Executive summary

Dr. Gualberto Piñánez, Director, General Bureau of Surveillance of the Health, Ministry of Public Health of Paraguay, on behalf of the Minister of Health Dr. Martín Chiola, welcomed the participants and expressed the country's satisfaction to have been selected as the headquarter for this meeting. He also thanked the Center of Disease Control and Prevention, United States of America (CDC) and the Pan American Health Organization (PAHO) for their support in this event.

The movements of people throughout the world currently constitutes an important risk factor for the spread of diseases from one place to another. Organization and communication is required in order to face the increasingly growing emerging/reemerging threat of infectious diseases (EID) in the region. Although several EIDs have been identified in the region (an important accomplishment in prevention and control) improvements in communication within subregional networks are still needed. Health problems that were once believed to be resolved, have reappeared, and some with greater intensity than before as is the case of malaria, tuberculosis, and dengue.

The objectives of this meeting are to: (a) reestablish contacts and maintain communication among the countries; (b) generate concise information on emerging/reemerging diseases of the participating countries; (c) identify areas that need strengthening; plan ahead and incorporate other diseases or problems that should be addressed or prioritized; and (d) design prevention and control strategies. In addition specific issues will also be addressed, such as influenza, Hemolytic Uremic Syndrome (HUS), dengue, Hantavirus Pulmonary Syndrome (HPS), and antimicrobial resistance, among others.

In support of the above objectives, the roles of the CDC and PAHO were emphasized, and the World Health Organization's (WHO) activities in the legal framework of the International Health Regulations (IHR) with regard to EID were recognized to be important in the efforts to reduce the spread of EID at a global level. Currently, the IHR is under revision in order to assure that current issues are addressed. Some of the proposed changes in relation to prevention is to retrain personnel and implement comprehensive prevention measures in ports and airports worldwide. Another proposition, is to report serious or unexpected events of cholera and plague, in addition to yellow fever, that could have international repercussions.

Influenza

Influenza surveillance in the Southern Cone subregion is an integral part of global influenza surveillance that was established by the WHO in 1948. It is an interactive network. One of the priority activities of this network is to provide data and strains for the preparation of the vaccines.

The participating countries, in this meeting, reported morbidity, mortality, epidemiological data, number of cases of pneumonia and other respiratory diseases, types of viruses, etc.. Although the number of strains received from Latin America has been reduced considerably, mainly since 1991 to 1995, an increase has been observed since 1997. This as a result of the countries' improvements made in influenza surveillance in the last three years. In 1999, four hundred strains were received and in 2000 three hundred fifty, which made it possible to obtain strains for vaccinations for the southern hemisphere in 1999 and 2000. The participating countries were urged to increase the number of isolates and shipments to the WHO Influenza Collaborating Center and to devise emergency plans in case of a new pandemic.

Hemolytic Uremic Syndrome

Hemolytic uremic syndrome (HUS) is the most frequent cause of acute renal insufficiency in infants at a global level. It is characterized by: microangiopathic hemolytic anemia, thrombocytopenia, and acute renal insufficiency. Enterohemorrhagic *Escherichia coli* is the principal causative agent (EHEC) and is the general term for those strains that cause disease in humans. In accordance with different nomenclatures that consider pathogenic or clinical factors, this pathogenic agent is called cytotoxin or verotoxin producing *E. coli,* STEC or VTEC, respectively.

In the Southern Cone countries infections by EHEC are endemic and sporadic cases of diarrhea or HUS occur and there have been no recorded outbreaks until 2000. This is basically due to the absence of foodborne outbreak surveillance programs and to the lack of adequate diagnostic methods to identify EHEC. A small number of laboratories in very few Latin American countries have incorporated the identification of EHEC. However, Argentina, Chile and Uruguay have established that HUS is observed less frequently in the O157 serotype in relation to non-O157 serotypes. In Chile, the serotypes most frequently isolated from children with HUS are O157, O26 and O111, other less frequent serotypes are O55, O142, O158, and O128.

In Argentina HUS is endemic and approximately three hundred new cases are reported annually by the nephrology hospital units. The estimated incidence is 9.2 cases per every 100,000 children under 5 years of age and more than 7,000 cases have been recorded from 1965. In Buenos Aires, a rate of 23 is observed. In Santiago, Chile, the incidence rate of HUS is of 3.2 cases by 100,000 children under 5 years of age and in Uruguay it is 5 per 100,000 children under 5 years of age. There were also presented the results of surveillance and the identification of risk factors for HUS/EHEC in the USA. Based on the USA experience, the CDC proposes to collaborate with the countries of the region in the following areas: (i) to establish a HUS surveillance system; (ii) to measure the incidence of HUS; (iii) to determine individually for each country if a prevention program is justified; (iv) to identify risk factors (case studies -- outbreak control or investigation) and new transmission routes; (v) to design and implement control strategies; (vi) to establish the effectiveness of implemented control strategies

Salmonellas **global surveillance network**

The growing need for communication among the countries, the obligation to continue to improve the laboratories' capacities, the eagerness to continue training of laboratory staff, have quality control programs and improve the access to surveillance data, have been driving reasons for the establishment of *Salmonellas* global surveillance network sponsored by WHO. The purpose of this network is to strengthen the national and regional capability of the involved laboratories, as well as to facilitate communication among the various disciplines involved and among the different participating countries. The Global Surveillance System currently has 103 participating countries. Participants were urged to promote this activity in their respective countries.

Other emerging and reemerging diseases

The epidemiological situation of dengue, yellow fever, HPS, and Argentine hemorrhagic fever was discussed. The needs for strengthening surveillance activities, production and regulation of diagnostic reagents, and quality control in the laboratories of the subregion were emphasized. In almost all the countries, progress in HPS surveillance was evident. However, sustainable dengue prevention and control measures were not observed in spite of the strengthening of its surveillance.

Another topic of discussion was the factors that contribute to the spread and control of antimicrobial resistance. These factors are related to the Ministries of Health, health personnel, and the community. The need was emphasized to implement surveillance of antimicrobial resistance, and that the only form to guarantee its success, is that the participating laboratories meet quality assurance standards. It was mentioned that several networks exist in the subregion that process data periodically for the monitoring of species found in the community and in hospitals. Among the first group are *Neisseria meningitidis*, *Streptococcus pneumoniae, Escherichia coli* (urinary), *Haemophilus influenza, Shigella*, `*Salmonella*` and *Vibrio Cholerae.* In the second, *Enterococcus sp; klebsiella pneumoniae*, *Acinetobacter spp*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Escherichia coli* and *Enterobacter spp.*

The results of Paraguay's surveillance was presented as well as two hospital infection cost studies.

The clinician in the surveillance of emerging/reemerging diseases

It was considered that the clinician is a key resource in surveillance since he/she constitutes the first link in the cascade-effect action of reporting of communicable diseases and/or appearance of an abnormal disorder. It was agreed that the limited knowledge of new pathologies, unclear clinical definitions of some syndromes, and lack of laboratory diagnostic tools for emerging pathogens impedes clinicians in playing their role as the primary source of surveillance.

The Caribbean public health information system

This system, supported by the Department of Defense of the United States, has promoted the use of PHLIS (Public Health Laboratory Information System) and is made up of a network of 15 Ministries of Health, 15 national laboratories, and their corresponding sentinel sites. The member countries are Antigua, Bahamas, Barbados, Belize, Dominica, the Dominican Republic, Grenada, Guyana, Haiti, Jamaica, St. Kitts, St. Lucia, Suriname, St. Vincent and Trinidad. Among the 2000–2001 achievements, it was emphasized that 10 countries report by way PHLIS and 3 training modules have been developed (enteric, dengue and HIV/AIDS). Furthermore, reports were received from 4,611 samples of enteric pathogens corresponding to 10 countries; 27 reports on dengue, corresponding to 3 countries; and 2 reports on HIV/AIDS corresponding to one country.

2001 Country Activities and Network Needs

The participants identified various needs so that the network can be more effective. In addition, each country listed principal activities to be carried out for the rest of the year.

Argentina: Development of a leptospirosis network; execution of antimicrobial resistance with quality assurance; and strengthening in the investigation of foodborne diseases (FBD) outbreaks.

Chile: Development of laboratory surveillance standards; implementation of new laboratory techniques; training in investigation of FBD outbreaks; execution of antimicrobial resistance surveillance with quality assurance; and teamwork with the Society of Infectious Diseases.

Brazil: Implementation of rotavirus surveillance network; establishment of a national commission for addressing de Creutzfeldt-Jakob disease; development of a national level project for determination of seroprevalence of HPV (herpes papilloma virus) in women of childbearing age.

Bolivia: Execution of antibiomicrobial resistance surveillance with quality assurance; implementation of a pilot study on *Campylobacter;* longitudinal study on HTLV1 and 2.

Paraguay: Strengthening surveillance and control of emerging diseases; support for decentralization; promotion of community participation in dengue control; execution of antimicrobial resistance surveillance with quality assurance; implementation of cost –effective studies.

Uruguay: Strengthening of surveillance of FBD; establish the epidemiological status of leptospirosis; expansion of laboratory services.

Recommendations

Influenza

To the countries

Surveillance: Confirm case definition based on WHO definitions; expand surveillance by method of sentinel physicians in order to obtain morbidity data; increase the number of isolated and characterized viruses.

Strain shipment: Carry out at least 1 shipment of strains annually to the CDC and ideally 3 corresponding shipments in the beginning, peak and the end of season; establish mechanisms that facilitate the transportation of the virus (the opening of an account for the use of the countries of the Southern Cone was proposed).

Communication: Submit surveillance data to FluNet weekly; establish an information system at a national level (Web page, bulletins, etc.); improve the access of the peripheral sentinel units to the communication systems.

Pandemic: Prepare national plans of action. Research: evaluate the possibility of developing a national vaccine production; initiate serological studies on workers potentially in contact with birds and avian virus; conduct cost-effective studies on vaccination.

TO PAHO
Support the shipment of samples to the WHO Collaborating Center.

Hemolytic Uremic Syndrome

To the countries
Estimate the incidence rate of HUS in children under 5 years of age at national and regional levels in the Southern Cone countries; establish strategies for STEC and bloody diarrhea surveillance in order to update clinical and laboratory data; propose standardized procedures for laboratories in all the countries of the region; propose that Servicio Fisiopatogenia de INEI–ANLIS "Dr. C. G. Malbrán" to be considered as a Regional Reference Center; analyze the risk factors for STEC infections in every country or region; definition of prevention and promotion strategies and measures to be utilized at national level; evaluate the potential impact of the prevention and promotion strategies; evaluate the economic impact of the disease on the health system; and establish interinstitutional commissions to address this problem and its control.

To the CDC and PAHO
Support the implementation of the recommendations.

Other emerging/reemerging diseases

Dengue

To the countries
Promote the need for educating the young on behaviours for vector control; seek long-term control strategies that achieve a attitudinal changes in the population; carry out surveillance on *Aedes aegypti* resistance to larvicides and adulticides; prepare recommendations to the laboratory services network in reference to sampling for laboratory diagnosis; and disseminate information on yellow fever between the health workers.

TO PAHO
Strengthen the training in yellow fever diagnosis for those countries that lack the technology (Chile and Uruguay); promote the exchange of diagnostic reagents among Southern Cone countries; and send information to the countries on laws and/or regulations aimed at control of dengue.

Hantavirus

To the countries
Carry out epidemiological analyses of HPS cases according to clinical severity; strengthen quality control system by the regional reference laboratory, Institute "Carlos G. Malbrán;" conduct control studies aimed at elucidating the magnitude of person-to-person transmission in the region; prepare a clinical definition for the mild cases of HPS; and disseminate among health workers the activities carried out in order to increase interest among physicians for the detection of emerging diseases

To PAHO
Facilitate the shipment of samples and panels of control sera among the countries and the regional reference laboratory INEI, Argentina, and to strengthen the dissemination, between the health workers, of syndromic algorithms for diagnosis of emerging/reemerging diseases.

Antimicrobial Resistance

To the countries

Carry out surveillance of isolates from the community and from nosocomial infections following quality assurance standards; analyze and disseminate surveillance results periodically.

TO PAHO

To strengthen medical and laboratory staff training on antimicrobial resistance. Surveillance activities of antimicrobial resistance in the Southern Cone countries must be a subject of discussion in the next network meeting.