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Leading Causes of Mortality on the United States – Mexico Border

Introduction

In a collaborative project carried out by the governments of Mexico and the United States and the Pan American Health Organization / World Health Organization (PAHO/WHO), the profiles and trends of mortality were determined for border areas of the United States and Mexico. The publication resulting from this project responded to the need to provide a comprehensive set of detailed reference data on mortality corresponding to smaller geographic areas and to the border area in particular. Although numerous communities have developed on both sides of the border, those with the largest populations were of particular interest and collectively had been designated by the PAHO Field Office/US–Mexico Border in El Paso, Texas, as the "Sister Communities." The counties or municipalities comprising the Sister Communities are shown in Figure 1 and formed the unit of analysis. As part of this project and to enhance the analytical capability in epidemiology of national and local health professionals, a series of five workshops were held in selected Sister Communities along the border to review detailed mortality reference tables and graphs corresponding to the participant's respective Sister Communities. Mortality information from each Sister Community was aggregated to form the corresponding border totals reflecting overall mortality. To develop the mortality profiles of the border area, this information was then analyzed for leading causes of death and patterns of mortality in six broad causal groups and categorized by age and sex. The disparities shown in these profiles by cause, sex, and age group among the Sister Communities can be used to indicate potential inequities in the health situation of the populations.

Mortality data, 1990-1994, for border areas of the United States were provided by the National Center for Health Statistics, U.S. Department of Health and Human Services, and those for Mexico were provided by the *Dirección General de Estadística e Informática, Secretaría de Salud.* Mid-year population estimates provided by the *Consejo Nacional de Población* (CONAPO) for Mexico and by the United States Bureau of the Census for the United States were used for the calculation of rates. Estimated populations for 1991–1994 were based on projections from the 1990 census in each country. Data corresponding to national, state, and county/municipality levels by sex and cause of deaths in seven broad age groups (under one year, 1-4, 5-14, 15-24, 25-44, 45-64 and 65 years and over) were sent by both governments to PAHO's Special Program for Health Analysis (SHA). These data were then integrated into a standardized format, processed, analyzed, and presented in a variety of formats to form a comprehensive set of reference tables. This information was recently published in the bilingual (English and Spanish) publication *Mortality Profiles of the Sister Communities on the United States – Mexico Border, 1992-1994 (1)*

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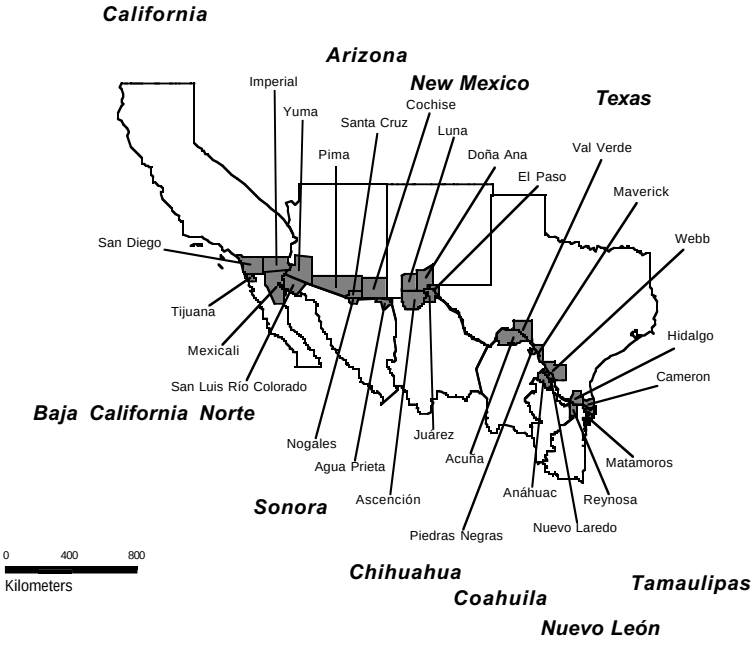
Population and General Mortality

In 1994, about 90% of the United States–Mexico border population—an estimated 9.5 million persons, lived in one of the 14 pairs of Sister Communities. Population growth during 1990–1994 in the border region has been rapid, averaging about 3.1% per year on the Mexico side of the border and 2.4% per year on the United States side of the border. A grand total of 166,602 deaths were registered during 1992–1994 among the Sister Communities on both sides of the border, corresponding to a crude mortality rate of 6.0 per 1,000 population. Of these, a total of 54,855 deaths were recorded among the Sister Communities of Mexico—a crude death rate of 4.9 per 1,000 population. On the United States side, a total of 111,747 deaths were recorded during 1992–1994, a crude death rate of 6.7 per 1,000 population—a rate 39% higher than that of the Mexican side. However, the age-adjusted mortality rate was 6.6 per 1,000 population on the Mexican border and 4.5 on the United States border (31.4% less). The overall age-adjusted mortality rate for the combined United States–Mexico border region was 5.2 per 1,000 population.

Figure 1: The Sister Communities on the United States–Mexico Border



Leading Causes of Death

The proportionate mortality for the five leading causes of death as a percentage of total deaths from defined causes in the United States–Mexico border region is shown by sex in Figure 2. Deaths from defined causes exclude causes assigned to the category "symptoms, signs and ill-defined conditions (ICD 9: 780–799)." It should be noted that the leading causes of death depend not only on the relative frequency of deaths in a category but also on the definition of the causal categories that are candidates for ranking. The "short" list used to determine the leading causes of death contained 24 causal groupings of death.

As can be seen in Figure 2, the first five causes of mortality account for about two-thirds of the deaths from defined causes in the total population on the Mexico border and nearly three-fourths (73.6%) of deaths on the United States border. They also account for about 65% of the deaths in males and females from defined causes in border areas of Mexico and for 72% and 76% of male and female deaths, respectively, in border areas of the United States.

In the 1992–1994 period the leading cause of death on the border was diseases of the heart (ICD 9: 390–429). In the Mexican Sister Communities, a total of 9,870 deaths (18.3% of deaths from defined causes) were recorded from heart disease. In contrast, mortality was 3 times greater in United States Sister Communities, with 33,040 deaths (29.9% of deaths from defined causes). Within this disease category, ischemic heart disease (ICD 9: 410–414) accounted for 64.9% of the deaths on the Mexico side and for 64.5% on the United States side. Proportionately, deaths from heart disease were slightly greater among women than men. On the Mexican border, heart disease accounted for a total of 4,292 female deaths (19.9% of female deaths from defined causes) and 5,570 male deaths (17.3% of male deaths from defined causes). On the United States border, heart disease had a much higher toll: 17,195 male deaths (29% of male deaths from defined causes) and 15,845 female deaths (31% of female deaths from defined causes).

Age-adjusted death rates per 100,000 population from the leading causes of death for the Sister Communities are shown geographically in Figure 3. The geographic maps provide the spatial distributions and magnitudes with respect to the leading causes of death and help to identify inequalities in the patterns of mortality. Age-adjusted death rates from heart disease for 1992–1994 were 152.3

per 100,000 males and 127.1 per 100,000 females in Sister Communities of Mexico. These rates were 48.3% and 16.8% higher than corresponding nationwide rates for Mexico: males, 102.7; females, 108.8. In contrast, age-adjusted rates in Sister Communities of the United States of 132.2 in males and 115.0 in females were 20% and 21.9% lower, respectively, than nationwide rates in the United States by sex. The United States Sister Communities also had rates that were 13.2% and 9.5% lower for males and females, respectively, than for their counterparts in Mexico.

Malignant tumors (ICD 9: 140–208) were ranked as the second leading cause of death on both sides of the border, with a total of 6,615 deaths in Sister Communities of Mexico and 26,019 deaths in Sister Communities of the United States. In the border communities of Mexico, malignant tumors accounted for 12.3% of all deaths from defined causes but the proportion was twice that (23.5%) on the United States side. A review of these deaths by tumor site indicates that, on the Mexico border, malignant neoplasms of the digestive organs and peritoneum (ICD 9: 150, 152, 155–159) accounted for 16.5% of deaths from malignant tumors; malignant neoplasms of the trachea, bronchus, and lung (ICD 9: 162) accounted for 16.3%; and malignant neoplasms of the uterus (ICD 9: 179, 180, 182) accounted for 11%. On the United States border, malignant neoplasms of the trachea, bronchus, and lung accounted for 26.2% of all malignant tumors and malignant neoplasms of the female breast (ICD 9: 174) accounted for 8.3% of the total.

Accidents and adverse effects (ICD 9: E800–E949) were the third leading cause of death in the Sister Communities of Mexico, accounting for 6,237 deaths (11.6% of deaths from defined causes). In contrast, this group of causes was the fifth leading cause of death on the United States border, with 5,199 deaths — 4.7% of deaths from defined causes. However, among United States border males, accidents were the third leading cause of death,

Figure 2: Five leading causes of death on the United States–Mexico Border, 1992-1994.

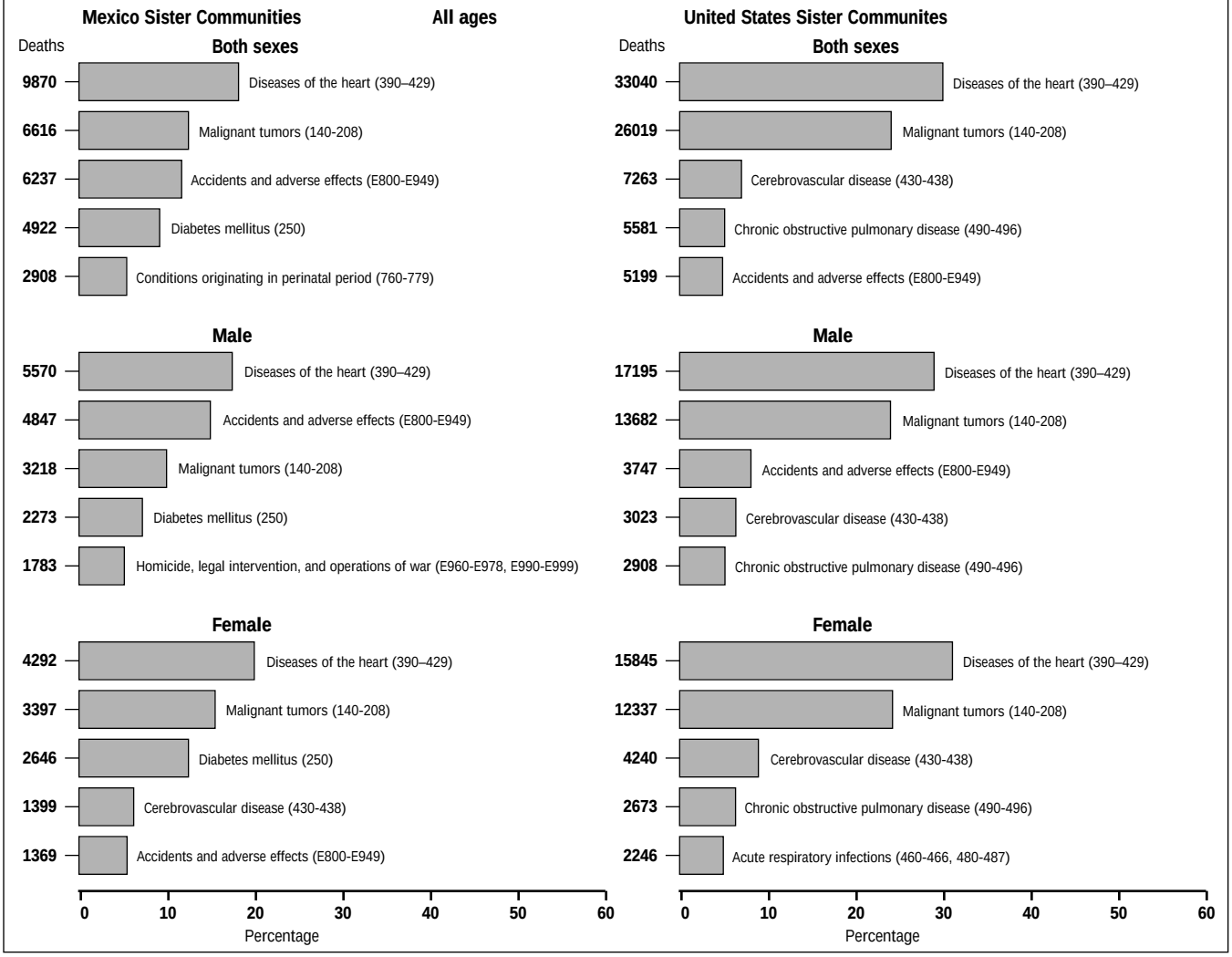
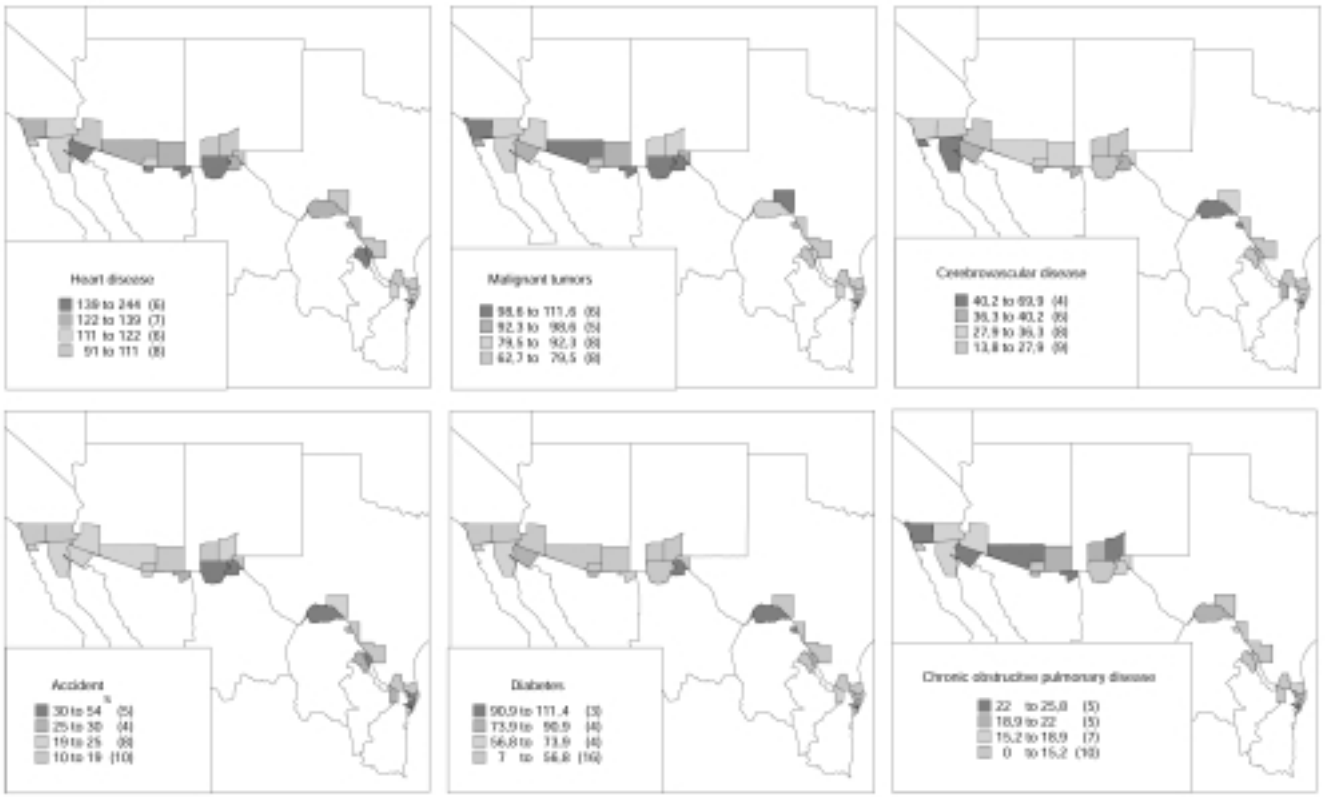


Figure 3: Leading causes of death in the Sister Communities of United States–Mexico border, 1992-1994 (age-adjusted rates per 100,000 population)



Note: Number in parenthesis = number of affected communities corresponding to every adjusted rate

with 3,747 deaths (6.3% of male deaths from defined causes). Among Mexican border males, accidents ranked second as leading cause of death, with 4,847 deaths (15.1% of male deaths from defined causes). Among Mexican border females, deaths from accidents were the fifth leading cause, with 1,369 deaths (6.3% of female deaths from defined causes). However, among United States border females, accidents were not a leading cause of death. Motor vehicle accidents (ICD 9: E810–E825) accounted for 28.3% of deaths from all accidents on the Mexico side and for 49.3% of deaths in this cause group on the United States side. Also, it is of interest to note that accidents and adverse effects were the leading causes of death in all age groups up to 45 years of age (1–4, 5–14, 15–24, and 25–44) on both sides of the border.

The third leading cause of death in communities on the United States border was cerebrovascular disease, with 7,263 deaths, an age-adjusted rate of 26.7 per 100,000 population. Nationally, the United States rate was 30.5 (14.2% higher). This disease also ranked third as a leading cause of female mortality with 4,240 deaths, an age-adjusted rate of 31.0 per 100,000 population, and it ranked fourth as a cause of male mortality with 3,023 deaths (age-adjusted rate of 22.5) in border communities of the United States. All border communities in the United States showed excess female mortality from cerebrovascular disease, with low masculinity mortality ratios calculated as the ratio of male:female age-adjusted rates

Diabetes mellitus (ICD 9: 250) was the fourth leading cause of death among Mexican communities on the border in 1992–1994. A total of 4,922 deaths were recorded, accounting for 9.2% of the deaths from defined causes. Diabetes was also the fourth leading cause of death among Mexican border males, with 2,273 deaths recorded—7.1% of male deaths from defined causes. It was the third leading cause of death among Mexican border females, with 2,646 deaths or 12.3% of female deaths from defined causes. The following age-adjusted death rates from diabetes were registered for the Mexico border: 68.7 in both sexes, 62.7 in males, and 74.6 in females.

Compared with national data, the border rates were 43.7% higher for both sexes, 52.9% higher in males, and 36.1% higher in females. In comparison, diabetes mortality is about one-fifth the amount in areas of the United States border, with an age-adjusted rate of 11.3 per 100,000 population. Compared with United States national data, age-adjusted rates on the border were smaller—about 3% overall (11.7 vs. 11.3), 2% in males, and 6% in females.

The fourth leading cause of death in the United States border communities was chronic obstructive pulmonary disease (ICD 9: 490–496), with 5,581 deaths, causing 5% of total deaths from defined causes. Among males in United States border communities, chronic obstructive pulmonary disease (COPD) ranked fifth, with 2,908 deaths (4.9% of male deaths from defined causes); among females it ranked fourth, with 2,673 deaths (5.2% of female deaths from defined causes). Age-adjusted death rates from COPD were 20.4 per 100,000 population and 21.1 in males and 19.6 in females in border communities of the United States. These rates compared with United States national data were similar overall (20.3) but 7.0% lower than males nationally (22.7) and 7.1% higher than females nationally (18.3). Although COPD was not a leading cause of death in the border area of Mexico, it accounted for 1,610 deaths (3.0% of deaths from defined causes). The age-adjusted rate of 23.8 per 100,000 population was 17% higher than in the United States border area. Masculinity mortality ratios show that mortality from COPD is predominant in men on both sides of the border.

Conditions originating in the perinatal period (ICD 9: 760–779) was not only the leading cause of infant mortality on both sides of the border but the fifth leading cause of overall mortality in the border areas of Mexico, accounting for 5.4% of deaths from defined causes.

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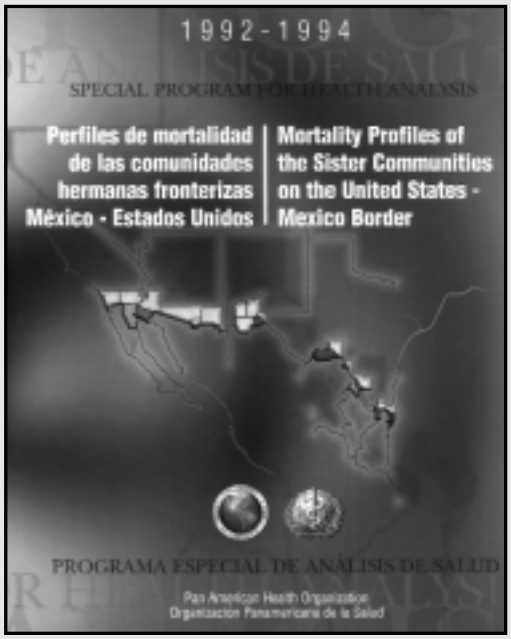
(1) Mortality Profiles of the Sister Communities on the United States–Mexico Border, 1992-1994. Pan American Health Organization, 1999. Bilingual (Spanish & English), ISBN 92 75 07378 3. The distribution for the countries is by request to the Special Program for Health Analysis (SHA), PAHO.



The publication ***Mortality Profiles of the Sister Communities on the United States – Mexico Border, 1992-1994***, from which the previous summary was extracted, provides currently available information on the mortality profiles of the 14 pairs of Sister Communities on the United States-Mexico Border. As previously mentioned, this 304 page bilingual publication is the result of a collaborative project between the governments of Mexico, the United States and PAHO. It includes an analytical section, a series of graphs and geographic maps of mortality and an annex of detailed statistical reference tables. The publication endeavors to draw attention to the importance of generating and using data at different levels: local, state, national and bi-national.

Pan American Conference on Antimicrobial Resistance in the Americas

I. Introduction

Antimicrobial resistance poses a growing threat to public health in the Americas and the rest of the world. Drug-resistant strains of certain infectious agents are having a devastating impact on the control of diseases such as tuberculosis, malaria, cholera, diarrhea, and pneumonia, which together are responsible for more than 10 million deaths annually worldwide—this, at a time when the pharmaceutical industry is manufacturing very few new drugs to replace those that have lost their effectiveness.

It should be underscored that many of these antibiotics have become ineffective against two of the leading causes of death in children under 5: acute respiratory infections (especially pneumonia) and diarrhea. Antibiotic resistance in the Region's hospitals is also a growing concern and threatens to leave physicians and public health professionals virtually impotent in the struggle against many infections.

Antimicrobial resistance implies that people with infections remain sick longer and run a greater risk of dying and, moreover, that epidemics of these diseases last longer. Furthermore, with the increasing frequency and speed of international travel, people infected with resistant pathogens can introduce them into other countries and thus contribute to the spread of resistance.

To combat drug resistance, a better understanding of all aspects related to its control is needed. No regional surveillance system for antimicrobial resistance is currently in place, nor is there a system for compiling standardized information in this regard. It is well known that one of the principal factors contributing to antibiotic resistance is the uncontrolled and improper use of these drugs, a phenomenon encouraged by health workers who prescribe them indiscriminately and the general population, which purchases them without prescription.

II. The conference

Motivated by the threat to public health posed by growing antimicrobial resistance, PAHO and the Pan American Association for Infectious Diseases, under the auspices of the Ministry of Health and Social Welfare of Venezuela, organized the Pan American Conference on Antimicrobial Resistance, held from 2 to 4 November 1998 in Caraballeda, Venezuela.

Experts in microbiology, infectious diseases, public health, and other disciplines attended the Conference, discussing the magnitude of antimicrobial resistance; the improper use of drugs in the community and hospital environments; the monitoring of antimicrobial resistance; and the use of the information generated for therapeutic, regulatory, and political decision-making.

III. Recommendations

The following is a summary of some of the problems discussed, together with participants' recommendations regarding the topics addressed.

A. Educating Health Professionals about the Proper Use of Antibiotics

The participants proposed improvements in the basic education of medical students with regard to the use of antimicrobials, antimicrobial resistance, the spectrum, costs, and other aspects, as well as periodic updating of the medical and teaching staff who offer this instruction. They recommended persuading the pharmaceutical industry to adopt responsible advertising of antimicrobials and working together to achieve ethical business practices. Other recommendations were: to establish programs for continuing medical education and hospital committees to develop standards and issue recommendations for managing infections in the community; to design and carry out educational campaigns targeting mothers and children to curb self-medication with antibiotics; to create multidisciplinary medical committees on antimicrobial use; to disseminate the data on bacterial resistance to antibiotics and to secure the commitment of PAHO to support these objectives as part of its technical cooperation, with the object of promoting enforcement of legislation requiring the sale of antibiotics under medical prescription and the mobilization of resources to employ standardized research protocols and disseminate the results of these studies.

B. Development of a Pan American Network for Monitoring Resistance to Antibiotics

The participants determined that it is indeed possible to establish a Latin American network for monitoring antimicrobial resistance, considering such elements as the strengthening of existing networks and the creation of new networks where none are present. Other areas that should be tackled are promoting the analysis and proper use of information, establishing a regional registry to support studies of new resistant phenotypes, and creating a specific section in the PAHO website for communication among the participants and information on network activities.

The participating institutions of the surveillance network should be urged to make the network a permanent fixture with institutional or official backing. The network should have adequate internal and external quality control programs and the support of a local or regional reference laboratory.

Coordination among microbiologists, infectious disease specialists, and epidemiologists should be encouraged through training activities and joint data analysis. Profiles of unusual bacterial resistance should be identified and local recommendations issued. These and other activities could be

part of the functions of professional organizations. A national information center should also be established and channels of communication should be opened between the various centers of each country. PAHO is the most suitable agency for coordinating the intercountry and regional mechanisms, as well as financing, and for evaluating the information and issuing the necessary recommendations.

C. Quality Control and Ways of Achieving Consistent and Comparable Laboratory Results

To date, there is no guarantee of consistent and comparable results for laboratory tests of antimicrobial resistance. Among the factors contributing to the deficiencies in some of the data are the lack of standardized laboratory procedures owing to the lack of standards, methods, techniques, and manuals, as well as quality control. There is no integration, coordination, common standards, or external quality control programs for all laboratories participating in the network of each country; the economic resources for obtaining adequate reagents and materials are lacking; there is little access to up-to-date information and difficulties in disseminating what information there is; and there is no entity in charge of receiving and disseminating this information. There are no clear objectives for the monitoring of antimicrobial resistance, and there is a lack of training in laboratory methods and the use of computer software to process the data generated by such monitoring.

In light of these problems, the participants proposed the following: designation of a center to coordinate activities or reference on antimicrobial sensitivity in each country in order to train human resources; definition of the functions of each component of the system; integration of the information and its dissemination; establishment of an external quality control program for network laboratories and assumption of the responsibility for guaranteeing its continuity and sustainability.

The participants also recommended establishing similar national standards in all the countries to obtain comparable data; promoting cooperation among countries to take advantage of the progress that some of them have made; establishing an External Advisory Committee for Latin America through PAHO; collaborating with the pharmaceutical industry and professional organizations to implement the standards and promote teamwork among epidemiologists, infectious disease specialists, and public health professionals with the object of establishing clear objectives and applying the results of surveillance.

D. Clinical Use and Abuse of Antibiotics

The participants analyzed the factors behind the inappropriate use and abuse of antibiotics, with a view to controlling their mass use in hospitals and the community. They recommended that every hospital undertake an assessment of local bacterial resistance to antibiotics in order to develop standards based on clinical and microbiological information. An infection committee in each hospital would be responsible for epidemiological surveillance of antimicrobial resistance, the selection of guidelines and policies for antibiotic use, and ongoing staff training in the correct use of antibiotics.

The participants determined that antibiotic use must be restricted in order to combat resistance and avoid other consequences. In this regard, the microbiology laboratory report should be a tool used by hospitals to guide therapeutic decision-making; the prescription of antibiotics in hospitals should be systematized and include the basic information needed; a list of antibiotics for restricted use should be available that takes cost, the potential for inducing resistance, toxicity, and sensitivity patterns into consideration. Hospitals should have a system in place to control the length of prophylactic and therapeutic treatment (for example, standards for automatic suspension and for the supervision of prescriptions by the antibiotics committee). The activities of the system should include periodic evaluation through prevalence studies and the analysis of databases, if available, using validated, reproducible instruments to assess the impact of the measures.

In order to prevent antimicrobial resistance from advancing in the community, the participants recommended a review of the current legislation in the different countries governing the registry, prescription, supply, and consumption of antibiotics, and promoting the formulation, application, and enforcement of these policies. The registration of antibiotics combined with other drugs, such as anti-inflammatories and mucolytics, should be avoided. It is essential to promote the sale of antibiotics exclusively by prescription. The public should be educated about the proper and improper use of antimicrobials and be informed about the risks of self-medication through television and radio campaigns, signs and posters, and pamphlets.

The participants suggested a number of specific research topics related to antibiotic use, such as the indication-prescription of antibiotics in upper respiratory infections; the incidence of self-medication in pharmacies; the prescription-indication of antibiotics in emergency rooms and outpatient clinics; and the use of antibiotics in animal husbandry and agriculture.

IV. Follow-up

After the Caraballeda Conference in January 1999, PAHO brought together a group of experts in Asunción, Paraguay, to draw up a strategic plan for the monitoring of resistance to antibiotics. The result of this meeting was a three-year plan of action emphasizing technical cooperation among countries to strengthen the monitoring of antimicrobial resistance through internal and external quality control programs in laboratories and participating laboratory networks. The experts also proposed a concrete plan to review standards and policies in the countries of the Region.

The full version of this article was provided by the Communicable Diseases Program (HCT/HCP) and was originally published as: **Salvatierra-González R, Guzmán-Blanco M. Conferencia Panamericana de Resistencia Antimicrobiana en las Américas.** *Revista Panamericana de Infectología. May 1999, Vol. 3, Supl. No. 1, Bogotá, Colombia.*

Blood safety in the Americas

Non-Latin Caribbean countries

Transfusion of blood components is used to prevent mortality associated mostly with severe diseases, surgery, trauma, or complications of pregnancy and delivery. Safe transfusions depend on the use of blood components which are not contaminated with infectious agents such as the human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV), human T-lymphotropic virus (HTLV) and, in certain Latin American countries, with *Trypanosoma cruzi.*

Safety of blood or its components depends primarily on the quality of the blood donors. Altruistic, voluntary donors are considered safer, when compared to the so-called replacement or directed donors. In addition, to ensure that pathogens with potential to be transmitted through transfusions are not present in the collected blood, every single unit of blood must be screened using high quality testing procedures and reagents to prevent the possibility of false negative results. However, the final measure to prevent untoward reactions to blood transfusion is the rational use of the appropriate blood component or product by well trained health personnel.

The following table shows the status of the blood supply in the Non-Latin Caribbean countries in 1996. Of the 21 countries, only three countries show that 99-100% of their donors is altruistic. All countries screen 100% of donors for HIV, HBV and syphilis, but only eight out of 19 screen 100% of donors for HCV. Two countries do not provide information concerning HCV. These figures are an indication that, in the Caribbean countries as in the rest of the Region of the Americas, there is room for improvement in the area of promotion of altruistic voluntary donations, as well as for increasing the number of donors screened for HCV.

Country	No. of banks	No. of donors	Type of donors (%)		% of donors screened and (prevalence/00 found)			
			Replacement	Altruistic	HIV 1 & 2	HBsAg	HCV	SYPHILIS
Anguila	1	165	90	10	100 (0)	100 (2.0)	0	100 (0)
Antigua	1	695	99	1	100 (<0.1)	100 (<0.1)	0	100 (<0.1)
Aruba	1	3,100	0	100	100 (<0.1)	100 (<0.1)	100 (0)	100 (0.3)
Bahamas	3	4,962	60	40	100 (0.5)	100 (1.5)	100 (0.2)	100 (0.4)
Barbados	1	2,902	83	12	100 (<0.1)	100 (0.4)	100 (0.3)	100 (0.2)
Belize	6	1,605	86	9	100 (0.1)	100 (4.7)	0	100 (2.0)
Bermuda	1	2,125	0.7	95	100 (0)	100 (0)	100 (0.1)	100 (0)
B. Virgin Islands	1	184	57	43	100 (0)	100 (0)	100 (0)	100 (0)
Cayman Islands	1	449	0	99	100 (0)	100 (0)	100 (0.2)	100 (0.2)
Curacao	1	5,696	0	100	100 (0)	100 (0)	100 (0.01)	100 (0.01)
Dominica	1	705	91	9	100 (0.2)	100 (1.3)	0	100 (1.3)
Grenada	1	154	79	20	n/a (0.2)	n/a (1.6)	n/a	n/a (0.3)
Guyana	5	2,801	80	20	100 (1.5)	100 (2.2)	0	100 (4.8)
Jamaica	1	23,900	87	13	100 (0.5)	100 (0.9)	0	100(1.2)
Montserrat	1	139	100	0	100 (0)	100 (0)	0	100 (0)
St. Kitts & Nevis	1	255	97	2	100 (0)	100 (3.0)	0	100 (1.4)
St. Lucia	1	2,255	35	65	100 (0.06)	100 (1.3)	0	100 (1.1)
St. Vicent	1	1,062	97	3	100 (0.2)	100 (1.2)	0	100 (3.7)
Suriname	1	3,950	27	73	100 (0.1)	100 (0.8)	100 (0.2)	100 (0,9)
Trinidad & Tobago	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Turks & Caicos	1	134	38	60	100 (2.5)	100 (0)	0	100 (0)

* Data provided by the participants in the Regional Meeting on Blood Banking, held at the Caribbean Epidemiology Center (CAREC) on November 19-21, 1997.
n/a: not available

Blood Safety: Updated tables for selected countries of Latin America

Table 1 Number of Blood Banks and Donor Characteristics in Selected Countries of the Region of the Americas, 1996.

Country	Number of blood banks	Number of donors	Fractionation Index	Remunerated Donors (%)	Replacement donors* (%)	Non-Remunerated donors (%)
Argentina	551	745,698	…	...	...	...
Bolivia	60	40,056	…	24.0 †	69.0 †	7.0 †
Chile	162	218,291	…	0.1	97.4	2.5
Colombia	...	127,616 ‡	…	–	...	...
Costa Rica	27	44,754	2.05	...	...	...
Cuba	38	605,375	1.9 **	–	5.6	94.4
Ecuador	35	104,452	1.34	–	83.0	17.0
El Salvador	59	55,069	2.05	–	71.0	29.0
Honduras	41	33,958	…	9.0	67.0	24.0
Nicaragua	20	43,887	1.39	–	64.5	35.5
Panama	22	41,888	…	38.0	59.0	3.0
Paraguay	35	37,843	1.0	0.05	98.0	1.95
Uruguay	87	116,127	1.67	–	100	–
Venezuela	243	266,828	1.62	–	100	–

... Data not available; * Usually family or friends; ** Includes components for industry (i.e plasma and buffy coats); ‡ Bogota only; † Data from 1995.

Table 2 Percentage of Donors with Serology, by Serological Marker, and Prevalence of Serological Markers for Communicable Diseases in Selected Countries of the Region of the Americas, 1996.

	HIV			HVB[1]		HVC		*T. pallidum*		*T. cruzi*	
Country	Donors with serology (%)	Screening prevalence (%)	Confirmed prevalence (%)	Donors with serology (%)	Screening prevalence (%)	Donors with serology (%)	Screening prevalence (%)	Donors with serology (%)	Screening prevalence (%)	Donors with serology (%)	Screening prevalence (%)
Argentina	96.0	0.30	...	96.4	0.60	93.3	0.70	96.6	0.50	100	3.70
Bolivia	35.3	0.014	...	…	…	0.0	...	38.0	1.26	43.60	17.20
Chile	100	0.07	0.01	100	0.10	100	0.60	100	0.50	59.8	1.00
Colombia	100	0.28	...	100	0.80	100	1.13	100	1.31	100	1.41
Costa Rica	100	0.09	0.02	100	0.5	100	0.29	100	0.45	7.6	1.39
Cuba	100	…	0.004	100	0.90	100	1.00	100	1.20	…	…
Ecuador	100	0.15	0.11	100 (96.5)[2]	0.41 (3.45)[2]	68.2	0.16	100	0.71	91.0	0.07
El Salvador	100	...	0.16	100	0.47	89.6	0.30	100	1.20	100	2.20
Honduras	97.3	0.68	...	98.0	0.53	72.2	0.44	95.7	0.62	94.9	1.67
Nicaragua	99.4	0.70	0.009	96.9	0.32	65.1	0.43	98.9	1.54	55.7	0.50
Panamá	100	0.06	...	100	0.60	89.0	0.50	100	0.40	1.8	1.14
Paraguay	97.97	0.17	...	97.76	0.61	15.0	0.57	65.19	3.42	98	4.01
Uruguay	100	...	0.13	100	0.44	100	0.50	100	0.62	100	0.60
Venezuela	100	0.27	...	100 (100)[2]	0.92 (4.53)[2]	100	0.75	100	0.90	100	0.70

[1] HVB surface antigen; ( )[2] HVB anticore antibodies; … Data not available.

Source:
- Pan American Health Organization. Blood Bank Situation in the Region of the Americas, 1996. Epidemiological Bulletin; 18:11-12, 1997.
- Schmunis GA, Zicker F, Pinheiro F, Brandling-Bennett D. Risk for Transfusion-Transmitted Infectious Diseases in Central and South America. Emerg Inf Dis 4:5-11, 1998.

News: Partnership for Measles Eradication in the Americas by the year 2000
PAHO and the CDC of the United Sates

The Pan American Health Organization (PAHO) and the Centers for Disease Control and Prevention of the United States (CDC), have joined forces to eradicate measles in the Western Hemisphere by the year 2000. This collaboration will ensure the successful completion of the target of measles eradication and play a critical role in complementing national efforts towards the prevention, control and eradication of other vaccine-preventable diseases, such as rubella.

The experience from the Americas has clearly demonstrated that regional measles eradication can be achieved by using currently available attenuated, live measles virus vaccines, and by utilizing an appropriate vaccination strategy. The PAHO and CDC partnership will focus on strengthening measles surveillance in the Americas and in ensuring that countries implement in full the PAHO-recommended vaccination strategy to eradicate the disease. This partnership will also be critical to the implementation of the global measles eradication goal.

The PAHO-CDC collaboration will be carried out under the framework of PAHO's Regional Vaccine Initiative endorsed by all Heads of States in the Americas in the 1998, which calls for partnerships among countries in the Region and international organizations in vaccine research, development and production; epidemiological surveillance for vaccine-preventable diseases; and laboratory diagnosis.

Countries have been targeted, which are currently at high-risk for measles outbreaks. These are: Argentina, Bolivia, Brazil, Colombia, Dominican Republic, Ecuador, Guatemala, Haiti, Mexico, Paraguay, Peru and Venezuela. Specific areas of collaboration include:

- Developing a surveillance system capable of detecting measles, and strengthening collaboration with the global surveillance system to detect and contain infectious disease outbreaks.
- Strengthening national capabilities to effectively prevent, respond and appropriately investigate outbreaks of vaccine-preventable diseases.
- Strengthening country's annual routine measles vaccination programs at the district level, and full implementation of PAHO's recommended vaccination strategy for measles eradication.
- Strengthening regional and national capabilities to collect, analyze and interpret epidemiological data and translate them into appropriate public health policies.
- Strengthening and expand capabilities for national laboratory diagnosis and virus isolation.

Source: PAHO, Division of Vaccines and Immunization.

Manual sobre el enfoque de riesgo en la atención maternoinfantil

Manual on Risk Approach in Maternal and Child Health Care

Dr. Carlos Castillo-Salgado, editor.

2nd Edition 1999, ISBN 92 75 32260 0 (in Spanish only)

The new revised edition of this important manual is one of the most useful and practical tools for training in epidemiology applied to maternal and child health services and health promotion.

The text presents in a dynamic form the fundamental aspects of epidemiological research on maternal and child health activities, with an integrated vision of population health. At the same time, it allows operationalization of concepts such as effectiveness, impact, and efficiency required in order to attain greater equity in health and human development.

As a result of the integration of epidemiologic and biostatistical concepts with practical and relevant exercises, this manual is often used in epidemiology courses taught in schools of public health and faculties of medicine, as well as in Ministries of Health in Latin America.

In this edition, epidemiological concepts have been brought up to date, and the pedagogical aspects included in the study notes, examples and exercises, have been improved. The manual has been structured using pedagogical principles that allow effective use of the material. Each chapter includes specific learning objectives, expressed in cognitive terms that allow the student to recognize the concepts and skills that will be examined and the depth of coverage. The examples and exercises represent specific applications of population-based epidemiology for enhancing the effectiveness and impact of health services.

The manual integrates into one single text some useful aspects for carrying out the various stages of operational epidemiological research and health services planning. It serves as a bridge between available technical and scientific advances and their direct application in the daily work of health services.

This volume of the PALTEX Series is the result of collaboration between PAHO and PAHEF (Pan American Health and Education Foundation) to support the training –in Spanish- of health professionals in the Americas toward greater equity and better health for all.

Norms and Standards in Epidemiology: Guidelines for Epidemiological Surveillance

Diseases under epidemiological surveillance by WHO, established by the 22nd World Health Assembly, are louseborne typhus fever and relapsing fever, paralytic poliomyelitis, malaria and influenza. From this group of maladies, this issue of the Epidemiological Bulletin presents –in addition to its case definitions- a summary of some guidelines for epidemiological surveillance for paralytic poliomyelitis and malaria, taken from the WHO Recommended Surveillance Standards, 2nd. Ed., June 1999, revised by the PAHO's Communicable Diseases Program.

Malaria

Malaria is one of the most prevalent tropical disease, with high morbidity and mortality and high economical and social burden. The four elements of the *Global Strategy for Malaria Control* that make its surveillance essential are: (1) provision of early diagnosis and treatment; (2) planning and implementing selective and sustainable preventive measures, including vector control; (3) early detection, containment and prevention of epidemics; (4) strengthening local capacities in basic and applied research to promote the regular assessment of a country's malaria situation, in particular the ecological, social and economic determinants of the disease.

Recommended case definition *(For use in endemic areas and people exposed to malaria, e.g., a history of visit to endemic area).* Malaria must be defined in association with clinical disease symptoms. The case definition for malaria will vary according to how malaria is perceived in a given country, local patterns of transmission, and disease consequences. The suggested definitions are deliberately broad. They must be adapted and used with additional indicators to make them more applicable to local and national epidemiology and control targets.

Clinical description

Most patients experience fever with intermittent periods of chills and sweating. Splenomegaly and anemia are commonly associated signs. Common but non-specific symptoms include otherwise unexplained headache, back pain, chills, sweating, myalgia, nausea, vomiting. Untreated *Plasmodium falciparum* infection can lead to severe malaria: any CNS disturbances, coma, generalized convulsions, anuria, hyperparasitemia, normocytic anemia, disturbances of fluid, electrolyte, and acid-base balance, renal failure, hypoglycemia, hyperpyrexia, hemoglobinuria, circulatory collapse/shock, spontaneous bleeding (disseminated intravascular coagulation), pulmonary edema, and death.

Laboratory criteria for diagnosis

Demonstration of the *Plasmodium* or its antigens in blood or tissues.

Case classification

(A) In areas without access to laboratory-based diagnosis

- **Probable uncomplicated malaria:** a person with symptoms and/or signs of malaria who receives antimalarial treatment.
- **Probable severe malaria:** a patient who requires hospitalization for symptoms and signs of severe malaria and receives antimalarial treatment.
- **Probable malaria death:** death of a patient diagnosed with probable severe malaria.

(B) In areas with access to laboratory-based diagnosis

- **Asymptomatic malaria:** a person with no recent history of symptoms and/or signs of malaria who shows laboratory confirmation of parasitemia.
- **Confirmed uncomplicated malaria:** a patient with symptoms and/or signs of malaria who received antimalarial treatment, with laboratory confirmation of diagnosis.
- **Confirmed severe malaria:** a patient who requires hospitalization for symptoms and/or signs of severe malaria and receives antimalarial treatment, with laboratory confirmation of diagnosis.
- **Confirmed malaria death:** death of a patient diagnosed with severe malaria, with laboratory confirmation of diagnosis.
- **Malaria treatment failure:** a patient with uncomplicated malaria without any clear symptoms suggesting another concomitant disease, who has taken a correct dosage of antimalarial treatment, and who presents with clinical deterioration or recurrence of symptoms within 14 days of the start of treatment, in combination with parasitemia (asexual forms).

Recommended types of surveillance

The primary purpose of surveillance is to guide malaria control activities at the level where data are collected, in order to get a numeric picture of trends in malaria incidence and mortality. These types of surveillance include (1) routine weekly analysis at peripheral level: collection, aggregation, graphic representation of malaria cases (endemic threshold or mapping), and reporting to the intermediate level; (2) at the inter-

mediate level: monthly aggregation and analysis of the peripheral level data, evaluation of trends and decision-making on the needs detected for the peripheral level; (3) surveys built into the supervision and retraining process; (4) monitoring of therapeutic failures and drug efficacy testing; (5) timely recognition of malaria epidemic and notification at all times.

Recommended minimum data elements

Different segments of the population may be affected by malaria. All malaria data and case classification must be reported by age group (A) and sex (S), with a separate category for pregnant women (P); these minimum data elements are vital information. Where there are laboratory facilities, type of malaria parasite must be recorded. In addition, malaria treatment failure should be reported.

Recommended data collection and analyses

Disease trends and patterns are the principal concern of malaria control programs. Thus, it is recommended that (1) local level health workers prepare weekly reports with aggregated minimum data and the above mentioned variables in graphs or mapping, by probable place of infection; (2) monthly reports of aggregated data to the next level, by geographical area; (3) graphs of time trends for the different geographical areas to detect an increase in the number of cases of more than 2 standard deviations (compared to averaged data from the same week of previous years), which may indicate an epidemic; (4) maps with the presence/absence of malaria cases, report completeness and timeliness; and (5) a line list for peripheral and intermediate levels that sent no monthly report or untimely reports.

Principal uses of data for decision-making include (1) identify high risk groups and the problem areas; (2) evaluate impact of control measures; (3) readjust and target control measures; and (4) guide allocation of resources and training efforts.

Poliomyelitis

Targeted for **eradication** (item 6.1 of the *WHO General Program of Work*, 9GPW6.1) although eradicated in the Americas, this disease requires highly sensitive surveillance for acute flaccid paralysis (AFP), including immediate case investigation and the specimen collection, which are critical to detect wild poliovirus circulating in every infected geographical area. A polio eradication program should use the following standardized case definitions, revised from the PAHO's Polio Eradication Field Guide, 2nd. Ed., 1994, from the Division of Vaccines and Immunization and the WHO Recommended Surveillance Standards from the 2nd. Ed., June 1999, revised by the PAHO's Communicable Diseases Program.

Recommended Case Definitions

• *Suspected case:* any case of acute-onset flaccid paralysis (AFP) -including Guillain-Barré syndrome- in a person under 15 years of age for any reason other than severe trauma, or paralytic illness in a person of any age in which polio is suspected. The classification "suspected case" is temporary. It should be reclassified as "probable" or "discarded" within 48 hours of notification.

• *Probable case:* a case in which AFP is found, and no other cause for the paralysis can be identified immediately. The classification of "probable case" is also temporary; within 10 weeks of onset the case should be reclassified as "confirmed", "compatible", "vaccine-associated" or "discarded."

• *Confirmed case:* a case with acute paralytic illness with or without residual paralysis, and isolation of wild poliovirus from the stools of either the case or its contacts.

• *Polio-compatible case:* a case in which one adequate stool specimen was not collected from a probable case within 2 weeks of the onset of paralysis, and there is either an acute paralytic illness with polio-compatible residual paralysis at 60 days, or death takes place within 60 days, or the case is lost to follow-up.

• *Vaccine-associated Paralytic Poliomyelitis:* a case with acute paralytic illness in which vaccine-like poliovirus is isolated from stool samples, and the virus is believed to be the cause of the disease. There are two possible types of vaccine-associated paralytic poliomyelitis (VAPP): recipient and contact. A case classified as a *recipient* is a person who has onset of AFP 4 to 40 days after receiving OPV and has neurologic sequelae compatible with polio 60 days after the paralysis began. A case is classified as a *contact* VAAP when a person who has residual paralysis 60 days after the onset of AFP had contact 4 to 40 days before the paralysis began with a person who received OPV somewhere between 4 and 85 days before the contact's paralysis began.

• *Discarded (Not Poliomyelitis):* a case with acute paralytic illness for which one adequate stool specimen was obtained within 2 weeks after onset of paralysis and was negative for poliovirus.

Surveillance Characteristics

- The reporting system must cover key hospitals and clinics and have at least one reporting source for every geopolitical unit;
- The concept of reporting all AFP cases rather than only poliomyelitis cases must be emphasized;

- Weekly reporting of AFP is critical;
- The concept of negative reporting of AFP must be included in the weekly reporting system;
- The reporting system for AFP must continually be monitored and revitalized;
- Immediate response to reports in the surveillance system by trained epidemiologists must occur for every suspected case within 48 hours;
- Cooperation from the private medical community is essential for all surveillance efforts;
- The public needs to be informed about the importance of and procedure for reporting AFP;
- Feedback to all participants of the surveillance system is essential.

Recommended Minimum Data Elements

Case-based data *(to be linked to specimen-based data for analysis):* (i) unique identifier; (ii) geographical area (district and province) name; (iii) date of birth; (iv) date of onset of paralysis; (v) date of notification; (vi) date of case investigation; (vii) total poliomyelitis vaccine doses received; (viii) fever at onset of paralysis; (ix) progression of paralysis within 4 days; (x) asymmetric paralysis; (xi) date of 60-day follow-up examination; (xii) findings at 60-day follow-up; (xiii) final classification.

Specimen-based data *(to be linked to case-based data for analysis):* (i) unique identifier; (ii) specimen number; (iii) date of paralysis onset; (iv) date of last OPV; (v) date of stool specimen collection; (vi) date stool specimen sent to laboratory; (vii) date specimen received in laboratory; (viii) condition; (ix) date final culture results sent from laboratory; (x) date intra-typic differentiation results sent from laboratory to the immunization program; (xi) results of stool samples.

Principal Uses of Data for Decision-Making

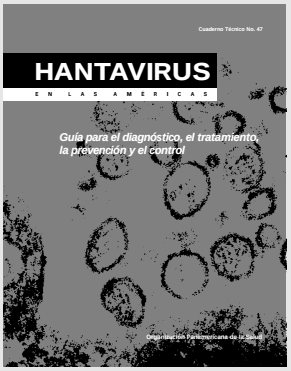
- One polio case must be considered as an outbreak.
- Track wild poliovirus circulation.
- Classify cases as confirmed, poliomyelitis compatible or discarded
- Monitor routine coverage for immunizations in all geographical areas and focus efforts in low performing geographical areas.
- Identify high-risk areas for planning mopping up immunization.
- Monitor performance of surveillance using standard indicators and focus efforts in low performing areas.
- Provide evidence for polio-free certification.
- Conduct two National Immunization Days (NIDs) a year in countries with < 80% of districts with OPV3 > 95%.

Surveillance Indicators Indicators for Certification

- AFP rate per 100,000 children < 15 years of age.
- % AFP cases with one stool taken within 15 days of paralysis onset.
- % AFP cases investigated within 48 hours of notification date
- % of reporting sites registered each week.

ERRATUM

In the previous issue of the Epidemiological Bulletin, No. 1, Vol. 20, under YELLOW FEVER, subheading "Laboratory criteria for diagnosis" (right column, page 13), the first line ("Isolation of *Y. pestis* from a clinical specimen, or") should be omitted.



Hantavirus in the Americas: Guidelines for Diagnosis, Treatment, Prevention, and Control

1999, 80 pp. est., ISBN 92 75 13047 7 US$ 14.00.
Order code: TP 47 (Spanish version, order code: CT 47).

This publication presents an extensive view of what came to be known as hantavirus pulmonary syndrome (HPS), its clinical manifestations, methods of preventing infection, and measures taken by governments in the Region to monitor hanta-viruses and educate health professionals and the general public about the disease.

This comprehensive manual begins by describing the different hanta-viruses known in the Americas and their reservoirs, rodent ecology and zoology, and the epidemiology of human disease in the Region. Upon this foundation, the manual describes the disease's clinical manifestation and diagnosis and presents guidelines for HPS surveillance, treatment, and case management. It also provides detailed, easy-to-follow instructions for preventing infection in the home, hospital, and laboratory, as well for cleaning rodent-infested areas. The publication also provides an overview of communication tools that can be adapted to educate diverse populations about HPS and other communicable diseases.

It is an essential tool for anyone involved in hantavirus prevention, control, treatment, or health education activities. Copies can be obtained by contacting a local sales agent or the PAHO/WHO office in your country or PAHO Washington DC, Fax: (301) 206-9789, E-mail: <paho@pmds.com>, Internet: http://publications.paho.org.

Preparatory Meeting of the PAHO/WHO Regional Advisory Committee on Health Statistics (CRAES[1])

I. Introduction

With the object of reorganizing and coordinating support for the improvement of vital, health, and population statistics within the framework of the technical cooperation of the Pan American Health Organization, the Preparatory Meeting of the Regional Advisory Committee on Health Statistics (CRAES) was held at PAHO Headquarters in Washington, D.C. from 25 to 29 January 1999.

The objectives of the Committee will include advising PAHO activities aimed at: (1) reviewing the situation regarding vital and health statistics and providing support for their improvement and consolidation; (2) supporting lines of research in health situation analysis to orient programs designed to reduce inequities in health; (3) recommending the use of indicators that make it possible to measure the relationship between health and inequity; (4) supporting the preparation of guidelines for the implementation of the *Tenth Revision of the International Classification of Diseases* (ICD-10) and its updates; and (5) promoting the creation of a working group within the Committee to carry out these activities.

II. Situation of Vital and Health Statistics

The participants noted the effort that their countries had made to introduce various data collection methodologies and improve the coverage, timeliness, and quality of the core data in health. There are still problems, however, such as the lack of coordination among the institutions that generate the statistics; low coverage; the lack of timely information and the poor quality of the core data; and the use of different data collection forms to obtain the same type of information.

Even where there has been a general improvement in the quality of the registries, problems related to the composition by groups by age and sex persist. The conversion to automated systems in the countries has not been uniform, and where it has occurred, the emphasis is frequently more on the technology than on the quality of the data and the information processed. Moreover, with the decentralization of the health services, information is generated at the local level without the proper methodological preparation.

Other problems have also been identified: human resources lack training in data processing and data analysis; the *Tenth Revision of the International Classification of Diseases* (ICD-10) has not been implemented in some countries, or has only been partially implemented, without evaluating the quality of the coding; the dissemination of health information in some countries is inappropriate and is not part of an ongoing program; and, finally, demographic surveys are conducted to gather information in countries where population censuses and permanent vital statistics registries already exist.

III. Situational Diagnosis of Vital, Health, and Population Statistics

The observations of the Meeting's participants reflected the situation in their own countries and not necessarily the reality of the Region as a whole, which will require a systematic diagnosis for all the countries.

In the early 1990s the United Nations Statistics Division conducted a situational diagnosis in 11 countries as part of an international program to improve vital statistics and civil registries. This study included workshops with the personnel responsible for civil registries and vital statistics and covered the preparation of manuals on legal aspects, administrative procedures, the use of computers and computer applications, the confidentiality of data, and the training of human resources.

With a view to developing a similar situational diagnosis for health and vital statistics in the Region, the participants discussed the preparation of a modular questionnaire for subsequent review in the countries. This questionnaire would serve as the foundation for the Committee's plan of action for 1999-2002, within the framework of interagency cooperation, and would include indicators for aspects such as the overlapping of the work of different agencies, the heterogeneity of conceptual definitions and classifications, and deficiencies in the training provided to human resources in the collection, preparation, and use of the data.

IV. International Classification of Diseases

The *International Classification of Diseases* (ICD) is not only an instrument for the statistical description of mortality and morbidity but a mechanism for the improvement of health statistics. PAHO made a significant contribution to the implementation of the classification with the preparation of the Spanish version through its Collaborating Center in Venezuela.

Some of the more important activities in connection with the ICD were the workshops for coders and physicians; the preparation of a list presenting the causes of death, with consistency tables, and a proposal for two bridge studies between the ICD-9 and the ICD-10. Other noteworthy activities were the publication of one version of the ICD-10 for Mexico and another for the other countries of the Region, the

1 *Comité Regional Asesor en Estadísticas de Salud.*

preparation of an electronic version of volumes 1 and 3 of the ICD-10, and the creation of the Latin American Discussion Forum on the ICD and other members of the family of classifications via e-mail.

In addition, the Spanish version of the second edition of the *International Classification of Diseases for Oncology* (ICD-O-2) has been prepared with the collaboration of the *Escuela Andaluza de Salud Pública* (Andalusian School of Public Health) in Spain and the *Centro Colaborador para la Clasificación de Enfermedades en Español, CEVECE*, (Latin American Center for the Classification of Diseases). In December 1998, the International Agency for Research on Cancer (IARC) approved changes in the morphology coding for lymphomas and leukemias that will be incorporated in the third edition of the ICD-O-3, soon to be published in Spanish.

The participants discussed the mechanisms for updating the ICD-10, focusing on the implementation, frequency, and dissemination of proposals for corrections or new codes, as well as the mechanisms for disseminating the updates. No plans are afoot to prepare an international classification of medical procedures parallel to the ICD-10 in the coming years, since some members of the family of classifications are linked to the ICD and others are not.

The participants also proposed the promotion of research on the use of the definitions contained in the ICD (for example, an exploration of the cost-benefit of using different members of the family of classifications, among other potential areas of cooperation), recommending, moreover, the formation of a subgroup for the ICD that would include the three Collaborating Centers (Venezuela, Brazil, and the United States).

V. Human Resources Education

One reason for the lack of training in the collection, processing, and analysis of health information is that the courses for statistical personnel have ceased to be offered. Decentralization of the health services has generated a local demand for health statisticians at the professional and technical level, creating the need for human resources education in health statistics at the upper and middle levels.

The experience of PAHO in promoting distance learning through e-mail and the Internet was described, and the possibilities for cooperation with the *Universidad Abierta de Cataluña* (Open University of Catalonia) and other academic institutions were discussed.

The participants also agreed to make an inventory of the available teaching materials and courses, obtaining information on the curriculum, the length of the courses, and the target population. They requested interagency coordination to create funds for training fellowships, since the lack of opportunities of this type is one of the greatest obstacles to the training of personnel.

VI. Proposed Work Areas for the Plan of Action 1999-2002

Eight work areas were considered, with recommendations for each of them requested from the participants:

1. Situational diagnosis of vital, health, and population statistics in the Region, through the questionnaire mentioned above.
2. Support for the Dissemination of the *International Classification of Diseases* (ICD-10) updates, adoption of new definitions, research agenda (for example, the demand, use, and cost-benefit of implementing other members of the family of classifications), and the model for the registry of hospital morbidity.
3. Human resources education in the production, analysis, and use of applied health statistics, conducting inventories of the available training materials and courses on vital and health statistics and promoting distance learning on vital and health statistics through the Internet.
4. Promotion of *the* Core Health Data Initiative in the countries, including the subnational levels; validation and processing of the data; mechanisms for disseminating and communicating core data among the countries.
5. Support for the organization of national health information systems, based on a methodological-conceptual document with recommendations on data collection, validation criteria, variables and basic indicators, articulation among entities and institutions, access to and confidentiality of the data, dissemination of information, and user support mechanisms.
6. Validation of the health information, including the definition of validation and consistency criteria; national case studies on validation and guidelines for their review; methodologies for adjusting the data and health indicators; guidelines for consistency and data clean-up methods.
7. Dissemination of information, which includes presentation of the data in accordance with the recommendations of international organizations; standards for developing the information, including those for electronic media; guidelines for the creation and operation of nodes for the dissemination of information, including "gray literature" (texts of articles that do not appear in publications for lack of space but are considered valuable or useful).
8. Strengthening legislation on vital and health statistics as well as promoting consistency between international definitions and national legal frameworks governing these statistics in order to facilitate international comparisons; identification of agencies responsible for generating and disseminating vital and health statistics.

The Core Health Data Initiative was finally presented as a project to respond to the need to monitor and evaluate the national and international commitments of PAHO. This ini-

tiative permits the standardization of a basic set of health indicators to facilitate health situation analysis. At least 18 countries have produced their own pamphlets of basic indicators, even at the provincial level. The initiative is spreading to other parts of the world—for example, the European Region and the Middle East. PAHO is working with other agencies to develop criteria for the validation of these indicators, with a view to improving the system. Geographic Information Systems are also being developed as support for health information analysis.

After establishing the eight work areas described above, the participants agreed to divide them among the following four working groups and to circulate the conclusions among all the groups: (1) diagnosis and evaluation of health information systems; (2) development of statistical methodologies and technologies in health; (3) promotion of training, research, and dissemination of information; and (4) the *International Classification of Diseases*.

Dr. George Alleyne, Director of PAHO, will approve the reactivation of this important Committee in 1999, selecting outstanding professionals in the fields of statistics and public health in the Region to serve on it.

Source: PAHO, Special Program for Health Analysis (SHA)

International Course in Applied Epidemiology

October 4-29, 1999, Atlanta, Georgia

The Centers for Disease Control, CDC, and Emory University's Rollins School of Public Health will cosponsor the International Course in Applied Epidemiology, October 4-29, 1999, in Atlanta, Georgia. This basic course is directed at public health professionals from countries other than the United States. It includes epidemiologic principles, basic statistical analysis, public health surveillance, field investigations, surveys and sampling, and discussions of epidemiologic aspects of major public health problems in international health, as well as case exercises based on field investigations. Participants are encouraged to give a short presentation on epidemiologic data from their own country. Computer training using Epi-Info software is included. Prerequisites are familiarity with the vocabulary and principles of basic epidemiology or completion of CDC's Principles of Epidemiology home-study course or equivalent. Preference will be given to applicants whose work involves priority public health problems in international health. There is a tuition charge.

For information contact: Emory University, The Rollins School of Public Health, International Health Dept. (PIA), 1518 Clifton Rd., N.E., Room 746, Atlanta, GA 30322; telephone (404) 727-3485; fax (404) 727-4590; e-mail pvaleri@sph.emory.edu.

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