 1993 in the American Region. Only seven countries met the criteria established by the ICCPE.



Region Acts to Check Importations: Update

In the December 1993 issue of the EPI Newsletter we published a report on the steps that had been taken by many health authorities in the Region to identify communities at risk of spreading wild poliomielitis virus should it be imported from the Netherlands (see EPI Newsletters No. 6, Vol. XIV, 1992, No. 3, Vol. XV, 1993, and No. 6, Vol. XV, 1993).

Reports received from Brazil and the Dominican Republic are summarized below.

Brazil

Upon receiving the alert circulated by PAHO regarding the importation of wild poliovirus into Canada, the health ministry's Vaccine-Preventable Diseases Division called on state coordinators of the national Polio Eradication Program to intensify their surveillance for cases of acute flaccid paralysis.

Ten states reported that closed religious communities with ties to the Netherlands resided within their borders. Each of these communities were contacted, informed of the outbreak in Holland and the importation into Canada, analyzed regarding vaccination coverage of children under five years of age and queried regarding trips to the Netherlands and Canada. Stool samples of community members, especially children under the age of 5 years, were also taken.

It was found that the communities do not refuse to be vaccinated and had 100% coverage rates among children. About 16% of the stool sample results are still pending, 78% were negative, 5% were found to contain non polio enteroviruses, and around 1% had vaccine virus.

Dominican Republic

In July 1993 EPI staff held meetings with health personnel responsible for epidemiologic surveillance, especially those having to do with international travelers, such as air- and sea-port epidemiologists and medical staff. Meetings were then held with religious groups to identify areas of the country where closed communities that refuse to be vaccinated and have links to the Netherlands might reside. Several such communities were identified.

After a number of meetings between the leaders of these communities and regional and local health personnel and municipal authorities, the communities gave their permission to have stool samples taken. All of the samples were negative for poliovirus. One hundred percent of the residents of these communities were then vaccinated.

Andean Ministers Resolve to Eliminate Measles

At their XVII meeting, held in Cuenca, Ecuador, on 3-5 November 1993, the health ministers of the Andean Region approved the following resolution to eliminate measles from their countries by 1998.

The XVII Meeting of Ministers of Health of the Andean Region,

Considering:

That the countries of the subregion are determined to reduce infant morbidity and mortality, as one of the most important goals in its health policies.

That measles is one of the most common causes of death despite the availability of the technology to prevent and control it.

That it is necessary to adopt joint decisions toward eradicating this disease to accelerate the process of reducing infant mortality.

Resolves:

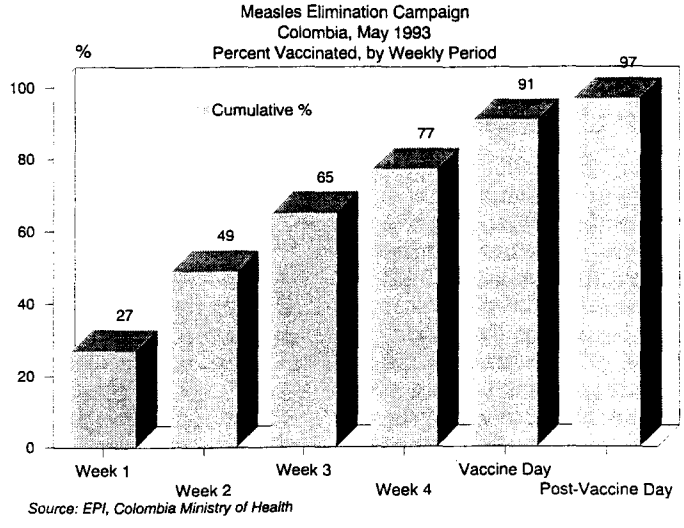
1. To declare the 1994-1998 quinquennium the period to eradicate measles, which the countries of the Andean subregion jointly commit themselves to attain by means of the mass vaccination of the population aged 9 months to 14 years old and the execution of subsequent epidemiologic surveillance activities, including the assessment of the immunologic status of the susceptible population.
2. To request PAHO/WHO, UNICEF, and other international technical and economic cooperation agencies to join this effort, according to the Plan of Action approved by the countries and the worldwide commitment to reach Health for All by the Year 2000.
3. Place the Executive Secretariat in charge of this Resolution.

Colombia: Measles Elimination Month

Between May 10 and June 5, 1993, Colombia carried out a "National Month for the Elimination of Measles," the goal of which was to administer one dose of vaccine to each of 11,450,861 children between the ages of 9 months and 14 years, no matter what their previous vaccination or immune status.

The campaign took place in three planned stages:

- The pre-Vaccine Day phase (May 10 to June 4) during which it was hoped to cover 100% of school children. A coverage rate of 77% was achieved.
- The Vaccine Day (June 5), which was primarily based on setting up vaccination posts and attained 91% coverage.
- The post-Vaccine Day phase, beginning on 6 June, which was considered complete when at least 95% of the goal was reached. During this phase, sweeps were conducted in areas that had already been covered, as well as hard-to-reach areas. Ninety-seven percent of the goal was achieved.



Source: EPI, Colombia Ministry of Health

The graph shows the goals achieved. Vaccinations reached 11,096,264 children. The remaining 352,237 were vaccinated in a nationwide mop-up campaign during which other EPI antigens (OPV, DPT) also were administered. The health units throughout the country attained the following coverage: 52.2% achieved rates over 95%, 26.3% obtained rates between 90 and 95%, and 18% remained under the 90% target.

The cost of the campaign was US$5,547,931 for supplies and equipment and that much again for operational expenses. The budget was shared by state and city governments, non governmental organizations, and the health sector.

Around 20,000 health personnel from the public sector took part in the Elimination Month. They were joined by private health practitioners, and staff from the national social security, and social welfare programs.

The campaign was closely coordinated with the Colombian Family Welfare Institute, the Communications Ministry, the National Education Ministry, scientific organizations, health unions, and the mass media. This coordination and the accompanying social mobilization was headed by the Interinstitutional and Intersectoral Committees of the health sector at the state and municipal level. Community Participation Committees also took part.

Source: EPI Program, Ministry of Health, Colombia, and Patricia Gonzalez, EPI Program Ministry of Health/UNICEF

Colombian Pediatricians Join In

Measles continues to be the cause of considerable morbidity and mortality among children. Due to the highly infectious nature of the measles virus, even small numbers of sick children can start an outbreak. However, marked increase in vaccination coverage rates have now made it possible for a number of countries to initiate its elimination.

One of the missing links in the surveillance system required to mount such an effort is the irregular reporting by pediatricians who still consider measles a common childhood disease. Special publications such as "May, The Month of Measles Elimination" issued in 1993 by the Colombian Pediatric Society make critical contributions to measles elimination. In it the Columbian Pediatric Society pledges its full support for the measles elimination campaign and issues clinical and epidemiologic guidelines for pediatricians to participate fully in the case reporting system.

Copies of the special issue "May, The Month of Measles Elimination" (ISSN-0120-4912) may be obtained by writing to: Dr. Gina Tambini, EPI, c/o PWR Colombia, Calle 95 No. 9-80, Santafé de Bogotá, D.C. Colombia.

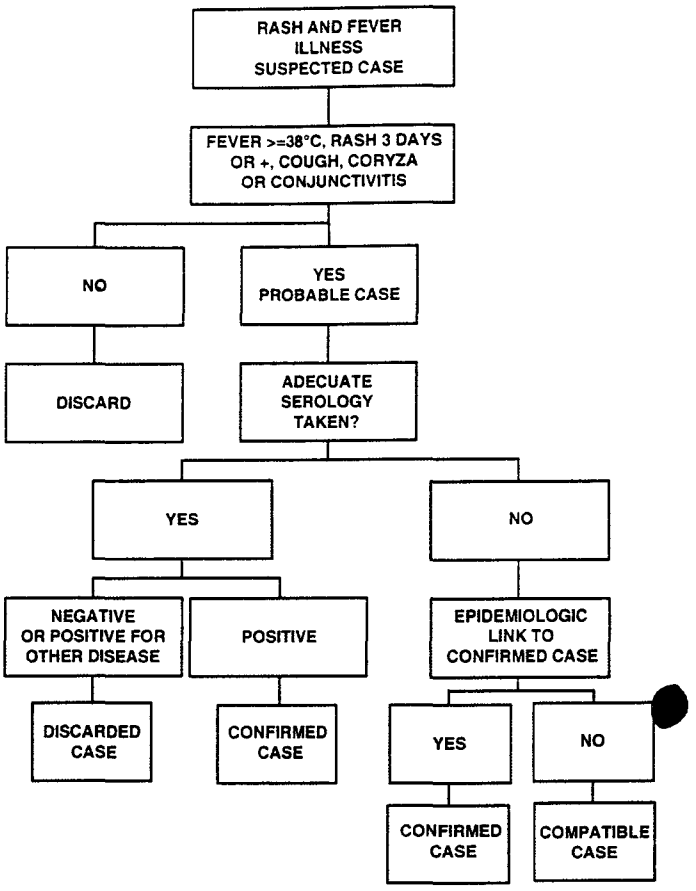
Mexico: Field Manual on Measles

The health ministry of Mexico has undertaken the elimination of measles from the entire country. The campaign will be based on raising and maintaing high vaccination coverage rates, establishing a highly sensitive surveillance system, and taking immediate control measures whenever cases, outbreaks, or special situations occur. The system set up to carry out the job includes a National Laboratory Network for the Epidemiologic Surveillance of fever and rash illnesses, the decentralization of surveillance, and a computerized database.

To standardize the information that is used to this end, in 1993 the ministry issued two simplified manuals for the epidemiologic surveillance of measles, one for private clinicians and one for all participants in the national fever and rash reporting system. The manuals provide the PAHO case definition and basic procedures for the notification, investigation, and follow-up of cases. Brief and precise, the booklets include the addresses and phone numbers of the principal health districts in the country to ensure the ease of reporting by persons who are not part of the health system. The manuals may be useful as models for other national elimination campaigns.

Copies (available in Spanish only) may be obtained by writing: Coordinación Nacional para la Vigilancia Epidemiológica de las Enfermedades Prevenibles por Vacunación, Francisco de P. Miranda 177, 6° Piso, Col. Merced Gómez, Lomas de Plateros Mixcoac, Delegación Alvaro Obregón, México, 01480, D.F.

Rash and Fever Case Classification for Measles Elimination



Absence of Reported Measles -- United States, November 1993

For the first time since measles reporting began in 1912, no measles cases have been reported in the United States for 3 consecutive weeks (November 7-November 27 [weeks 45-47], 1993). In addition, no cases have been reported with onset since September 22 that were not directly linked with importations.

Of the provisional total of 277 measles cases reported in 1993 through November 27, a total of 57 persons had onsets of illness since July 4. Of these, 29 (51%) were imported or linked through a continuous chain of transmission to an imported case. Twelve (21%) cases resulted from continued transmission from measles outbreaks that began before July 4. Fourteen (25%) cases could not be linked to an

existing outbreak, an international importation, or another reported case and were classified as sporadic index cases. Two cases were epidemiologically linked to these cases. Twelve of the 14 sporadic index cases were laboratory confirmed.

Reported by: State and local health depts. National Immunization Program, CDC.

Editorial Note: The 3-week period without reported measles cases reflects at least four factors: 1) major increases in measles vaccination coverage levels among preschool-aged children; 2) increased use of a second dose of measles vaccine among school-aged children and young adults attending college; 3) an overall increase in efforts to control measles throughout the Western Hemisphere; and 4) the usual seasonally low incidence of measles during the fall (1,2). Furthermore, the absence of any reported persons with sporadic index cases of measles who had onset after September 22 may reflect a cessation of endemic measles transmission in the United States during this period.

The absence of reported endemic foci of measles transmission does not indicate that measles has been eliminated in the United States. In the past, substantial numbers of measles cases were not reported to public health authorities (3). Therefore, surveillance must be intensified to permit the identification and elimination of any remaining foci of transmission. Any case of rash illness suspected to be measles should be reported promptly to public health authorities to enable immediate investigation and vigorous control measures to minimize spread of infection. For each case, laboratory confirmation should be obtained, vaccination status determined, and source of exposure ascertained.

Although current measles activity is at its lowest level ever in the United States, previous periods of low activity have been followed by resurgences (4,5). High vaccination coverage levels among preschool- and school-aged children need to be achieved and sustained in all communities to ensure the elimination of endemic measles transmission.

References

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2. Pan American Health Organization. Central America: defeating measles. EPI Newsletter 1993;XV(5):2-3.
3. Davis SF, Strebel PM, Atkinson WL, et al. Reporting efficiency during a measles outbreak in New York City, 1991. Am J Public Health 1993;83:1011-5.
4. CDC. Measles--United States, 1982. MMWR 1983;32:49-51.
5. Atkinson WL, Orenstein WA, Krugman S. The resurgence of measles in the United States, 1989-90. Annu Rev Med 1992;43:451-63.

Addendum:

Since this report was prepared, an additional 3 weeks have passed since the last case of measles reported to the Centers for Disease Control from the United States. No measles cases have been reported from the 50 states from November 7 (week 45) through December 18 (week 50).

This report appeared in Morbidity and Mortality Weekly Report on December 10, 1993 (MMWR 1993;42:925-6). It was prepared by John C. Watson, MD, MPH, and William L. Atkinson, MD, MPH, National Immunization Program, Centers for Disease Control and Prevention.

Measles Campaign Improves Anti-Rubella Coverage

The Tenth EPI Sub-Regional Managers' Meeting was held in Tobago on 22-26 November, 1993. Over ninety participants attended. Plans of Action for 1994 were revised and the following topics covered: immunization coverage, poliomyelitis eradication, measles elimination, rubella surveillance, tuberculosis control and social mobilization. One of the papers presented was "Rubella Seroprevalence in a Sample of Antenatal Clinic Attendees in Trinidad and Tobago" from which we include the main points below.

The rubella antibody status of pregnant females is at best a surrogate measure for the potential risk of occurrence of Congenital Rubella Syndrome (CRS) in a population, as measures of seroprevalence are not time-related to incidence. Furthermore, the risk of CRS is determined not only by rubella incidence rates among women of child-bearing age, but also by age-specific patterns of susceptibility and fertility.

The ultimate goal of rubella immunization is the protection of a future fetus against damage from intrauterine infection. Even though a large proportion of the female population (80-90%) is immune to rubella by adolescence and young adulthood, notable exceptions were detected in a study of certain islands and isolated populations where fewer women possess rubella antibodies when compared to women from urban areas.

Serum samples were randomly obtained at the 81 government health centers and hospitals across Trinidad and Tobago from 2003 pregnant women routinely tested for the IgG antibody to rubella using an Enzyme Linked Immunosorbent Assay (ELISA test). Of the 1838 effective samples taken, 986 (53.6%) antenatal clinic attendees were found to possess IgG antibody to rubella.

The mean age of the sample women was 32.7 years, with very small variance between the seropositive and the seronegative. Of the women between 15 and 24 years of age, 46.6% (370/794) were seronegative and of those between 25 and 34, 48% (336/700) were nonimmune. Despite the fact that selected rubella immunization for prepubertal girls was started in 1982, 40.5% of attendees aged 20 and under were seronegative and therefore remain potentially susceptible to infection with rubella virus.

Even though these results can be used as indicators of the effectiveness of rubella vaccination strategies, it must be pointed out that some of the seropositive clients might have naturally acquired the antibody due to previous infection. The decision by the Ministry of Health in 1991 to use divalent measles/rubella vaccine for its Measles Elimination Campaign resulted in 92% coverage in children age 12 months to 14 years. This strategy showed immediate and significant increase in rubella immune levels in the entire cohort. Selective immunization is successful only at reducing the risk of CRS for each woman who is immunized, and hence, it can only be entirely successful when 100% of all at-risk women are immune.

In choosing a strategy to eliminate CRS, careful consideration must be given to the very important variables of cost, the ease of accessibility to the different target

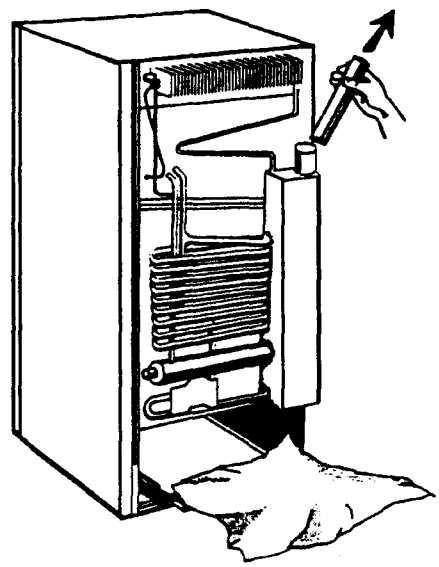
populations, the levels of coverage that can be reasonably attained and most of all, its long-term effectiveness of any chosen strategy. Rubella vaccination in childhood is entirely compatible with the traditional approaches to immunization advocated by the national and regional EPI programs. Such programs have gained widespread acceptance among both its consumers and its providers, as an adequate infrastructure already exists for the delivery of vaccine.

Within the current context of a very limited financial and human resources, it is essential to carefully reexamine the selective immunization strategies for rubella.

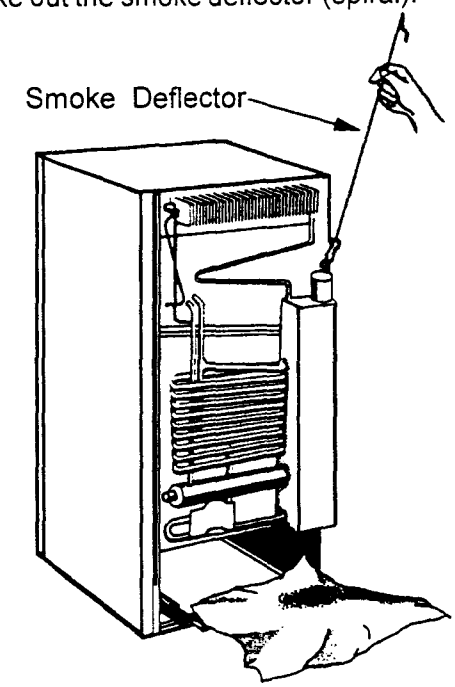
Source: Rubella Seroprevalence in a Sample of Antenatal Clinic Attendees in Trinidad and Tobago. Merle J. Lewis, Glenda Maynard, Terrence Ovid and Karen Williams, of the Ministry of Health, Government of Trinidad and Tobago, and Yvette Holder, Caribbean Epidemiology Centre.

How to Clean the Chimney of a Kerosene Refrigerator

1. Remove the fuel tank and the wick holder.
2. Place a rag or paper under the chimney.
3. Take apart the upper section of the chimney, if there is one.



4. Take out the smoke deflector (spiral).



5. Clean the chimney with a brush.
6. Replace the new smoke deflector and assemble the top part of the chimney.
7. Pick up the paper or rag with the soot.
8. Install the fuel tank and light the wick.

Reported Cases of Selected Diseases

Number of reported cases of measles, poliomyelitis, tetanus, diphtheria, and whooping cough, from 1 January 1993 to date of last report, and the same epidemiological period in 1992, by country.

Subregion and country	Date of last Report	Measles				Poliomyelitis		Tetanus				Diphtheria		Whooping Cough	
		Reported		Confirmed				Non Neonatal		Neonatal					
		1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992	1993	1992
LATIN AMERICA															
Andean Region															
Bolivia	9 Oct.	1 161	...	...	...	0	0	...	...	16	...	11	...	67	...
Colombia	9 Oct.	...	...	...	...	0	0	...	...	60	...	...	...	...	...
Ecuador	18 Dec.	3 015	...	...	...	0	0	...	...	69	...	12	...	...	...
Peru	2 Oct.	1 244	...	...	...	0	0	76	...	85	...	4	...	450	...
Venezuela	18 Dec.	19 826	11 949	...	...	0	0	...	...	24	27	0	1	449	507
Southern Cone															
Argentina	11 Dec.	4 380	17 248	...	...	0	0	29	53	5	4	3	4	1 008	2 078
Chile	30 Oct.	1	...	...	...	0	0	9	...	1	...	10	...	553	...
Paraguay	3 July	627	128	...	...	0	0	29	11	18	7	3	2	135	79
Uruguay	31 July	7	171	...	...	0	0	2	3	0	0	0	0	13	29
Brazil	12 June	1 187	...	...	...	0	0	456	...	74	...	119	...	1779	...
Central America															
Belize	31 Dec.	16	11	0	...	0	0	...	...	...	0	...	0	...	0
Costa Rica	31 Dec.	792	2 357	273	...	0	0	...	2	...	0	...	0	...	29
El Salvador	31 Dec.	7 610	509	38	...	0	0	...	30	...	25	...	0	...	33
Guatemala	31 Dec.	278	97	17	...	0	0	...	32	...	8	...	3	...	156
Honduras	31 Dec.	88	58	13	...	0	0	...	28	...	10	...	0	...	425
Nicaragua	31 Dec.	462	2498	339	...	0	0	...	21	...	9	...	0	...	346
Panama	31 Dec.	280	845	90	...	0	0	...	6	...	3	...	0	...	26
Mexico	25 Dec.	...	734	150	529	0	0	140	173	90	115	0	0	131	129
Latin Caribbean															
Cuba	4 Dec	0	...	...	...	0	0	2	...	...	...	...	...	11	...
Haiti	...	...	...	...	...	0	0	...	...	...	...	...	...	...	...
Dominican Republic	31 Dec.	4 637	7 650	...	...	0	0	19	68	0	5	6	71	5	...
CARIBBEAN															
Antigua & Barbuda	31 Dec.	1	0	0	...	0	0	...	0	...	...	...	0	...	0
Bahamas	31 Dec.	2	0	0	...	0	0	...	0	...	0	...	0	...	3
Barbados	31 Dec.	44	0	0	...	0	0	...	1	...	0	...	0	...	0
Dominica	31 Dec.	14	0	0	...	0	0	...	0	...	0	...	0	...	0
Grenada	31 Dec.	8	4	0	...	0	0	...	0	...	...	...	0	...	2
Guyana	31 Dec.	26	0	0	...	0	0	...	2	...	0	...	0	...	0
Jamaica	31 Dec.	48	0	0	...	0	0	...	5	...	0	...	0	...	0
St. Kitts/Nevis	31 Dec.	4	0	0	...	0	0	...	0	...	...	...	0	...	0
St. Vincent	31 Dec.	2	0	0	...	0	0	...	0	...	0	...	0	...	0
Saint Lucia	31 Dec.	20	0	0	...	0	0	...	0	...	...	...	0	...	0
Suriname	31 Dec.	15	0	1	...	0	0	...	1	...	...	...	0	...	0
Trinidad & Tobago	31 Dec.	49	0	0	...	0	0	...	8	...	0	...	0	...	4
NORTH AMERICA															
Canada	31 Dec.	184	2 901	...	...	0	0	5	4	...	...	4	2	4 162	3 615
United States	31 Dec.	...	2 198	277	2 217	0	0	...	...	...	...	...	...	6 132	...

... Data not available.

In Memoriam
Dr. Alexander Langmuir

Alexander Duncan Langmuir, founder of the Epidemic Intelligence Service (EIS) at the U.S. Public Health Service's Centers for Disease Control and Prevention (CDC) died November 22, 1993 in Baltimore, Maryland.

Dr. Langmuir received his medical degree from Cornell Medical College in New York City and interned on the Harvard Medical Service at Boston City Hospital. After joining the New York State Health Department, he served as Deputy Commissioner of Health in Westchester County. He received his master's degree in 1940 from the Johns Hopkins School of Hygiene and Public Health and was a member of the faculty there from 1946 to 1949, and again from 1988 until he died. He served on the faculty of the Harvard Medical School from 1970 to 1977.

Dr. Alexander Langmuir, Dr. Thomas Weller, Dr. Jonas Salk, Dr. Carlyle Guerra de Macedo, Dr. Albert Sabin and Dr. Ciro de Quadros meet after Dr. Macedo, Director of PAHO, announces the campaign to eradicate polio from the Western Hemisphere. September 1985.

Dr. Langmuir joined the U.S. Public Health Service's Communicable Diseases Center in 1951, shortly after it was established, and directed the Epidemic Intelligence Service until 1970. The EIS logo--a worn-out shoe with a hole in the sole--was designed to represent his well known motto:"To fight disease, you've got to get out and burn shoe leather."

Dr. Langmuir was key in establishing programs for the control of poliomyelitis, measles, malaria, and cholera, among many other diseases. He developed and lead the two-year training program in field epidemiology for health professionals, through which 2,200 epidemiologists have been trained to date. He personally trained more than 500 doctors through the EIS.

Population-based surveillance was initiated and promoted during Dr. Langmuir's tenure at EIS and led to the recognition of the importance of rapid reporting and response and the use of epidemiologic methods in public health.

Dr. Langmuir received a number of professional awards and honorary degrees, and was elected member of the Institute of Medicine of the National Academy of Sciences and a Fellow of the American Academy of Arts and Sciences.

Former students and associates have established The Alexander D. Langmuir Fund in Infectious Disease Epidemiology to continue the standard of excellence he instituted in the field, at the Johns Hopkins School of Hygiene and Public Health, 615 N. Wolfe Street, Suite 1604-A, Baltimore, Maryland 21205, U.S.A.

Sources: EIS Bulletin, Special Issue, December 1993, and *The Public Health Newsletter,* Office of Public Affairs, Johns Hopkins School of Hygiene and Public Health.

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