

245.11 92CH

LIBRARY
INTERNATIONAL REFERENCE CENTRE
FOR COMMUNITY WATER SUPPLY AND
SANITATION (IRC)

**The Cholera Epidemic of 1991
in Latin America and its Social,
Economic and Political Implications**

A Senior Thesis for the Combined Majors
in Latin American Studies and Sociology

Ana Flávia França
May 1992
UCSC

245.11-92CH-10019

**The Cholera Epidemic of 1991
in Latin America and its Social,
Economic and Political Implications**

A Senior Thesis for the Combined Majors
in Latin American Studies and Sociology

Ana Flávia França
May 1992
UCSC

LIBRARY, INTERNATIONAL REFERENCE
CENTRE FOR COMMUNITY WATER SUPPLY
AND SANITATION (IRC)
P.O. Box 93110, 2509 AD The Hague
Tel. (070) 814911 ext. 141/142

RN: 10019

LO: 245.11 92CH

"Joven, levántate. Estás llamado a ser un buscador apasionado de la verdad, un cultivador incansable de la bondad, un hombre o una mujer con vocación de santidad (. . .)
No te canses de servir, no calles la verdad, supera tus temores, sé consciente de tus propios límites personales. Tienes que ser fuerte y valiente, lúcido y perseverante en este largo camino.

No te dejes seducir por la violencia y las mil razones que aparentan justificarla. Se equivoca el que dice que pasando por ella se logrará la paz.

Joven, levántate, ten fe en la paz, tarea, ardua, tarea de todos. No caigas en la patía frente a lo que parece imposible. En ti se agitan la semillas de la vida (. . .)
El futuro de la justicia y de la paz pasa por tus manos y surge desde lo profundo de tu corazón. Sé protagonista en la construcción de una nueva convivencia de una sociedad más justa, sana y fraterna."

Juan Pablo II

Table of Contents

Acknowledgements	1
Introduction	2
Chapter 1 - The History and Biology of Cholera	8
Chapter 2 - The Facts on the Spread and Scope of the Cholera Epidemic of 1991 in Latin America (map).....	20
Chapter 3 - Preventive and Controlling Measures Taken by Governments Against Cholera and Economic and Political Consequences	34
Chapter 4 - Explanations for the Current Cholera Epidemic in Latin America	46
Conclusion	57
Appendix	62
Bibliography	80

Acknowledgements

My interest in studying the cholera epidemic was sparked by my travel to Costa Rica during the summer of 1991. I went to Costa Rica to study Spanish at ILISA, in San Jose, and had the opportunity to meet several wonderful teachers. I exchanged many ideas related to the current events in Latin America with them, especially with Tatiana who expressed her concern about the cholera disease. My host Don Carlos accompanied me to the "Ministerio de Salud" so I could pursue my interest in volunteering on a public health project. I was very fortunate to meet Señor Carlos Soto, head of the Human Resources division, and to be invited to work with the education sub-committee of the "National Committee for the Prevention and Control of Cholera". I owe many thanks to Señor Soto, Lorena, Carlos, Antonietta, Flor, Flora and Dr. Cabrera for sharing their time, energy and knowledge with me.

Arriving back at UCSC, I was bubbling with ideas and very excited to begin my thesis. Attending Susanne Jonas' senior project seminar was very important, for I was able to organize my thoughts and start writing. I would like to thank Susanne Jonas for all her advice, feedback, encouragement and time as my advisor and friend. Also, I would like to thank Wally Goldfrank for his input and suggestions and for being my reader for the Sociology board.

As I worked on my thesis, I had many friends who supported my endeavor and which I will never forget. I owe my friend Jorge Rosillo in Ecuador, who encouraged me and gave me valuable ideas, while I was visiting him in December, many thanks. I thank the 703 California St. women Beth Winer, Beth Elliot, Pippa, Kris and Sara for their patience and support during these past few months. I also acknowledge Steve, Dan, Allie, Jason and Marilia for showing their interest in my project and in cheering me on. Thanks to my housemates Paul and Scott for being tolerant of my printer which was on at odd hours of the day and night.

In addition, I would like to thank David Sweet who inspired me to learn about Latin America and my roots and to understand the realities which the peoples of Latin America have lived throughout history.

To my special friend Christopher Cryan, who was extremely supportive, who shared with me the times when I had writers bloc and when I was on a roll, and who helped me edit my drafts, thank-you for everything.

Lastly, I would like to take this opportunity to thank the very special people in my life for helping me get where I am today. Thanks to Tia Zeli, Irani, Stephan and my sister Ana Claudia. To my mother and father, my eternal appreciation; I dedicate this project to both of you.

Introduction

During the year 1991, one of the most important news topics in Latin America, and of great impact in the lives of the populations in this region, was the cholera epidemic. The communicable disease cholera, which had disappeared from the Latin American continent since the end of the last century, had returned, terrorizing and killing people. Not only was this a disease affecting the poorest peoples, but in addition it was touching the upper classes and having severe negative impacts upon the economic and political spheres of many Latin American countries. The outbreak of this cholera epidemic began in Peru at the end of January of 1991 and reached approximately 15 countries in Latin America by December 1991. By this time an estimated 340,000 cases and 3,500 deaths had been attributed to the devastating disease.

Today, cholera has been eradicated from most developed countries of the world. Only when it is brought from the third world, where incidences of cholera appear regularly, do cases appear in developed countries. Due to advances in the areas of sanitation, water supply, public education and health, cholera does not pose epidemic threats in the developed world. By contrast, Latin America is still a developing region where basic infrastructure, health and education do not reach the majority of the population. If one understands the social, political and economic realities of the region, it is not difficult to see that Latin America offers ideal breeding grounds for communicable diseases. Thus, if the cholera epidemic is to be controlled in the third world and in Latin America, larger issues concerning the countries and of the peoples must be addressed.

The objective of this project is to explore the current cholera

epidemic in Latin America, to draw lessons from past epidemics, to understand why the current one is occurring and to place this epidemic in historical, social, political and economic perspectives. This project has been arranged in five parts as follows. Chapter one addresses the history of cholera during its seven pandemics and its path prior to reaching Latin America in 1991. It becomes evident, through its history, that the disease has been linked to certain social conditions and that it was eliminated from certain countries after public health issues were addressed. Chapter two addresses the spread of the cholera epidemic of 1991 in Latin America. It describes how cholera was transmitted, how many people were affected and how it reached 15 countries in Latin America. Chapter three addresses the preventive and controlling measures taken by governments against cholera and the economic and political consequences of these measures. Chapter four gives explanations for the current cholera epidemic by addressing the social realities of poverty and inequality, the economic realities of crisis and underdevelopment, and the political realities of neglect and corruption in Latin American countries. Finally, the conclusion will mention some positive effects of the epidemic and the unfortunate fact that little has been reported on the personal stories of those affected and victimized by the disease.

In this project I shall try to demonstrate that the roots of this epidemic have to do much more with the economic and social situations of Latin Americans than with health status and natural biological threats of disease. I believe that the successful preventive measures that the governments were able to take during this epidemic are only bandaids and temporary measures that will not cure the deeper problems that cause the spread of the disease. Today in the 1990's, with incredible advances in

western medicine, millions of Latin Americans still die from communicable diseases which are preventable and easily treated. In order for diseases to be controlled so that Latin Americans affected by disease may live healthy and fulfilling lives, it is important to become aware and to analyze the reasons why and how preventable diseases, such as cholera, still plague people's lives.

My interest in the public health field and in the social sciences dates back to the time I lived in Brazil and started asking questions relating to the state of malnutrition of children, which I witnessed in the streets of Brasília, Belo Horizonte and Rio de Janeiro. At the time, I was not old enough to relate the facts of unequal distribution of wealth and poverty to the problems of these malnourished children but, I wished that some day I would be able to help them. I became aware of the theoretical explanations for which hunger, poverty and disease existed in Brazil when I came to the University of California at Santa Cruz and began to study Biology, Sociology and Latin American Studies. The more I studied the history of Latin America and the social, economic and political realities in these countries, the more I could understand the reasons for the state of malnutrition, hunger, homelessness and hopelessness of the children in the streets of Brazil.

As I began to look into the possibility of entering the public health field and exploring epidemiology, women and children's health, environmental health and health education, I decided that my senior thesis, which will satisfy the senior project requirement for the combined degrees in Latin American Studies and Sociology, would address a major contemporary issue in the area of Public Health in Latin America. I became interested on the topic of cholera in Latin America, which

relates to the fields of public health mentioned above, while spending three months this past summer in Costa Rica.

I had the wonderful opportunity to spend the summer of 1991 in Costa Rica studying Spanish and working with Costa Rica's "National Committee for the Prevention and Control of Cholera". Cholera was a major preoccupation for health officials and for the population of Costa Rica. The government believed that it was only a matter of time before cholera would reach Costa Rica for already by September of 1991 cholera had reached Guatemala, El Salvador and Nicaragua. Daily, the media in San Jose related to the public the spread of cholera in Central America and urged the population to take the important preventive measures against cholera, recommended by the Ministry of Health.

During my participation with the "national committee", I became very much involved in understanding the mechanisms necessary to prepare Costa Ricans to prevent, fight and control the cholera epidemic. Since the "national committee" was divided into smaller sub-committees, which I will address in more detail later, I worked mainly with the sub-committee concerned with the promotion of preventive measures and the education of health workers and the public about cholera. The people on this committee comprised of social workers, anthropologists, educators, biologists and doctors who shared with me their concerns and their fears about cholera. All of them were incredible human beings concerned with social change and with the well being of all the population. My experience working with them was very valuable, for I helped design educational materials ranging from pamphlets to posters, informing the public on how they could prevent acquiring cholera.

I feel that even though I contributed to the production of valuable

material, I lacked a greater understanding of the cholera disease, of its deeper causes and of the reasons why it had reached Latin America at that particular time. While conducting the research for my thesis, I became aware that the efforts of the individuals with whom I worked were very important and valuable, but I realized that in order for the cholera epidemic to be controlled, stopped and prevented from coming back in the future, deeper measures had to be taken. Only after I returned to Santa Cruz and began my research on cholera did I recognize the scope and the seriousness of the epidemic.

While in Costa Rica, I was able to conduct interviews and to gather material relating to the Costa Rican experience with the epidemic. Since this project encompassed the larger experience of cholera and the current epidemic in Latin America, other sources of information were required. I conducted most of my research using materials available within the UC library system. Much of my time was spent at the Public Health Library at Berkeley looking through books and journals and also at Berkeley's Main Library looking through the Peruvian newspaper El Comercio. In addition, I received publications from the United Nations, clippings from Brazilian and Ecuadorian newspapers and bulletins from the World Health Organization.

Since this epidemic was so recent, it was very difficult to obtain journals and more comprehensive literature directly from Latin America. I felt constrained by this fact, but I believe that social scientists in Latin America will soon begin to conduct studies relating to the social realities and impacts of the epidemic upon the populations. My initial plans for this project included the exploration of the effects of the epidemic upon different social classes and upon individuals and their families.

Unfortunately, studies have not been done and data on these topics does not exist to this date. This will be a task for the near future.

The History and Biology of Cholera

From the beginning of recorded history, medical historians have agreed that a disease with the same characteristics as cholera has often been described.¹ Historians have speculated that cholera was the cause of some of the great plagues of the Middle Ages. But, most who have studied epidemics from the past do think, though, that cholera has mostly been concentrated in the Bengal region of India and Bangladesh, along the rivers which have always been densely populated. According to them, India has always been the home of cholera and the disease very rarely appeared in other areas of the world until the beginning of the 19th century. As Robert Stock describes in his book Cholera in Africa, "definite evidence of the existence of cholera in India comes from the journals of European travellers to India following Vasco da Gama's pioneering voyage in 1498."² During the latter half of the eighteenth century, the establishment of the East India Company by the British provided the first routes for the disease to arrive in Europe. Consequently, many believe that the spread began as soon as trade and commerce were established between Asia and the west.³

Medical historians believe that the strain of cholera, that from the years 1817 to 1926 caused six pandemics around the world, originated in the city of Calcutta. Some argue that some form of cholera had been present previously in India, around the Ganges-Brahmaputra Delta and the Dutch East Indies, but only in an endemic form. Many hold the opinion that the industrial revolution contributed to the emergence of great unsanitary cities in India providing an environment where the cholera bacteria thrived. From this point on, transportation methods made it easy for the bacteria to travel to ports and cities around the world.⁴

The first cholera pandemic began in 1816 and lasted for seven years spreading through Asia and Africa. Historians have said that the speed and direction of the disease followed the speed and direction in which humans travelled.⁵ The first pandemic reached Russia in 1823 and by this time it had caused over one-half million dead. As Roderick E. McGrew described in his book Russia and the Cholera, "from the beginning, cholera has been a disease of massed humanity whose ravages have been most terrible where conditions of human habitation have been worse, where sanitation has been least developed and where debilitation of the population has undermined the capacity of resistance."⁶ In Russia, this was not different. Cholera made its most serious appearance among those sectors of the population where conditions of life were the worst.⁷

Since at this time the cause of cholera was still unknown, the epidemic caused various reactions among the Russian population. Some people accepted cholera as God's will; others fled the infected cities further helping to spread the disease; and still others revolted against the government. Revolts emerged because a sector of the population believed that their government had started the epidemic as a way to repress them and maintain the existing social order.⁸ Since the disease was taking a major toll in Russia without being stopped, "the cholera revealed both the inadequacy of public health administration and the essential weakness of Russian administrative procedures."⁹ Consequently, demands for governmental reforms emerged which were quickly suppressed.

By 1826, the second cholera pandemic began to spread from the Delta area of the Ganges. The disease travelled up the river with boatmen, moved with Indian troops, crossed the desert with caravans and arrived in the Middle East and in Russia once more. In 1831, the disease arrived in

Mecca and killed 20,000 pilgrims. The survivors carried the disease to Egypt and to Europe arriving in England by 1832.¹⁰ Cholera moved to the west: to Austria, Germany, France, England and finally to the Americas. By this time cholera had killed over 15 million people in the world and was causing great panic all over. "Wherever it appeared it brought dismay, dislocation, terror, and death."¹¹

In England, commentary was being made by all sectors of society. The British press played a big part in informing the population of what was happening but could not comfort anyone since the cause of the disease was still unknown. What was known was that not all victims came from the poor and working classes, but in addition the middle classes were also being hit by the epidemic. In R. J Morris' book Cholera 1832 he states his views about the epidemic in England, believing that the press played a big part in image making. He states, "It was not a picture of filth and poverty all the way, but those qualities so dominated the reports that it must have been easy for the respectable middle-class business owner, professional man or tradesman to say 'Cholera is not a threat to me.'"¹²

For the time, political and social realities made it easy to believe that disease was only a reality for the poor. The news that cholera in Hamburg was confined to beggars and vagrants made the British upper classes believe that cholera would not affect them. A physician at the time, James Kay, "believed that before the epidemic the prosperous capital-owning, manufacturing, trading and professional people of Manchester had well understood the lower and working class as posing a threat of riot, crime, political and trades union challenge . . . now they understood them as a threat of disease."¹³

Both James Kay and the political majority of the time assumed

that society was divided into two social groups - a respectable upper and middle class who held positions of power and considered themselves safe from cholera, against a lower class who were addicted to drink, were poor and dangerous and were in general victims of cholera.¹⁴ Since the lower class in England was much more dense in population relative to the upper and middle classes, there were more victims from the lower class. As R. J. Morris explains, "Inequality among classes was not just a matter of income, housing and education but a matter of life itself . . . class distinction at this time was based on occupational divisions and inequalities of property, prestige and power which created differences in life styles, opportunities and expectations."¹⁵ The relative geographical segregation of social classes was a key factor in differentiating the life chances of the classes in the face of cholera. "In four places of very different social and economic structure, the east coast port, the mining village, the merchanting and manufacturing centre of cotton textiles, and the county and the university town, the middle class made up 10 percent of the victims of cholera and the working classes 90 percent."¹⁶

The second cholera pandemic also reached the new world by 1832. It is believed that the disease was brought to Canada by Irish immigrants. With the rapid travel of these immigrants the disease reached New England, New York City and crossed the Appalachian Mountains to the Mississippi River, New Orleans and Texas. Theories point out that the major cause of contamination at this time was a number of public pumps and public water supplies all over the country. In addition, the precarious disposal of human wastes, especially by troops moving about the country, posed a serious threat. "The mystery which surrounded the coming of cholera to America enveloped also its departure . . . Many were those who

feared that cholera had become a permanent affliction of America even as it lingered always in the country of the Ganges."¹⁷

Cholera also invaded Latin America and the Carribean. There are no certain records but medical historians think it appeared in Chile, Peru and Ecuador in 1832. In 1833, Mexico was stricken, in both coastal regions and in the high plateaus. The disease remained in northern Mexico until 1850 and in southern Mexico until 1854. Also in 1833, cholera, apparently imported from Spain, ravaged the island of Cuba. From there it spread to Louisiana and South Carolina by 1835. Cholera appeared on the Guiana coast of South America in 1836 and 1837 but with little force. In Central America, Guatemala and Nicaragua, in addition to El Salvador and Costa Rica, some speculate, suffered devastating epidemics.¹⁸

By the end of the second pandemic, some scientists began to see obvious trends of the cholera disease. In England, "cholera had demonstrated the relationship between disease and the dirty, ill-drained parts of towns and had shown the need for drainage, sewage and filtered water supplies." After the pandemic was over, though, long-term responses were not clear and the people and the government seemed to go about their businesses as before. As R. J. Morris states, "the pandemic ought to have been a spur to sanitary reform . . . yet little action of this sort followed the epidemic."¹⁹

By 1837, the second pandemic faded but others followed through out the world, repeatedly, until 1936. Robert Stock, in his book Cholera in Africa, analyzes the tendency of cholera epidemics to subside. He states, "Cholera epidemics in a community contain the seeds of their own destruction . . . This results from the growth in the size of the cholera-resistant population and coinciding reduction of the susceptible

population . . . factors unfavourable to the continuation of the epidemic become dominant, the epidemic peak passes and the disease again becomes inapparent."²⁰

With the subsequent appearances of cholera in England and its horrible consequences, British scientists began to speculate about the cause of the disease. In 1849, a scientist by the name of John Snow published a pamphlet entitled "On the Mode of Communication of Cholera" where he described his observations on the cholera outbreak in London. Snow conducted a study along Broad Street in London, where there were numerous cases of cholera, and concluded that the source of contamination was water from a public pump. In his study, he also added that the disease "travelled along the great tracks of human intercourse, never going faster than people travel, and generally much more slowly . . . it never attacks the crews of ships going from a country free from cholera, to one where the disease is prevailing, till they have entered a port, or had intercourse with the shore."²¹ By doing his study and formulating theories, Snow came up with a significant explanation to the spread of cholera. At the time, his study was not accepted but it did lead other scientists to further investigate his ideas.²²

A new phase in the investigation process of cholera began after Snow published his work. It was only in 1883, that the German bacteriologist Koch was able to isolate the *bacillus vibrio cholerae* which allowed measures to be taken to combat the disease more effectively. Koch along with a group of German scientists had spent years trying to isolate the causative agent for the disease. His research first began in Alexandria, Egypt by conducting autopsies on cholera victims which enabled him to isolate the intestinal tract as the only part of the bodies

that showed pathological change. Koch was able to find many comma shaped organisms which he later grew and isolated in pure culture. Koch identified the organisms as being bacteria, labeled them as *vibrio cholerae* and conducted extensive studies on their properties.

Koch was able to determine that the cause of the disease cholera was the ingestion of the bacteriophage *vibrio cholerae*. If a cholera victim ingested the bacteria, found in contaminated water, food or faeces the victim would develop the symptoms; extreme vomiting, diarrhea, rapid dehydration, circulatory collapse and cramping. This was caused because the vibrios multiplied in the small intestines and produced exotoxins, "which acts upon the mucosal cells of the small bowel, causing them to secrete large quantities of isotonic fluid."²³ "The small bowel produces isotonic fluid faster than the colon can absorb it, and the result is a watery isotonic diarrhea. The rapid gastro-intestinal loss of isotonic fluid is responsible for all the clinical manifestations of the disease."²⁴

With the breakthrough discovery of Koch, many more biological and epidemiological studies were developed to understand the bacteria responsible for the cholera pandemics. It was later determined that the most common means of transmitting the disease was through polluted waters and through the contact of patients faeces with other healthy individuals. Many scientists began to postulate that a way to protect oneself was to have clean water and have communities with better disposal facilities. According to the historian Roderick E. McGrew, "Cleanliness in a personal and general sense was precisely what was lacking in 19th century urban slums and among the technically underdeveloped and culturally backward sections of Eastern Europe and Asia."²⁵

Medical and social historians believe that cholera was controlled due to measures taken by countries affected by it. Great Britain and the U.S. initiated better public sanitation projects preventing further epidemics in those countries. The British developed a technology of sewers, water-pipes and artesian wells which were invaluable in controlling cholera.²⁶ Advances in these areas allowed most of Europe to free itself from cholera by the end of the 19th century and for countries in the Middle East by the end of the sixth pandemic in 1923. This pandemic did not reach the Americas.²⁷

The cholera bacteria remained in the Ganges and Brahmaputra rivers of India in its endemic form after the sixth pandemic. Even in these areas, incidences of cholera declined with the scientific and epidemiological understanding of it, but cholera continued to appear particularly around fairs and festivals. As Robert Stock explains, "environmental conditions are conducive to its survival . . . in the cholera endemic areas in the Indian subcontinent."²⁸ It is known that cholera was reported during World War II in Europe, but the disease was quickly controlled at that time.

The seventh pandemic, which is the present one, began after cholera had been absent from most parts of the globe for almost 40 years. Scientists believe that this pandemic originated on the island of Sulawesi in Indonesia where the vibrio had also been found in an endemic form. The environmental conditions of Indonesia, as those of India, have made it possible for the cholera vibrio to survive. Occasionally, Jakarta and Singapore had been hit by cholera but scientists could not identify the origin of these outbreaks. As soon as cholera spread to other islands in the Indonesian archipelago, their theories were confirmed. Due to a

movement of travellers and of Chinese troops, cholera soon spread to China, Hong Kong and the Philippines. Since it had been a long time since cholera had been in these areas, the outbreaks were unexpected and there were long delays in the diagnosis and treatment of patients. This delay was believed to have facilitated the spread of the disease to many other countries in Asia and Africa.

By 1963, Bangladesh was hit and in 1964 west Bengal suffered a severe epidemic which reached areas of India and Pakistan very swiftly. The pandemic raged over areas in the USSR, Iran and Iraq by 1966. The eastern Mediterranean countries and North and West Africa were hit by 1970. For the first time since the start of the seventh pandemic, cholera spread very rapidly across a vast territory hitherto untouched by it.²⁹ Shortly after its introduction into a country, it spread following the coastline or the watercourses with fishermen and tradesmen and later reached other parts of the continent along land communication routes. "Cholera also made many raids into the industrialized countries during the 1970's, but effective surveillance activities and effective health services always prevented its effective installation in these countries."³⁰ According to the World Health Organization, cholera was introduced into Japan by sea and air but failed to spread due to efficiency of basic health services, surveillance activities, sanitation and water.

By the 1980's, the number of cholera case in the countries affected declined, but unlike other pandemics, the seventh reached many more countries than before. Cholera was brought to the United States by the early 1980's. Cases of unknown origin were reported in Texas and in Louisiana throughout the decade. The cases that appeared in Louisiana in 1989 and in 1990 were believed to be related to the consumption of raw

oysters harvested from the Gulf of Mexico. By 1990, only one region in the world remained untouched by the seventh pandemic: Latin America.³¹

Notes

¹ Chambers, J.S. The Conquest of Cholera: America's Greatest Scourge (New York: The Macmillan Company, 1938) 17.

² Stock, Robert F. Cholera in Africa (Great Britain: Clarke, Doble and Brendon Ltd, 1976) 14.

³ Chambers, J.S. The Conquest of Cholera: America's Greatest Scourge (New York: The Macmillan Company, 1938) 17.

⁴ Cockburn, Aidan. The Evolution and Eradication of Infectious Diseases (Baltimore: The Johns Hopkins Press, 1963) 56.

⁵ Chambers, J.S. The Conquest of Cholera: America's Greatest Scourge (New York: The Macmillan Company, 1938) 18.

⁶ Mc Grew, Roderick. Russia and the Cholera 1823-1832 (Madison: The University of Wisconsin Press, 1965) 6.

⁷ idem. 11.

⁸ idem. 12.

⁹ idem. 13.

¹⁰ Chambers, J.S. The Conquest of Cholera: America's Greatest Scourge (New York: The Macmillan Company, 1938) 17.

¹¹ Morris, R. J. Cholera 1832: The Social Response to and Epidemic (New York: Holmes and Meir Publishers, 1976) 14.

¹² idem. 21.

¹³ idem. 22.

¹⁴ idem. 22.

¹⁵ idem. 84.

¹⁶ idem. 11.

- 17 idem. 86.
- 18 Llopis and Halbrohr, A. "Historical background of cholera in the Americas," Epidemiological Bulletin, vol. 12(1), 1991, 10.
- 19 Morris, R. J. Cholera 1832: The Social Response to an Epidemic (New York: Holmes and Meir Publishers, 1976) 197.
- 20 Stock, Robert F. Cholera in Africa (Great Britain: Clarke, Doble and Brendon Ltd, 1976) 90.
- 21 Winslow. The Conquest of Epidemic Disease. p.272.
- 22 Mc Grew, Roderick. Russia and the Cholera 1823-1832 (Madison: The University of Wisconsin Press, 1965) 9.
- 23 WHO. Principles and Practice of Cholera Control (Geneva: WHO, 1970) 53.
- 24 ibid.
- 25 Mc Grew, Roderick. Russia and the Cholera 1823-1832 (Madison: The University of Wisconsin Press, 1965) 10.
- 26 Winslow. The Conquest of Epidemic Disease 1823-1832 (Madison: The University of Wisconsin Press, 1965) 273.
- 27 Stock, Robert F. Cholera in Africa (Great Britain: Clarke, Doble and Brendon Ltd, 1976) 90.
- 28 USAID. Interim Report of the Task Force on Cholera (Washington D.C: USAID, 1971) 8.
- 29 idem. 9.
- 30 "Cholera: The epidemic in Peru- Part 1." Weekly Epidemiological Record no. 20, 1991, 67.
- 31 Llopis and Halbrohr, A. "Historical background of cholera in the Americas," Epidemiological Bulletin, vol. 12(1), 1991, 11.

The Facts on the Spread and Scope of the Cholera Epidemic of 1991 in Latin America

Since the last century, Latin America had not suffered a cholera epidemic like the one that started in January of 1991 in Peru. In most countries of Latin America sicknesses, caused by gastro-intestinal and upper respiratory health problems, are very common and one of the major causes of child mortality. Due to extreme poverty levels, malnutrition and a lack of basic services, Latin Americans have become very susceptible to disease. In Peru, as in other countries in the region, the ideal breeding conditions for disease are present. In this country poverty is widespread and the absence of hygiene is alarming. It is not surprising that after years of economic crisis and social neglect a major epidemic began in Peru.

According to the Peruvian newspaper El Comercio, in late January of 1991, an increased number of deaths due to gastroenteritis and dehydration were reported in the coastal cities of Chimbote and Chancay. In Chimbote, during the course of five days, over 250 patients were seen at the "Hospital de la Caleta" with symptoms of massive dehydration leading to the death of 8 patients. Patients were treated on tables and chairs set up in the hallways of the hospital because of a lack of space and facilities. Unable to determine the cause of this sudden outbreak, characterized by extreme losses of liquid through vomiting and diarrhea, nausea and muscular spasms, the director of the hospital sent specimens to the laboratories of the National Institute of Health in Lima.¹

Word began to spread rapidly, by early February, that some sort of diarrheal disease had infected people in most of the major coastal cities of Peru including Piura, Trujillo, Chincha, Callao and Chiclayo. In Piura,

18 soldiers were reported sick with symptoms of gastroenteritis. An "epidemiological surveillance and national laboratory network" were set up throughout the country from January 24 to February 9, 1991, to determine the cause of the gastroenteritis outbreak on the coastal areas.² By the first week of February, an outbreak of cholera was suspected by the National Institute of Health but had not yet been confirmed. The results were still being awaited not only from the Institute's laboratories but also from those of the Cayetano Heredia University and the Navy-Army Medical Research Institute Detachment. On February 5, 1991 the National Institute of Health confirmed the cause of the outbreak to the *vibrio cholerae* 01, Inaba, biotype El Tor, isolated from patients stools and confirmed by the Center of Disease Control in Atlanta.³

The severity of the outbreak preoccupied health authorities in the coastal cities and in Lima. In Chimbote and Callao, hospital staff were obligated to set aside entire floors and hallways to accommodate and isolate patients with symptoms of cholera. In addition, hospitals only had a limited supply of oral rehydration therapy salts, used in the treatment of such cases, and not enough antibiotics to treat extreme cases.⁴ The only way the coastal provinces could deal with the beginnings of the epidemic was to declare a state of emergency due to a lack of facilities, health workers and resources. As an example, the "Instituto Peruano de Seguridad Social" declared a state of emergency in the city of Chimbote by allowing all public health centers to assist the population regardless of their status of insurance.

Responding to threats made by the Venezuelan government to turn away tourists from Peru, the Peruvian government publicly admitted the official cases of cholera in the country by the first week of February.⁵ In

a report given by the president of the "Instituto Nacional de Salud" Dr. Carlos Carrillo, the possible explanations of the beginnings of the epidemic were reported. Authorities speculated on many possibilities; the *vibrio cholerae* could have arrived in the northern port cities of Peru, brought by infected people from southeast Asia and India, or through contaminated foods including rice, wheat and other imported grains arriving on ships from ports in Asia.⁶ The vice-president of the Institute declared that samples of imported seafood and grains were being analyzed for suspected contamination. Authorities also believed that the disease had spread along the coastline by sea currents carrying contaminated waters and sources.⁷ The most affected areas were from Chincha, 200 kilometers south of Lima to Piura, 1,000 kilometers north.

The suspected cases of cholera in Lima, reported by February 6, 1991, encouraged the government of Peru to appeal for help abroad. In only one week, after the outbreak began, 5,000 cases of cholera had been recorded and 50 deaths reported. At this time, the World Health Organization, through its PanAmerican office in Washington D.C., created an emergency work group to study the possibilities for the Peruvian government to control and prevent the spread of the epidemic. The PanAmerican Health Organization (PAHO) came up with guidelines for Peru and other Latin American countries to follow since it predicted an inevitable spread of the disease to countries neighboring Peru. The guidelines consisted of basic treatment and preventive measures to stop the spread of cholera and discouraged the use of the vaccine against cholera since it only provided limited protection of short duration and diverted resources from other more effective methods of prevention.⁸

At the request of the Peruvian government and of PAHO, emergency

aid consisting of medicines, oral rehydration therapy solutions, and specialized cots began to arrive in Peru from Spain, Japan, Chile, Colombia and Brasil. In addition, the Peruvian congress voted for a budget allocation of \$ 4 million to be used in the emergency efforts.⁹ Encouraged by PAHO to initiate an aggressive educational media campaign, the Peruvian government started disseminating important measures to be taken by the population. The Health Minister recommended the following: only drink boiled water, only eat food that has been cooked thoroughly, wash your hands constantly and avoid eating raw seafood and buying drinks from the street. The last two measures were recommended due to the fact that authorities suspected the vibrio was being transmitted through uncooked fish and mollusks and through contaminated water. At this point the government also stated that it was not difficult to prevent the death of mild cholera patients if they were properly treated at home with rehydration therapy solutions consisting of water, sugar and salt before going to the hospital.¹⁰

The cases of cholera continued to emerge even though preventive efforts were being taken by the government. For example, many cases were appearing daily from the "pueblos jovenes", the new slums that lacked sanitation and potable water, in the city of Callao, close to Lima. Many cases of children were appearing due to a lack of precautions taken by adults affected outside the home and in consequence transmitting it to their families. Samples taken from food and drinks made by street vendors in the port cities showed that their products were contaminated. Not only were street vendors found to be a source of contamination, but also samples of the municipal waters of Chancay, Piura and Lima were found to be contaminated by faecal matter. According to "El Comercio" of

February 10, 1991, the ancient sewage and water systems of Lima, the lack of maintenance, cleanliness and disinfection of reservoirs, allowed for the contamination of the water systems in the city.

An epidemiological work group from the Center of Disease Control in Atlanta, Georgia arrived in Peru in mid-February. This group conducted a study to determine how the "vibrio cholerae" was being spread in the major coastal cities where a suspected 2500 to 3000 cases appeared daily. Epidemiological controlled studies were done that involved the team's assessment of the patients' diets and locations before the outbreak. Many patients reported having drunk unboiled water or drinks bought from street vendors. A study to determine the status of these drinks was done in the streets. The team collected samples of drinks and ice from vendors in Chimbote and found them to be contaminated with faecal matter, leading to the belief that they could also be contaminated with the vibrio. Further study took the team to the ice factories of Chimbote where it was discovered that ice was made from untreated tap water, that could also carry the vibrio.

In Piura, patients reported that they had gotten sick after drinking unboiled water from municipal wells. The team conducted tests and found that most of the water in these did not contain chlorine and that, in addition, water in wells, tanks and cisterns throughout the city contained faecal matter. After tests were done, the "vibrio cholerae" was found in most of these waters. In Trujillo, not only were the municipal waters found to be contaminated but also fruits sold in the streets, that were either cut open or unpeeled, such as watermelons, were also contaminated. With this study, some initial foci of the disease were identified by the team. After the studies were completed, the team recommended

preventive measures to the Peruvian government which were taken along with the measures recommended by PAHO.¹¹

Cholera reached Lima in full force by the second week of February, where more than 50 patients had entered the "Hospital Maria Auxiliadora". By this time, cholera had spread to the coastal cities of Chiclayo and Pacamayo and had reached the southern cities of Tacna and Moquegua, close to the border with Chile. This quick spread led the Peruvian government to determine that fish was another possible source for the transmission of cholera. One of the reasons they believed fish had been contaminated was because of the desposing of untreated sewage water into ocean water. This put at risk all of the coastal population that consumed fish caught near the coast. Due to the contamination of ocean water, the Health minister asked the population not to eat raw fish in "ceviche" and not to bathe or go to the beach near sewage disposal areas because these were areas of great risk. The municipality of Miraflores closed its beaches of "La Pampilla" and "La Estrella" because of proof of contamination.¹²

"El Comercio" announced the spread of cholera to the "sierra" area with cases in the city of Huaraz. Authorities believed that this spread was caused by people infected on the coast travelling to inland areas and contaminating the water supply. Due to the hot temperatures of the summer season, the humidity caused by the rains, and the rise in the levels of the rivers, the "vibrio cholerae" had the perfect environment it needed to survive and spread. This was proved by the rapid spread of cholera to the lower Amazon Basin region of Peru by the beginning of March. Most of the cholera cases were reported in areas right along the rivers including on the Rio Maranon.

By the end of February, the disease made its way to the city of Huaquillas, Peru, close to the border of Ecuador. By mid-March, when cases of cholera were being reported in Ecuador, in its southern state of El Oro, the number of cases and deaths due to cholera in Peru had skyrocketed to 71,811 and 308 respectively. Cholera had spread to 13 of the country's 25 provinces. Since diseases do not respect borders and since the standards of sanitation in certain areas of Ecuador were very similar to those of Peru, cholera became a threat to the Ecuadorian people. By March 22, 1991, there were 579 confirmed cases of cholera in Ecuador.¹³

According to PAHO, it was only a matter of time for cholera to spread to other countries in South America. PAHO's predictions were correct when, by late March, cholera arrived in Colombia, on its Pacific coast via Ecuador. The next country to be hit was Brazil, with 5 confirmed cases of cholera in the upper Amazon Basin region close to the border of Peru on April 25, 1991. The first cases of cholera in Brazil appeared in late April. It is believed that cholera arrived due to the movement of travellers on the Solimoes River coming from the city of Iquitos, which reported its first cases in March, through Leticia across the Peruvian border to Brazil. Nine people presented symptoms of cholera, in the city of Tabatinga, and later were confirmed as having the disease. Some of them came from the island of Santa Rosa which is located in the upper Solimoes river just across the border from Peru.¹⁴

Contrary to what had been expected, the first cholera case that appeared in Chile was not close to the border with Peru, but in Santiago at the end of April. The government of Chile, in order to explain the appearance of cholera, became very suspicious of vegetables irrigated

with untreated water mixed with raw sewage, and ordered the destruction of these crops. In addition, in Chile, money meant to be invested in low-cost housing units was diverted to provide safe water for watering gardens.

The first cases of cholera in Argentina appeared in early May. Again, as in the case of Chile, the case did not appear in the Northwestern part of the country where it was expected, but further south in the province of Mendoza. It was reported that three tourists, a Chilean and two Japanese, who were travelling from Chile, had the disease. In the capital, authorities began to share similar suspicions with Chile and ordered the destruction of some crops and a tight surveillance of fresh seafood and vegetables served in restaurants.¹⁵ In Venezuela, some cases were reported in late May across the border with Colombia. In Peru, the epidemic had accelerated to the eastern jungle and slowed down along the coast due to the implementation of emergency measures. By the end of April, 163,000 cases of cholera had been reported in South America with 98% of the cases being in Peru.¹⁶

Quite unexpectedly, the next country to report cases of cholera was Mexico. In late June, the first confirmed case of cholera appeared in the town of San Miguel Totolmaloya, located in the mountains 75 kilometers southeast of Mexico city. Since the access to this little town is almost impossible by road, the Mexican government believed that cholera was brought by drug traffickers from South America flying onto illegal airstrips in the region.¹⁷ Cases in this town quickly began to multiply because people drank water from rivers and wells that were contaminated. Cases also quickly appeared in the state of Chiapas, bordering Guatemala, and in Veracruz, on the Gulf of Mexico.

Central America, with the exception of Costa Rica, was the region seen to be at most risk because of its precarious economic and political structures that do not offer adequate basic services to its population. Not surprising, because of its borders with Mexico and the widespread levels of poverty, the first country in Central America to be affected by the epidemic was Guatemala. On July 26, 1991, 4 cases of cholera were confirmed and 53 were believed to be possible. Samples taken from the Naranjo River, bordering Mexico, found it to be contaminated with the vibrio which threatened the health of thousands of people. Cases multiplied and in the departments of San Marcos and Retalhuleu many were affected.¹⁸

By late August, both El Salvador and Bolivia reported cases of cholera in their major cities of San Salvador and La Paz. In Bolivia, the first cases were identified near La Paz in an area, just as in Chile and Argentina, that supplied nearly half of the fresh vegetables consumed by its urban population.¹⁹

The next countries to report cases of cholera were in Central America. Experts believed that the rapid spread of cases in this region was facilitated by the drought "El Niño" caused, which had been the most severe in ten years. They speculated that the already limited availability of potable water of the reservoirs in these countries was greatly reduced by the drought. Cases appeared by September in Panama, by October in Honduras and by November in Nicaragua. The only country that had not been affected by cholera in Central America, by December of 1991, was Costa Rica. By October 10, 1991, more than 1,121 cases of cholera had been reported in Central America with death rates much higher than in Peru²⁰ and by November 11, 1991, 332,331 cases and 3,406 deaths were

reported throughout Latin America.²¹

Even though the cold weather in August reduced the outbreaks in South America, the disease continued to spread internally in each country affected by it.²² In Peru, preventive measures taken by the government and the population, caused the incidence of cases in the coastal cities to diminish but cases in the Amazon basin continued to increase. In Colombia, a similar pattern developed by September of 1991. Cholera spread to new areas away from the Pacific coast, such as the middle Magdalena valley. Some authorities have speculated that the isolation of populations in some areas, has hindered information and care from arriving on time.

Indian populations are believed to have been hit hard by cholera both in Panama, in the jungle bordering Colombia and in the jungles of Colombia. In the isolated areas of La Sierpe, Colombia, the mostly Indian population has been badly affected. Many Indian deaths have been reported either caused by the unavailability of care, which is difficult to attain due to distance and transportation problems on rivers, or due to the unwillingness of Indians to search for care. Some Indians in these areas have resorted to their traditional doctors, the "jaibana" or "man of spirits", whom have been unable to cure cholera, consequently resulting in many deaths.²³

In other areas, most outbreaks of the epidemic have been traced to poor rural villages with no water purification or sewer systems, as in the case of Mexico. Mexican authorities believe that cholera was brought to small towns by immigrants from South America and Central America. From its arrival in June until September 14, 1991, cholera had affected people in 1/3 of Mexico's 31 states. ²⁴

Reports from Chile, by late August, stated that even though additional cases of cholera had not appeared and the disease had been controlled, waters near the Peruvian border and in the capital remained infected. Experts in the the Public Health field believe that more sophisticated infrastructure and rapid public response to preventive measures was able to contain the epidemic in Chile more rapidly than in other countries. 25

In Brazil, contrary to the predictions of the Brazilian government who stated that cholera would be controlled at the borders with Peru and Colombia, outbreaks of the disease continued to appear after April. The vibrio travelled further down the Solimões River hitting many bordering towns until its arrival in Manaus, the capital of the state of Amazonas. This spread was possible due to the precarious sanitary conditions in towns and on boats travelling along the rivers of the area. Authorities stated that Amazonas was the entry doorway to the spread of the epidemic in Brazil, arriving in December either by river, road or air into the nine Brazilian states of Amazonas, Amapá, Rondônia, Mato Grosso, Rio de Janeiro, Pará, Minas Gerais, São Paulo and Ceará.²⁶

The cases that appeared in the cities of São Paulo and Rio began to worry authorities, for these were two overpopulated urban areas with limited sanitation and water infrastructures. The rapid isolation and treatment of an Ecuadorian businessman returning from Ecuador to his home in São Paulo and of a soldier arriving from the state of Roraima, had the authorities hoping that the epidemic would not be spread in these two major cities. In the case of the businessman, there was no reason to worry, for he came back to an upper middle class neighborhood where proper sanitation facilities existed. It was the soldier that returned to

his home in the "favela" or shantytown of "Vila Joaniza" that worried authorities. In this "favela" an underground sewage system does not exist; thus waste matter runs openly down the streets to the Bay of Guanabara. This caused the Health officials in the city of Rio to take preventive measures and to close two beaches along the Bay of Guanabara until samples and tests could be done. By December 24, 1991 the cholera epidemic had caused 852 cases and killed over 20 people in Brazil.²⁷

By November 22, 1991, an estimated 332,331 cases and 3,406 deaths had resulted from the cholera epidemic in Latin America that began in Peru, in late January of 1991. Approximately 15 countries had been hit, successively, by the disease in a matter of months. The spread and scope of the epidemic reached alarming proportions and many governments were forced to mobilize and take preventive and controlling measures. Not only did these governments want to control the epidemic because it had become a public health threat, but also for many countries, most distinctively Peru, the epidemic presented serious economic and political threats and consequences. The epidemic caused countries that bordered and were involved in trade with Peru, to take extreme measures which consequently threatened Peru's already ailing economy. Measures taken by the Peruvian government along with those of the Pan American Health Organization and other Latin American Countries were successful to a certain degree. At least the predictions made by the World Health Organization, in May of 1991, that more than 3 million people could be hit by the disease had not yet materialized.²⁸

Notes

1 "Mueren ocho personas por deshidratacion en Chimbote," El Comercio, February 2, 1991.

2 "Cholera - Peru 1991," JAMA: The Journal of the American Medical Association, March 13, 1991, 1232.

3 *ibid.*

4 "Epidemia del mal del cholera mata a 23 en el pais," El Comercio, February 5, 1991.

5 "Wildfire spread of cholera epidemic," Latin American Weekly Report, February 21, 1991, 2.

6 "Virus asiático habría ingresado a Peru por los portos norteños," El Comercio, February 5, 1991.

7 "Wildfire spread of cholera epidemic," Latin American Weekly Report, February 21, 1991, 3.

8 "Back to the Time of Cholera," Development Forum, March-April 1991, 13.

9 "Wildfire spread of cholera epidemic," Latin American Report Review, February 21, 1991, 3.

10 "Virus no se combate con remedios ni vacunas sino con precaucion," El Comercio, February 6, 1991.

11 Jackson, Duc. "The Cholera Epidemic in Peru." Epidemiological Study for the Center for Disease Control in Atlanta. UC Berkeley, Lecture, October 31, 1991.

12 "Miraflores Cierra desde hoy do playas," El Comercio, February 12, 1991.

13 "Colera: Secuela de Muerte," El Universo, February 22, 1991.

14 "A Cólera Volta para Ficar," Jornal de Brasilia, April 30, 1991.

15 "First cholera case in Argentina," Latin American Weekly Report, May 16, 1991.

16 "How far cholera may spread," Latin American Weekly Report, May 2, 1991.

17 "Mexico fights cholera but hates to say its name," New York Times, September 14, 1991.

18 "Deadly cholera arrives in Guatemala," Central American Report, August 10, 1991.

19 "Preparation for resurgence of cholera," Latin American Weekly Report, September 12, 1991.

20 Ibid.

21 Ibid.

22 "Cholera Update," AWWA Mainstream (American Water Works Association, August, 1991) 1.

23 "A continent adrift on red ink," L.A. Times, August 15, 1991.

24 Ibid.

25 "Taking no chance with cholera," Latin American Weekly Report, August 15, 1991.

26 "Cólera ja Atinge Também e Nordeste," Correio Braziliense, December 24, 1991.

27 "Perto do Perigo," Veja, December 4, 1991.

28 "How far cholera may spread," Latin American Weekly Review, May 2, 1991.

Preventive and Controlling Measures Taken by Governments Against Cholera and Economic and Political Consequences

According to the article "Back to the time of cholera" found in the report Development Forum, published by the United Nations Department of Public Information, many public health experts believe that the cholera epidemic was controlled effectively during 1991.¹ Contrary to the WHO's predictions that more than 3 million people would be affected by the epidemic, the numbers remained under 400,000. The quick action taken by the local authorities in Peru, in addition to emergency responses of the international health community, are believed to have been key factors in controlling the epidemic. The Pan American Organization was certainly a major advisor and participant in these responses. Not all responses to the epidemic, though, were beneficial to the Peruvian experience. Some Peruvian measures affected important economic sectors in the country and produced political turbulence. Abroad, many countries in Latin America and in the world were alarmed by the news of cholera. Consequently, many measures, in addition to the emergency aid responses, were taken against Peru.

By the time the cholera disease had been identified in Peru and the initial preventive measures had been taken, the government of Peru found itself in a difficult situation. Fears of becoming subject to trade restrictions, which would have a serious effect on its economy, delayed Peru's initial recognition of the epidemic.² Caught between the severity of the outbreaks along the coastal cities and political pressures from abroad, the Peruvian government declared a state of national emergency.

Almost immediately, the Health Ministry began diffusing measures to the Peruvian population through the communication networks. The

preventive measures included: avoid eating raw seafood, avoid consuming food and drinks from street vendors, avoid buying fruits and vegetables that do not have peels or that have been opened, only drink boiled water, wash hands constantly and disinfect latrines and bathrooms.³ For that part of the population, with resources, these measures were feasible but for those living in impoverishment, the same measures were either impossible to take or caused problems. It is not unusual that most of the cholera cases came from the poor areas of the cities affected. The impoverished population did not have resources to boil their water or depended on the sales of drinks in the street for their and their families survival.

Due to the rapid spread of the disease and an atmosphere of panic, some of the population began to follow the measures. Unfortunately, the government had not calculated the internal havoc these measures would cause. Suddenly, the sales of seafood dropped sharply and fishermen began appealing to the government to stop promulgating measures.⁴ Hundreds of street vendors, who made a living from selling "ceviche", were being removed from the streets of Lima, causing large scale confusion and problems.⁵ How else were these workers going to make a living? People who could not afford to buy safe vegetables and fruits or to boil their water continued being at a great risk.

The internal confusion culminated in March of 1991, when Health minister Carlos Vidal Layseca resigned in disagreement with President Fujimori over how to handle the cholera emergency. Both officials had different opinions on the measures to be taken regarding the epidemic. President Fujimori rebutted Vidal's warning against eating ceviche for this measure caused panic among the importers of seafood from Peru,

resulting in export restrictions. To drive his point, President Fujimori, along with the fishing minister, ate ceviche in front of television cameras to stress the safety of seafood caught in the high seas of Peru. On the other hand, the Health minister did not have exports in mind but rather, the health of the population. Vidal stressed the dangers of the "poor man's ceviche" which was made with fish caught in the highly polluted coastal waters of Peru. Vidal added that the handling and preparation of this dish by the poor population could be so unhygienic that the contamination could still be present.⁶ As a result of Vidal's resignation, President Fujimori appointed Dr. Victor Yamamoto, the director of the "Universidad Cayetano Heredia's" hospital, as the new health minister.

In a private report, the former Health Minister stated that tensions began to develop when he and the president were in disagreement over how to report the cases of cholera. At the outset of the epidemic, Fujimori instructed Vidal to report the cholera cases as cases of "acute diarrhea of unknown origin." Vidal refused to report this and believed that tensions mounted between them after this incident.⁷ While Vidal concentrated on the health of the population, President Fujimori wanted to concentrate on the health of Peru's export sector.

It was not naively that Fujimori was preoccupied with the economic consequences of the cholera epidemic to the Peruvian economy. By the second week of February, Mexico, Venezuela, Colombia, Ecuador, Bolivia, Chile, Argentina and Brasil prohibited the import of Peruvian foodstuffs, most importantly of seafood, and established strict control of Peruvian immigration through the borders. The government of Chile asked Peru to suspend for 15 days the train service through the border until preventive measures could be instituted in the area.⁸ By February 17,

1991 the government calculated that Peru had lost over 130 million dollars from the import restrictions established by its neighboring countries.⁹

Already by the end of the first month since the epidemic started in Peru, countries in Latin America began to take additional steps to prevent the spread of cholera. Mexico established a "cordon sanitaire" against travelers and food arriving from Peru. Colombia, Bolivia and Nicaragua established prevention committees to begin prevention campaigns. Guatemala and Paraguay established controlling measures at airports and ports of entries. Brazil declared tighter control along its borders with Peru. Chile prohibited fishing close to the border with Peru. Venezuela declared a state of national alert. Puerto Rico took measures to check its water supplies.

The news of the epidemic quickly reached Europe. Great Britain, France, Germany and Spain announced restrictions in the importation of Peruvian food products and prohibited all importation of frozen foods including seafoods.¹⁰ After Japan declared trade restrictions, the Peruvian government quickly launched campaigns abroad to minimize economic damage. Peruvian authorities argued that their exports were free from contamination because the extreme temperatures involved in the freezing and canning processes guaranteed the safety of exported foods. By the end of March, the Andean countries lifted their ban on Peruvian food exports. By April, though, the Export Association of Peru (ADEX) along with the Peruvian Maritime Institute (IMARPE) had claimed that only restrictions of Peruvian frozen fish by other countries had themselves caused losses of 50 million dollars.¹¹ Not only was the epidemic causing human suffering; it also caused further suffering to

Peru's already ailing economy.

The PanAmerican Health Organization had an important role in reducing Peru's problematic situation. In addition to issuing control measures for the epidemic, PAHO launched information campaign ads that sought to prevent further unnecessary damage to Peru's economy. The organization issued lists of foodstuffs that were free from infection and disapproved quarantines set by countries, which had resulted in the destruction of valuable food exports. PAHO also engaged in special efforts to calm tourists by advising them to take common sense precautions if they were to travel to Latin America.¹² By this time, the Peruvian tourism industry was also threatened by the cholera epidemic for less tourists were willing to go to Peru and take the risk of getting sick.

Even though countries took measures of precaution which indirectly may have had a negative effect on Peru's economy, these same countries were providing aid to Peru. For example, Latin American countries were very quick in providing aid for the emergency. Cuba was the first country to send a group of doctors and specialists in epidemiology and Brazil was the first to fly 12 tons of medicine and medical equipment to Peru. The European community sent aid and money to a fund set up by PAHO. Spain, the U.S. and others sent specialized medical teams and supplies. In addition, non-governmental organizations such as Séours Catholique France, Save the Children and Médecins sans Frontières were quick in providing assistance to the Peruvian government.¹³ Assistance from abroad was definitely valuable in both controlling and treating the disease; however, according to the Development Forum, most of the work was done by Peruvian health workers.

Realizing the dangers of the epidemic, many Latin American countries soon began to take emergency actions to prevent cholera from arriving and spreading in their countries. The Peruvian reality served as a learning experience for other countries and the mobilization of health workers and whole populations became essential for preventive programs. For example, seeing the severity of the epidemic in Peru, Costa Rica established a committee to prevent and control cholera. By the end of 1991, Costa Rica was the only country in Central America where cholera had not arrived. The main reason for this was that basic infrastructure in Costa Rica was of better quality than other Central American and most Latin American countries. In addition, the Costa Rican government set up a "National Committee for the Prevention and Control of Cholera" which mobilized the whole country and proved to be very effective .

Costa Rica's program serves as an example of similar measures taken by other governments including Peru. All programs required rapid action, planning and organizing by many people at all levels. The prevention program mobilized various institutions in Costa Rica by April 1991. Among them the Health Ministry, the Education Ministry, the University of Costa Rica, the "Caja Costarricense del Seguro Social" (Costa Rica's Social Security Office), the "Instituto Costarricense de Acueductos y Alcantarillados" (Costa Rica's Institute of Aqueducts and Sewers), "La Cruz Roja en Costa Rica" (The Red Cross in Costa Rica) and the regional office of the Pan American Health Organization. The main objectives of this program were the following: to strengthen epidemiological surveillance of diarrheas, especially of cholera and to promptly identify and analyze data in order to apply actions to control any spread; to elaborate and apply norms for the handling of patients outside

and inside a medical facility by educating the community and health personnel; to reinforce the national laboratory network for prompt identification of disease and to install a reference center where information can be acquired; to improve sanitation by reinforcing the monitoring of water quality and quality of foods; to establish a program for the promotion of health education geared towards the prevention, management and control of cholera involving the training of educators and the use of the communication network.¹⁴

In order to achieve the above objectives, the National Committee was organized into sub-committees having special tasks to work on. The "Subcomisión de Diagnóstico" (Diagnostic Commission) was responsible for training microbiologists in isolating and identifying the *vibrio cholerae* and organizing a national network of diagnosis. The "Subcomisión de Vigilancia Epidemiológica" (Epidemiological Commission) was responsible for making recommendations and determining measures in order to control and prevent the disease. The "Subcomisión de Manejo Clínico Terapéutico" (Clinical Measures and Treatment Commission) was responsible for designing the norms and measures that health facilities, from small rural clinics to urban hospitals, were to use in the diagnosis and treatment of patients and in the disposal of contaminated materials. The "Subcomisión de Promoción y Educación" (Promotion and Education Commission) was responsible for training health workers, educating the public about the disease and applying preventive measures recommended by the other sub-committees. The "Subcomisión de Saneamiento Ambiental" (Environmental Sanitation Commission) was responsible for determining measures for alleviating the dangers of food and water contamination and in designing short and long term plans in improving the

water and sanitation systems.¹⁵

All of the above sub-committees were headed by a representative who reported accomplished work and activities to the main Coordinator of the national committee. In an interview, the coordinator, Dr. Luis Antonio Menezes, expressed the importance of all preventive measures and the readiness of health workers and the population in controlling the epidemic, which was certainly going to arrive in Costa Rica at some time. He pointed out the accomplishments of the committees which had formulated manuals and training programs and were diffusing guidelines for the population through the media. Dr. Menezes pointed out that measures were basic, such as avoiding eating on the streets and washing food before eating it, for he believed that most of the population had become relaxed in regard to basic hygiene and thus were at high risk. He believed that the relaxation of the people combined with the neglect of authorities in the areas of health and sanitation, especially during the 80's, posed a big threat to Costa Ricans.¹⁶

Dr. Menezes mentioned two problems which the National Committee had encountered during its development and campaigning efforts. First, was the lack of money that restricted the work of a few committees. He stated that there was not enough money to apply most of the measures the committees recommended. For example, there was very little money available for the printing and distributing of educational pamphlets and posters. There was barely enough to pay for commercials and ads in the media, including radio, newspapers and televisions. When it came to preparing clinics and hospitals for receiving cholera patients, the cost estimates were very high. Costa Rica was not yet receiving emergency aid from abroad because no cases of cholera had been found.

So, the costs of buying specialized cots, disposable clothing and bags, and more medications were extremely burdensome.

Another problem that had presented itself was the panic caused among the population that cholera could arrive in Costa Rica. Dr. Menezes mentioned that the sales of rehydration fluid increased tremendously and that public schools were reporting that parents were not allowing their children to eat there.¹⁷ Even the municipal government of San Jose became alarmed with the threat of cholera and took measures. The city's police forced street vendors without permits off the streets, since they did not abide by the hygienic standards enforced by the city government. These actions, in turn, resulted in the first political demonstration ever, since the 40's, by street vendors of San Jose. The demonstration led to the pillage of the city's government building and neighboring stores, leading to the inevitable arrest of dozens of demonstrators.¹⁸

When I asked him about the epidemic in Peru and the Peruvian response in an interview, Dr. Menezes responded that the outbreak and severity of the epidemic had not surprised the medical community in Costa Rica. He stated that diarrheal diseases were common in most countries of Latin America and that cholera was just one among these. He did believe, though, that the impact in Peru was intense because of the low living standards of the Peruvian population with the majority living in poverty. He praised the preventive and controlling measures which the Peruvian government undertook, stressing the important role the Pan American Organization occupied during the process. The Pan American Health Organization also offered valuable advice for Costa Rica's Prevention Committee. Dr. Menezes added, though, that in order to avoid future epidemics more would have to be done in improving sanitation and

providing health education for all.¹⁹

Notes

1 "Back to the Time of Cholera," Development Forum, March-April 1991, 13.

2 "Cholera epidemic goes on spreading," Latin American Weekly Report, May 9, 1991.

3 "Declararan en emergencia la salud del pais," El Comercio, February 7, 1991.

4 "Llegara ayuda Internacional por epidemia," El Comercio, February 9, 1991.

5 "Declararan en emergencia la salud del pais," El Comercio, February 7, 1991.

6 "Cholera claims first political casualty," Latin American Weekly Report, March 28, 1991.

7 *ibid.*

8 "OMS teme que colera se propague a otros paises de America Latina," El Comercio, February 12, 1991.

9 *ibid.*

10 "Alarm over cholera epidemic in Peru," Latin American Regional Report: Andean Region, March 7, 1991.

11 *ibid.*

12 "Back to the Time of Cholera," Development Forum, March-April 1991, 13.

13 *ibid.*

14 Ministerio de Salud, Plan de Accion para la Prevencion y Control del Colera (San Jose, Costa Rica, 1991.)

15 *ibid.*

16 Menezes, Luis Antonio. Personal Interview. San Jose, Costa Rica, September 7,1991.

17 ibid.

18 "San Jose frena venta callejeras," La Nacion, July 20, 1991.

19 Menezes, Luis Antonio. Personal Interview. San Jose, Costa Rica, September 7,1991.

The Explanations for the Current Cholera Epidemic in Latin America

Nearly one century after the cholera disease last appeared in Latin America, it has returned, killing and plaguing the most disadvantaged sectors of the Latin American population. Dating back to the 1880's in England, it has been known that bad environmental sanitation and particularly a lack of adequate supplies of fresh water seemed to be the fundamental factors in the spread of cholera. Due to the very slow and mostly class related developments in the implementation of sanitation and water supply in Latin America during the last century, it was only a matter of time before cholera returned and caused its damage once more. As a group from the International Water and Sanitation for Health Project points out, "the current epidemic results from the long-term neglect of sanitation and availability of potable water." For example, in Peru in 1989, 41% of urban and 82% of rural dwellers were without sanitation facilities and safe water.¹

The medical historian Rosen pointed out in his book The History of Public Health in 1958 that "we must be continually reminded that epidemic disease is a social phenomena which cannot be divorced from organized society and its problems."² Throughout the history of the cholera disease, it has been known that cholera took its heaviest tolls among people who lived jammed together in urban slums or among the rural poor who were frequently malnourished and lived in unhygienic conditions. It was known that the wealthy could be affected by the disease, but only if they lived close to the poor areas of cities. This identification between poverty and cholera was noticed in Europe and the United States in the 1890's "where social thought seemed to be advancing

and public health planning became a priority."³ In these areas, the development of sanitation, potable water distribution, and adequate housing was widespread and the dangers of infectious epidemic diseases was greatly reduced.

According to the reports on the Latin American cholera epidemic today, cholera is being called "the disease of poverty and neglect." It has become well known that living conditions have deteriorated to such an extent in poor neighborhoods of most Latin American urban centers that the outbreaks of deadly diseases are being reported regularly.⁴ It is not surprising that the cholera bacteria found ideal conditions in Peru and in most Latin American countries, where it arrived afterward. As a health and economic expert expressed in the Development Forum,

Peru's cholera epidemic is symptomatic of the enormous economic and social stress that Peruvians (Latin Americans) are undergoing, the direct result of neglect and impoverishment, what is known as the "lost decade" in Latin America's development. While the underlying poverty permits such epidemics, like Africa's famines to remain, the safety nets of preparedness and concerted response have unquestionably reduced the suffering that comes with the plagues of old times. The tragedy is that the high technology emergency system that can be assembled in a matter of days is needed to combat a plague that should have been left behind in the 19th century.⁵

One of the arguments presented in the face of the cholera epidemic, which health experts believe will become endemic in Latin America, is that government "neglect" has led to the crisis. As Ken Silverstein in his article "Cholera and Austerity" points out, "Most Latin leaders have rarely demonstrated much interest in the well-being of the poor, who are, of course those who pay the price for decrepit health care systems."⁶ Many examples would support Silverstein's point. During my

past visit to Costa Rica, sanitation and health experts were demanding that the government reactivate the sewage treatment plant outside the city of San Jose which had not been working for 10 years. Most of the untreated sewage had been dumped into several rivers and lakes around the city's outskirts. The government declared that it had no funds to repair the only plant in the central region. At the same time, though, the government had spent many millions of "colones" in reforming the entrance of the post office building, lavishly decorated and autographed by president Rafael Guardia Calderon, and was beginning the construction of a new plaza that displaced lower class residences.

Unfortunately, the misuse of government funds has been widespread throughout Latin America. As the former Health Secretary of Rio de Janeiro state wrote recently, " The diseases of misery have never moved the . . . elite. Government officials, as a rule, would rather ignore or falsify statistics to escape problems that don't interest them."⁷ The consequences of this attitude have not only put the poorest in danger of dying from cholera but have also frightened many middle-class and upper class people because cholera does not respect class divisions.

The actions of governments that have not addressed the health problems of the poor in Latin America also results from the unequal distribution of power and money that exists in most societies. Vicente Navarro puts into perspective in his article "The Political and Economic Origins of the Underdevelopment of Health in Latin America" the reasons for the unequal distribution of health in a larger context. He states,

The highly skewed distribution of human resources in Latin America is a symptom of the maldistribution of resources in the different sectors of the economy, a maldistribution that is due to the economic and cultural dependency of Latin American countries and to the control of

the distribution of economic and social resources (including health resources) in those countries by a national lumpenbourgeoisie with links with foreign counterparts.⁸

According to Vicente Navarro, private and social security cover not more than 25 per cent of the population while consuming over 60 percent of all health expenditures, while 70 percent of the population consumes under 40 per cent of all expenditures.⁹

For Navarro, maldistribution of health resources is caused by the same factors that cause underdevelopment in Latin America. He believes underdevelopment in Latin America is not caused by (a) the scarcity of the proper "values" and technology in poor countries, (b) the scarcity of capital or (c) the insufficient diffusion of capitals, values and technology from developed society to the underdeveloped country's enclave and from the enclave to the rural areas, but quite the opposite. He believes that underdevelopment is caused by the existence of Rostow's "conditions for development." These are (a) too much cultural and technological dependency, and (b) the underuse and poor use of existing capital by certain national and international groups who have control of those resources.¹⁰ Navarro adds that the main cause of underdevelopment is control of the economy by a small percentage of the population.

Underdevelopment and cholera in Latin America are intertwined. Since, as Navarro points out, underdevelopment is caused by the control of the economy by a small percentage of the population, only the needs of that small population have been met. Among these needs are education and basic services such as sanitation and potable water which, evidently, has not yet reached the majority of the population.

In addition to the unequal distribution of basic resources and to poverty in Latin America, many experts believe that the recent economic

crisis in many countries have drained available resources from health and sanitation and thus allowed the cholera epidemic to be widespread. The economic problems that Latin American governments face are the repayment of the foreign debt, capital flight, slow economic growth and harsh austerity programs imposed by the International Monetary Fund and foreign banks.

Latin American countries began to borrow money from aggressive foreign bankers during the 1970's. At the time, governments saw that loans could increase internal growth which was demanded by an increasing urban poor who needed employment and from dominant classes who felt the need to industrialize in order to produce wealth. Foreign loans enabled states to develop infrastructural projects, heavy industries and stateowned corporations creating an "appearance of development" by enhancing national enterprises and social wages. According to John Walton in his article "Debt, Protest and the State in Latin America," development was established but along with it came a lot of corruption and not enough investment in sound developmental ventures that would offer future returns.¹¹

As a consequence of the oil price shocks of the 1980's and a world economic crisis, international trade decreased, Latin American exports fell and interest rates rose rapidly. Money began flowing out of Latin America very rapidly and new loans were acquired to meet interest payments corresponding to the original loans. During the 1980's, Latin America's foreign debt rose from \$330 billion to nearly \$450 billion due to outflow of money meeting interest payments and adjustment rates.¹² In Latin America, only 8.4 percent of the incurred debt has been used for domestic investment and the rest has been squandered on lavish spending

and investments abroad. Meanwhile, as capital flight rose, incomes declined.

According to the article "In the Time of Cholera: Death and Debt in Peru" in the magazine Commonweal, "lower incomes force poor people to choose foods that are cheaper and more easily satisfy feelings of hunger, but have far less nutritional value . . . At the same time many poor workers must work longer and harder for less income, and the share of working women with second jobs increases rapidly . . . and, as investment in water and sewage infrastructure diminishes and older systems begin to fall apart for lack of maintenance, the kind of slow improvement in sanitation that had been a part of development begins to reverse."¹³ In addition, reduced domestic spending, imposed by the IMF austerity plans, in turn, have obligated governments to apply cuts on wages, health, education, welfare and subsidies for basic goods.¹⁴ If previously, little had been done in improving the living standards of the poor, the economic crisis in Latin America has only worsened the possibility for anything to get better.

The consequences of the economic crisis upon the poorer populations of Latin America have been many. For example, rural populations have migrated to urban areas of Latin America in search for better jobs and for a better life. Due to poverty, to natural disasters such as droughts, to increasing mechanization of agriculture, to increasing production of export crops, and to political violence in the countryside, as in the case of the Sendero Luminoso or Shining Path in Peru¹⁵, rural dwellers have been forced to flee to the cities. Upon arrival in huge urban centers, country folks discover that there are few opportunities for jobs and for survival. Shantytowns begin to appear, without basic

infrastructure, in order to accomodate the newly arrived masses.

The circle of poverty repeats itself. In the urban slums, people are forced to live in overcrowded conditions, with low levels of hygiene, without potable water or sewage, becoming very susceptible to illness and disease. Due to a lack of money and food, to the unavailability of health services and schools for the poor, incidences of malnutrition and disease are very high. In Peru, according to Luis Carlos Gomez in the article "Health Status of the Peruvian Population",

The extent of illness that might be avoided medically or environmentally suggests an urgent need for expanded health care and social services . . . the very high rates of illness and death in Peru from respiratory and intestinal infections - both communicable disease - and from malnutrition attest to the wide prevalence of sub-standard living and working conditions. The lack of pure water, electrical power, and sewerage, as well and general poverty and maternal educational deficiencies, are strongly correlated with the incidence of these problems.¹⁶

It is not a surprise that most incidences of cholera in Peru first emerged in the shantytowns of the coastal cities and that it rapidly spread to other areas of Latin America where the unavailability of proper sewage disposal and potable water are widespread.

Another problem has become closely associated with the cholera epidemic and partly explains its distribution and deadly affect upon the poor: the historical development of health care in the third world and in Latin America. As Aidan Foster-Carter explains in his book The Sociology of Development "when rudimentary health services began to be introduced into colonies . . . they were initially designed to serve only European colonial officials . . . which meant that they simply did not reach the vast rural majority . . . the third world thus inherited a type of medical care - European-style, curative in intent, patient-centred, and hospital-based -

of doubtful relevance to its actual problems and needs."¹⁷ Today, this European inheritance plays a major part in the distribution of medical care in Latin America. As Foster-Carter explains in his book, far too many resources have been invested in "building, maintaining and staffing costly Western-style hospitals at the expense of all other health priorities."¹⁸ Unfortunately, only the privileged and some city-dwellers have had access to these hospitals which are very expensive and only intervene after patients already have become ill.

In Latin America, existing patterns of disease and illness are overwhelmingly caused by communicable diseases which can be prevented and eliminated by simple public health measures.¹⁹ Most diseases that exist in Latin America do not need curative measures offered in hospitals in the first place. This becomes very clear when one understands which kind of diseases continue to kill people in Latin America and in the third world. The categories of communicable diseases, grouped according to their vectors, include infections transmitted through human faeces (including cholera), through the air, through animal vectors and by contact.²⁰ If part of the money used to build and maintain hospitals and train doctors was used for "public health campaigns, mass immunization, adult education, draining swamps, building latrines, providing clean piped water and generally mobilizing people to participate in improving their own health,"²¹ the incidences of diseases in Latin America would be greatly reduced. As Foster-Carter states,

Governments grudgingly devote relatively small proportions of their budgets to financing costly, inappropriate and expensive systems of health care which reach hardly anybody - and the no less costly medical schools which preserve them. Conversely, cheap preventative public health measures are neglected; and health expenditure as investment in "human capital" is

scarcely considered.²²

It is not surprising that the emergency actions taken by most governments in Latin America, facing the cholera epidemic, were mostly preventive measures mentioned above. Contrary to the World Health Organization's predictions, foreseeing millions of people affected by cholera, the numbers by the end of 1991 had barely reached 350,000. Governments have been praised by their mobilizations and effective measures in constraining the epidemic. The measures taken, though, were merely common sense steps and have been limited to treating the symptom, portrayed by cholera, of a much larger disease consisting of inequalities that exist in the political, social and economic spheres in Latin America societies.

In conclusion, one might speculate that the immediate actions taken by governments took place because cholera posed a threat to the rich, to those in power, to the markets and to national economies. As explained in this chapter, Latin American governments have ignored social and health problems, such as poverty and malnutrition, in the past since higher class people have not been affected by them. After analyzing the scope of cholera, one might conclude that its causes are much more deeply imbedded in Latin American societies. I believe that the steps that governments took in 1991 are only bandaid measures to treating a disease which has its origin in the state of neglect and poverty plaguing the majority of Latin Americans for centuries. Only if Latin American governments begin to invest in long term projects, such as educating its people, building basic infrastructure, distributing wealth and raising the living standards of the poor, will cholera only become known in future history books.

Notes

1 WASH Update. (Washington D.C.: USAID, July 1991)

2 Mc Grew, Roderick. Russia and the Cholera. (Madison: The University of Wisconsin Press, 1965) 6.

3 *ibid.*

4 "Back to the Time Of Cholera," Development Forum, March-April 1991, 13.

5 *ibid.*

6 Silverstein, Ken. "Cholera and Austerity", Z-Magazine, September 1991, 52.

7 *ibid.*

8 Navarro, Vicente. "The Political and Economic Origins of the Underdevelopment of Health in Latin America, " Medicine Under Capitalism. (Prodist, 1976), 26.

9 *idem.* 4.

10 *idem.* 14.

11 Walton, John. "Debt, Protest, and the State in Latin America," Power and Population Protest. (Berkeley: University of California Press, 1989) 305.

12 Silverstein, Ken. "Cholera and Austerity" Z-Magazine, September 1991, 52.

13 Jameson, Kenneth., Tom Vogel, Jr. and George W. Grayson. "In the Time of Cholera: Death and Debt in Peru," Commonweal 25 October 1991, 610.

14 Chernomas, Robert. "The Debt-Depression of the Less Developed World and Public Health," International Journal of Health Services, vol. 20, number 4, 540.

15 "Peru in the Time of Cholera," The Christian Century, October 23,1991, 970.

16 Gomez, Luis Carlos. "Health Status of the Peruvian Population," Health Care in Peru: Resources and Policy. (Westview Press, 1988) 32.

17 Foster-Carter, Aidan. The Sociology of Development (Lancashire: Causeway Press Ltd., 1985) 79.

18 idem. 85.

19 idem. 82.

20 ibid.

21 idem. 85.

22 idem. 89.

Conclusion

The relation between the cholera epidemic and the social, political and economic factors that exist in Latin America may cause some people to believe that it will be hard to prevent cholera from becoming endemic in this region and killing many people in the future. Unless drastic measures are taken to improve sanitation, potable water distribution and public health, endemicity and a large death toll resulting from cholera could become a reality. Today, there is no way of telling if this will happen. On the contrary, experts have noticed that the cholera epidemic has started to save many lives. According to the article "How the Cholera Scare is Waking Latin America" in The New York Times, "Cholera, as it turns out, may have saved more people than it killed in the Americas in 1991."¹

Many governments, spurred by the rapid spread of cholera in 1991, launched powerful anti-cholera campaigns urging the public to take preventive measures which included chlorinating water, taking personal hygienic measures and building latrines. As a consequence, Carlos Moreno Chacón, director of Peru's campaign stated, "100,000 to 150,000 Latin American children did not die of acute diarrhea . . . public awareness and medical preparation made the difference."² These are positive facts for the simple preventive measures taken against cholera have reduced greatly the number of children who die from diarrhea in Latin America. With these statistics in mind, Latin American governments, health ministries and community organizations must continue to diffuse information and educate the people. Public health measures could be very successful in preventing the death of many people, mainly children, who

die from communicable diseases.

Long term solutions addressing the susceptibility of the lower classes to disease and poverty are needed to prevent epidemics from recurring in the future. Meanwhile, though, many conscientious educators, social workers and health professionals have been very active in going to the communities affected by the cholera disease and in taking immediate actions. As a report in the Brazilian news "Jornal Nacional" showed, technical groups have supported the formation of community groups in many parts of northeastern Brazil.³ The groups have organized the cleaning up of clogged up sewers, the picking up of trash from the streets, the education of women and men in their households on how to chlorinate water and dispose of waste matter and much more. In this case, since the cholera disease has already arrived in communities throughout Brazil, immediate preventive measures are the only way from keeping more people from getting the disease.

In addition to educational efforts, if a solution is to be found to prevent children from dying from diarrhea and another epidemic from emerging, low cost infrastructural projects must be started immediately. While I was in Costa Rica during the past summer, many rural communities began massive mobilization campaigns to construct latrines and to clean water tanks. The people of the communities were feeling a big responsibility to prepare themselves against cholera. As a community leader said to me at an "Educación Permanente" or Permanent Education training session in the city of Heredia, " we cannot wait for the government to do everything for us before the cholera disease arrives . . . I have been urging my community, which is almost at the border with Nicaragua, to start building latrines . . . the problem is that many people

believe that the "Virgen de Los Angeles" will protect them from cholera . . . I do not know what to say to them."⁴

In addition, since Latin American communities do not have access to much money, low-cost infrastructural programs targeting sewage and water supply systems must be created. Facing the cholera epidemic in Africa in the 1970's, the Agency for International Development began funding and setting up pilot projects to develop sanitation and water systems. For example, at that time there was a pilot project being developed "for the demonstration and introduction of efficient, low cost and simple to operate water supply systems in small towns."⁵ The Agency evaluated the project as following: "Improvements in environmental sanitation, including the provision of safe water, is the only effective method for control and prevention of acute diarrheal diseases, including cholera. However the installation and operation of many of the conventional methods for supplying safe water are beyond the financial and operational capabilities of many of the towns and villages of the lesser developed countries."⁶

I believe that just as this pilot project was created in Africa, much research has also been done in Asia to find methods of controlling cholera and other diseases. What needs to be done is an assessment of successful low-cost sanitation and water supply projects that could serve as valuable examples for projects to be created in Latin America. India and its neighboring countries have been trying to control endemic cholera for over a century. I am sure there are lessons to be learned from this process.

It is important to note that the cholera epidemic has served as a warning and a shock factor for governments to begin evaluating the

physical and social conditions in their countries that have allowed the disease to spread. It is unfortunate that people needed to die and a serious threat needed to be present for action to be taken by governments. During an emergency meeting of leaders in Buenos Aires in March of 1992, ten South American nations participated in drawing up a "plan to invest \$200 billion over 12 years to upgrade water, sewage and basic health facilities for Latin America's poor."⁷ The implementation of this plan will remain to be seen in the future. If the plan is carried out, not only will cholera be eliminated, but also many bacteria, which cause diarrhea in children and remains the number one cause of death of children under the age of five, will disappear.

The cholera epidemic in Latin America affected approximately 350,000 people and killed nearly 3,500 in 1991. The personal experiences and the suffering of these human beings have not yet been recorded in the newspapers or in the scholarly journals published to this day. Only a few names have appeared in newspaper articles to identify the victims and the cities that they came from. Unfortunately, this project cannot portray to the reader the human dimensions of the epidemic due to the lack of published material available on the people involved in and affected by it. I am positive, though, that the stories of the victims, families and communities affected by cholera would be equally as important and valuable as all the social, economic and political analysis presented by this project. The task of recording the experiences of the victims of cholera still remains.

Notes

1 "How the Cholera Scare is Waking Latin America," The New York Times, March 8, 1992.

2 *ibid.*

3 Jornal Nacional. National Evening News presented by Globo Television Network, Brazil, April 20, 1992.

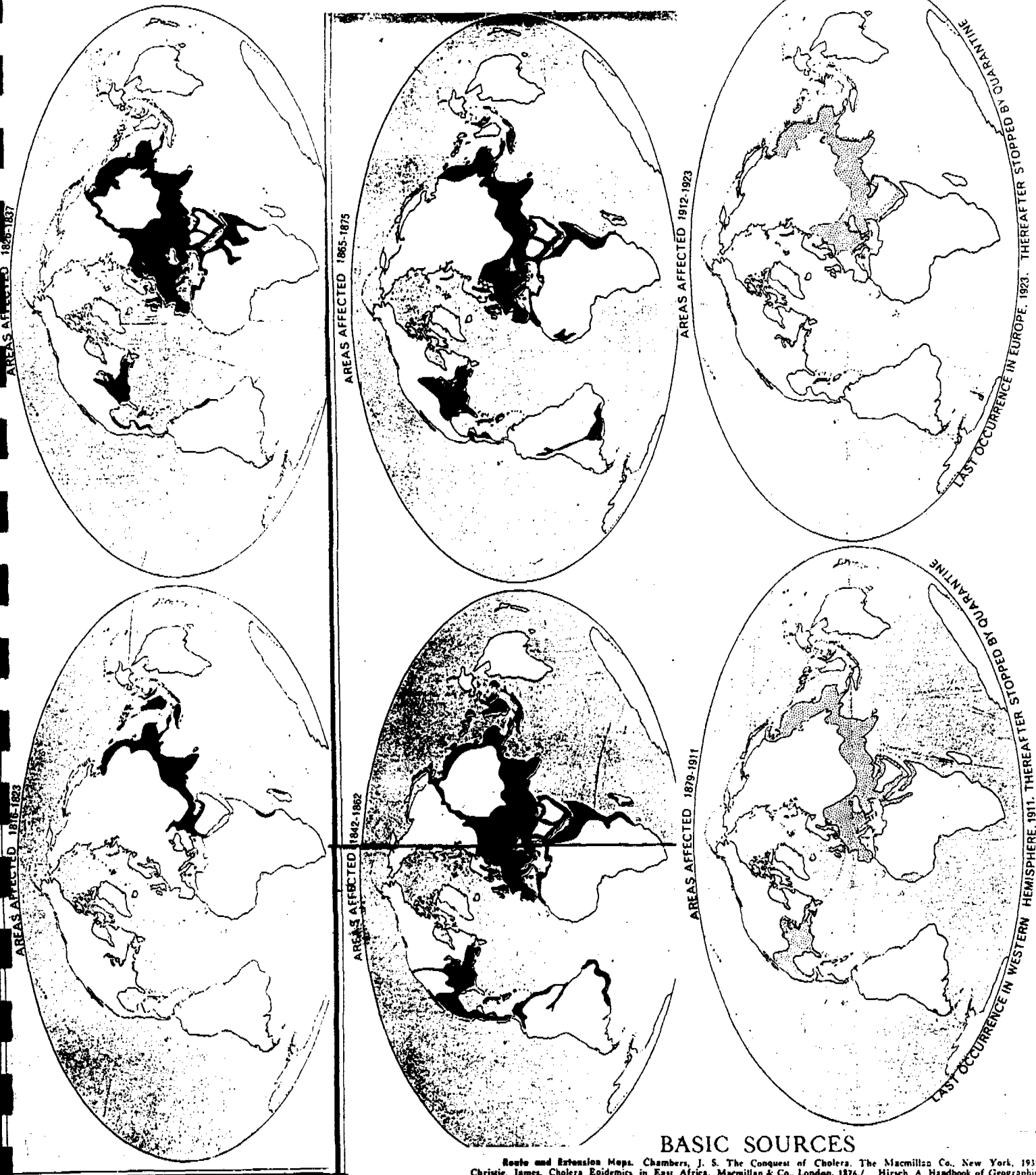
4 Duran, Flor. Personal Interview. Heredia, Costa Rica, August 27, 1991.

5 USAID. Interim Report of the Task Force on Cholera (Washington D.C: USAID, 1971) 54.

6 *ibid.*

7 "How the Cholera Scare is Waking Latin America," The New York Times, March 8, 1992.

Appendix



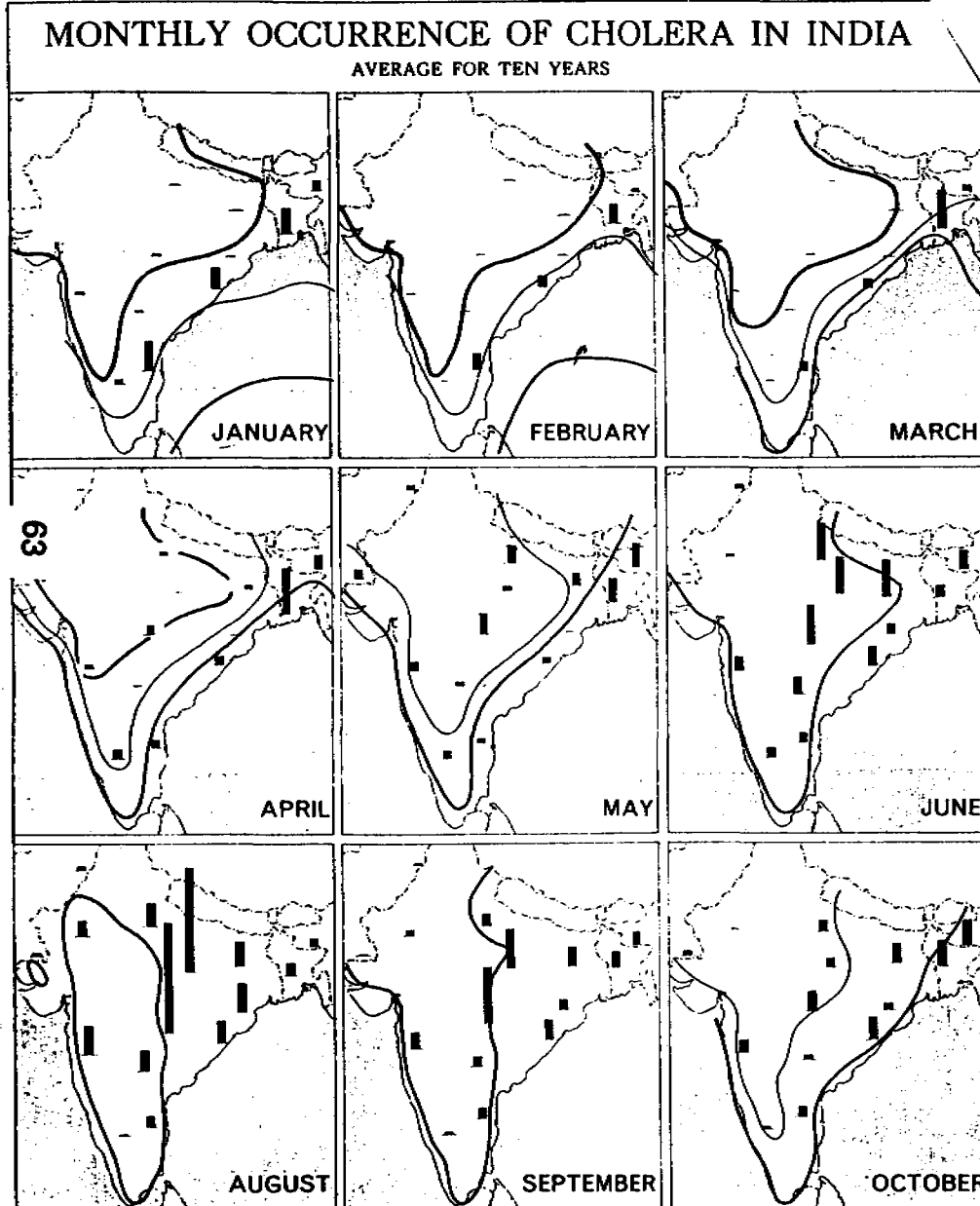
BASIC SOURCES

Route and Extension Maps. Chambers, J. S. *The Conquest of Cholera.* The Macmillan Co., New York, 1938.
 Christie, James. *Cholera Epidemics in East Africa.* Macmillan & Co., London, 1876./ Hirsch, A. *Handbook of Geographical and Historical Pathology.* The New Sydenham Society, London, 1883. Vol. 1./ U. S. Congress. *Cholera Epidemic of 1877 in the United States.* Govt. Print. Off., Washington, D. C., 1875./ Wenzel, E. C., edit. *A Treatise on Asiatic Cholera.* Wm Wood & Co., New York, 1863.
Pandemics and Outbreak Maps. Rogers, Sir Leonard. *The Incidence and Spread of Cholera in India.* *Indian Medical Research Memoirs* No. 9, 1928./ Russell, A. J. H., and Sundarajan, E. *The Epidemiology of Cholera in India* (*ibid.*, No. 12, 1928)./ Scott, H. H. *A History of Tropical Medicine.* Williams and Wilkins Co., Baltimore, 1939. Vol. 2./ Strong, R. P. *Stim's Diagnosis, Prevention and Treatment of Tropical Diseases.* 7th edit. The Blakiston Co., Philadelphia 1944 (reprinted 1945)./ Swaroop, S. *Endemicity of Cholera in India (Preliminary Report).* *United Nations WHO (Cholera): S.* 1949./ Wu, Lien-teh, et al. *Cholera. National Quarantine Service, Shanghai, 1934./ League of Nations. Ann. Epidemiol. Rept., 1932-1938. Ann. Rept. Director Far Eastern Bur., 1925-1940. Ann. Rept. Health Organization, 1925-1950. Monthly Epidemiol. Rept., 1929-1945./ United Nations, Relief and Rehabilitation Administration, Health Division. *Epidemiol. Inf. Bull.*, 1945-1946./ United Nations, World Health Organization. *Epidemiol. and Vital Statistics Rept.*, 1947-1950. *Weekly Epidemiol. Record, 1946-1950./ Epidemic Prevention Bureau, Peking. Monthly Returns by Provinces of the Prevalence of Communicable Diseases in China, 1925-1936./ Public Health Commissioner with the Government of India. Statistical Appendices to Ann. Repts., 1935-1945./ U. S. Public Health Service. Public Health Repts., 1940-1950./ Proc. Sixth Pacific Sci. Congr., California, 1939, Vol. 3, Berkeley and Los Angeles, 1942.
Monthly Occurrence of Cholera in India. League of Nations. *Weekly Epidemiol. Record*, 1946./ Public Health Commissioner with the Government of India. *Statistical Appendices to Ann. Repts., 1935-1938./ Climatological Atlas of India.* Indian Meteorological Dept., 1906.**

Table 1: Maps of the six world cholera pandemics.

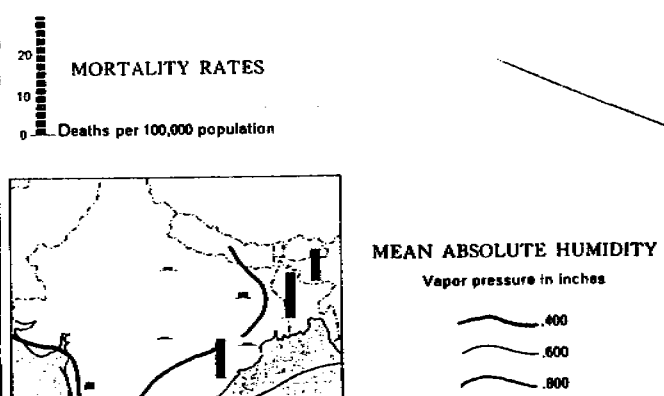
Table 2: Source - The American Geographical Society.

TABLE 3: EXTENT OF THE FIRST SIX CHOLERA PANDEMICS



Pandemic	Date	Indian Sub-continent	S.E. Asia	East Asia	Middle East	S. Europe	N.W. Europe	N.E. Europe	N. Africa	E. Africa	W. Africa	N. America	C. America	S. America
First	1817-23	X	X	X	X					X				
Second	1826-37	X	X	X	X	X	X	X	X	X		X	X	X
Third	1842-62	X	X	X	X	X	X	X	X	X		X	X	X
Fourth	1865-75	X	X	X	X	X	X	X	X	X	X	X	X	X
Fifth	1881-96	X	X	X	X	X	X	X	X	X	X	X	X	X
Sixth	1899-1923	X	X	X	X	X		X		X				

Table 3: Source - Robert F. Stock, Cholera in Africa.



Copy for Personal Use Only. The Library, University of California at Berkeley.

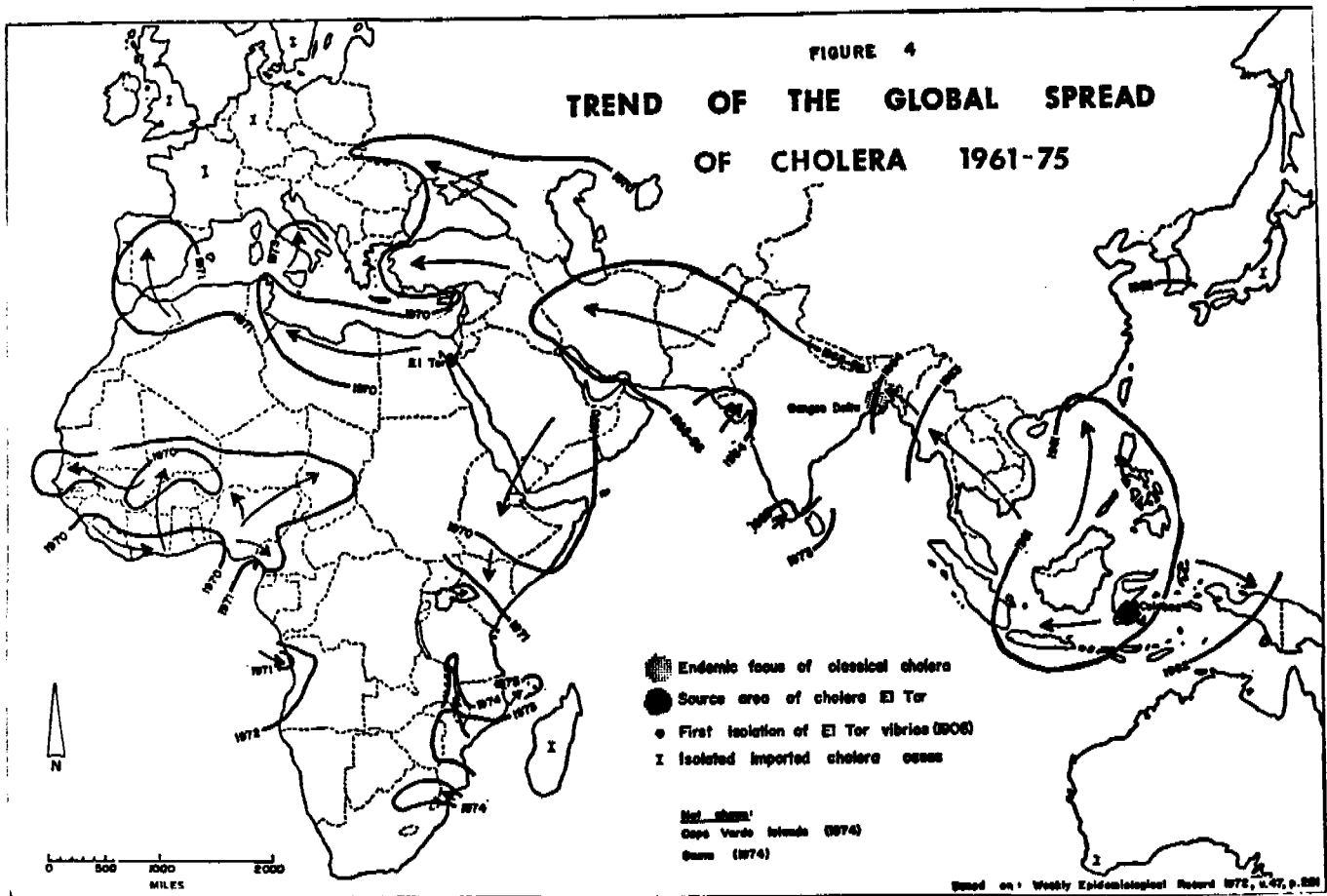


Figure 4: Source - Robert F. Stock, Cholera in Africa.

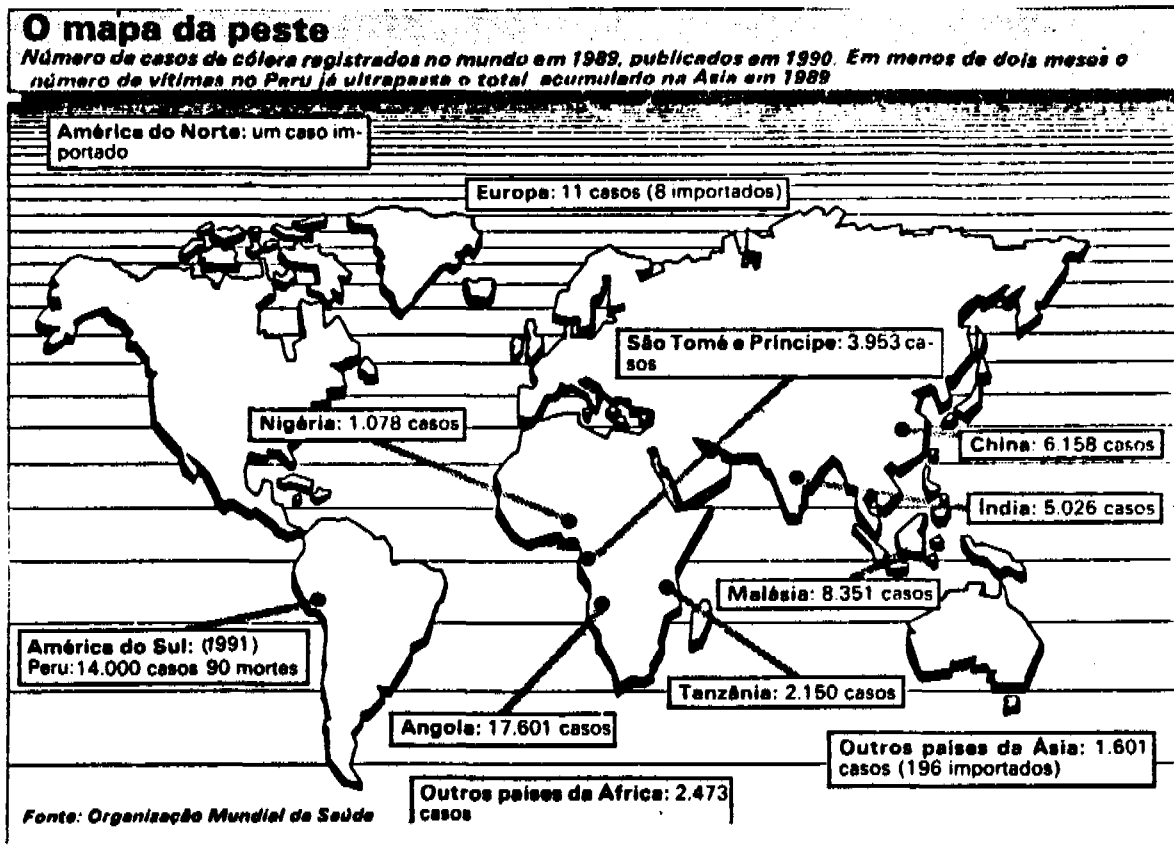


Table 5: Number of cholera cases in the world in 1989, published in 1990. In less than two months the number of cholera victims in Peru exceeded the total numbers in Asia in 1989.

Source - Estado de São Paulo, February 2, 1991.

MOST AT RISK

Country	% without access to:				000 people per doctor	Health spending ²
	Safe water	Adequate sanitation	Health services	Vulnerability ¹		
Paraguay	71	14	39	60.7	1.5	0.4
Haiti	62	79	30	n.a.	7.2	0.9
Guatemala	62	76	66	211.5	2.2	0.7
Bolivia	56	79	37	n.a.	1.5	0.4
Nicaragua	51	73	17	52.3	1.5	6.6
Honduras	50	70	73	46.6	1.5	2.6
El Salvador	48	40	44	60.0	2.8	1.0
Dominican Rep.	37	72	20	51.4	1.8	1.4
Peru	45	50	25	101.1	1.0	1.0

¹Deaths caused by contagious and parasitic diseases, per thousand. ²As % of GNP.

Table 6: Countries most at risk at being affected with cholera.
Source - Latin American Weekly Review, May 2, 1991.

NEIGHBOURING COUNTRIES: POPULATION AT RISK				
Millions of people				
Country	Without access to:			
	Safe water	Adequate sanitation	Health services	Vulnerability ¹
Brazil	32.0	52.0	n.a.	0.5
Argentina	14.0	9.8	9.1	0.2
Ecuador*	4.3	3.4	3.9	0.7
Bolivia	3.9	5.5	2.6	n.a.
Paraguay	2.8	0.6	1.6	0.6
Colombia*	2.4	9.2	12.0	0.7
Venezuela	1.9	9.2	n.a.	0.5
Chile*	0.8	1.9	0.4	0.2
Uruguay	0.5	1.3*	0.6	0.2
Total	62.6	92.9	30.2	-

¹Ratio of deaths caused by contagious and parasitic diseases, with Peru=1. Source: Ladex.

WR-91-16, 2 May 1991

5

Table 7: Number of people at risk at acquiring cholera.
Source - Latin American Weekly Review, May 2, 1991.



Table 8: Export losses and products at risk from being exported.
Source - Los Angeles Times, April 23, 1991

A PROPAGAÇÃO DO CÓLERA

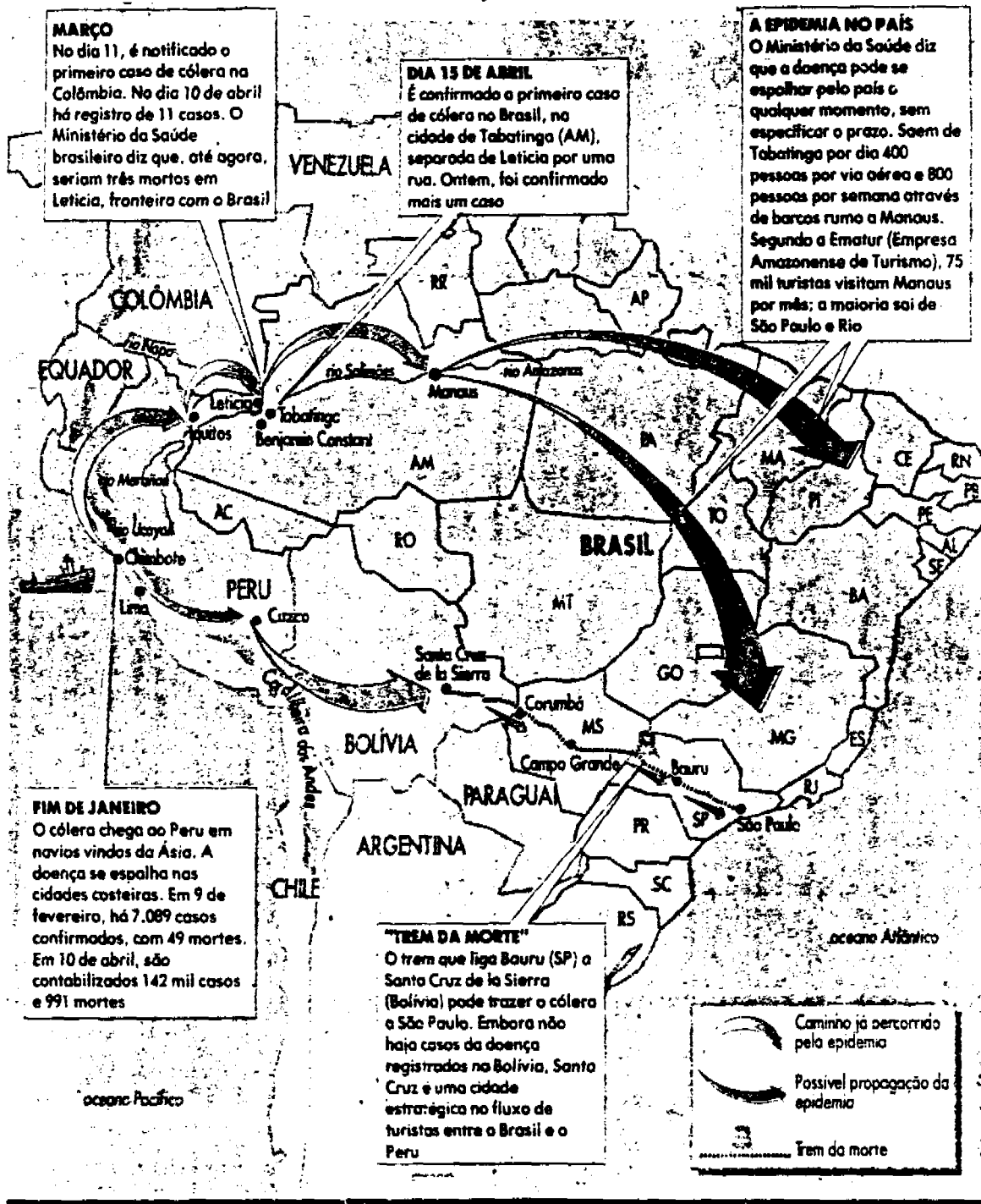


Table 9: The spread of cholera in South America as of April 15.
Source - Folha de São Paulo, April 17, 1991.

LUCHA CONTRA EL COLERA



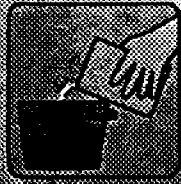
Base de datos

¿Cómo clorar correctamente el agua?

Si tiene duda sobre la potabilidad del agua, puede usar cloro del que se emplea para blanquear ropa.

La proporción es:

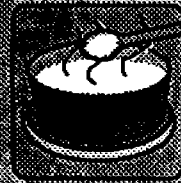
Por cada litro de agua, agregar 3 gotas de cloro o una cucharadita por cada 30 litros.



¿Cómo preparar el suero oral casero?

Mezcle y agite bien en un litro de agua hervida, 6 cucharaditas de azúcar y una cucharadita rasa de sal. Déjelo reposar a temperatura ambiente hasta que el suero empiece a hervir.

Si en cuatro horas no mejora, vaya al centro de salud más cercano.

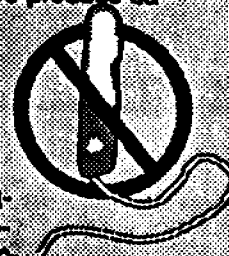


Base de datos LA NACION

Lave bien todo lo que coma

El cólera es una enfermedad producida por una bacteria que se aloja en el intestino del hombre y no siempre produce casos severos, pues la gravedad depende del estado de salud del individuo y de la cantidad de bacterias que uno coma o tome.

Las personas que han ingerido alimentos contaminados con este microbio lo botan en sus heces. Estas bacterias van a los desagües, acequias, ríos y, lamentablemente, si esas aguas se usan para el riego también pueden alojarse en los vegetales y las frutas y en todo aquello que toque una persona enferma que no se haya lavado bien las manos.



Base de datos LA NACION

Mucha agua y abundante jabón

Para evitar el cólera usted debe lavar con agua y jabón todos los accesorios que emplee cuando cocine. Ya es hora de dejar de lado la práctica de enjuagar los utensilios que no tienen grasa, hay que lavarlos bien, aunque eso represente gastar un poquito más.

No olvide que el uso del agua y el jabón es básico para enfrentar este mal.



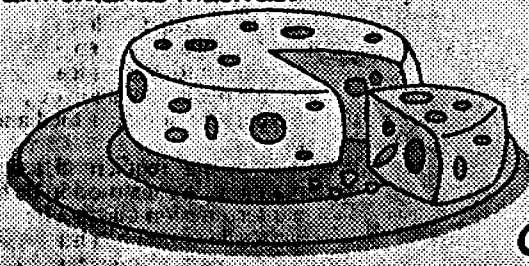
FUENTE: Caja Costarricense de Seguro Social.

FUENTE: Caja Costarricense de Seguro Social.

Table 10: Educational material and preventive guidelines for the Costa Rican public. Source - La Nación.

Cuidado con el queso que consume

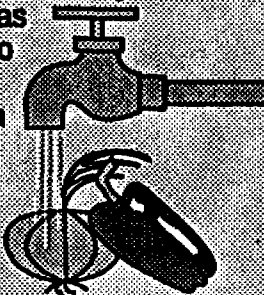
Evite el consumo de quesos que no sean pasteurizados, pues se fabrican con leches crudas, es decir, que no han tenido proceso de esterilización capaz de destruir los microbios que puede contener el producto. Lamentablemente, un 95 por ciento de los costarricenses comen quesos de ese tipo, lo que origina intoxicaciones alimentarias masivas.



FUENTE: Departamento de Control de Alimentos del Ministerio de Salud.

Lave las frutas y verduras

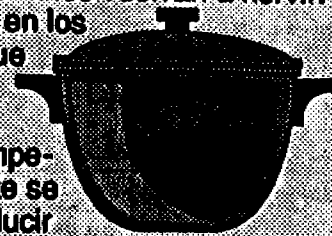
Acostúmbrese a lavar las verduras y frutas después de que las traiga del mercado o de las ferias del agricultor. Recuerde que muchas de ellas caen al suelo o las manipulan personas que no son cuidadosas con el aseo de sus manos. Si usted sigue esta recomendación antes de introducir cualquier producto en la refrigeradora, probablemente los artículos le durarán más tiempo.



FUENTE: Control de Alimentos del Ministerio de Salud.

Deje que la comida hierva

Muchos de nosotros tenemos la costumbre de calentar por la noche los alimentos que quedaron del almuerzo; sin embargo, tenga el cuidado de que antes de consumirlos vuelvan a hervir. Recuerde que en los comestibles que han permanecido largos períodos a temperatura ambiente se pueden reproducir bacterias como el *Vibrio cholerae*. Para matar esos microorganismos hay que darle otro hervor a las comidas.



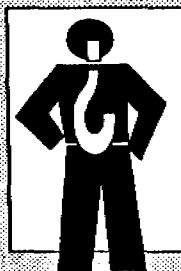
FUENTE: Suplemento Vida, publicación del diario La República, Perú.

No todo portador muestra síntomas

De cada 100 personas que tienen el *Vibrio cholerae*, sólo 20 llegan a presentar síntomas fuertes y necesitan ser hospitalizadas. Las otras no se enferman pero todas pueden contagiar a sus semejantes durante cuatro o cinco días

Esto quiere decir que por cada 20 mil personas que requieren ir a un centro médico hay otras 80 mil que aunque nunca padecen de cólera pueden transmitir el mal.

¿Cómo saber quiénes son? Por eso, debemos ser cuidadosos y extremar las medidas higiénicas.



FUENTE: OPS.

Cuidado con los papeles higiénicos

Mantenga la práctica de depositar los papeles higiénicos en la taza, incluso en aquellos casos en que no esté conectada al alcantarillado sanitario. Según especialistas en ingeniería del Ministerio de Salud, los papeles higiénicos no atascan los tanques sépticos, como muchos costarricenses creen, ya que se deshacen con facilidad en el agua. Deje el cesto únicamente para desechar toallas sanitarias y otro tipo de materiales.



FUENTE: Ministerio de Salud

REMÉDIOS CASEIROS PARA EVITAR A CÓLERA

**MINISTÉRIO
DA SAÚDE**



Table 11: Preventive guidelines for the Brazilian public.
Source - Ministerio da Saúde, Brazil.

CUIDADOS COM A ÁGUA



Ferva a água de beber.



Mantenha a água
fervida em vasilhas
limpas e com tampa.



Se você mora em
palafitas, não use
a água que fica
debaixo das casas
para nada.

Não beba dessa água nem fervida.

HIGIENE PESSOAL

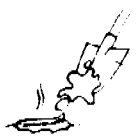


Lave bem as mãos
com água e sabão:



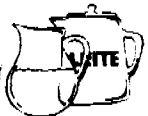
Antes de preparar os alimentos; Antes de comer; Depois de defecar.

Utilize o vaso
ou latrina;
se não for possível,
entere as fezes
e depois:



lave as mãos.

HIGIENE DOMÉSTICA



Só beba água
e leite fervidos.



Todos os alimentos
devem ser bem cozidos
e preparados na hora.



Só coma peixe ou
mariscos bem
cozidos.



Proteja os alimentos
contra as moscas.



Evite alimentos
vendidos na rua
de qualidade duvidosa.



Lave e seque bem
pratos, panelas,
talheres e outros
utensílios de
mesa e cozinha.

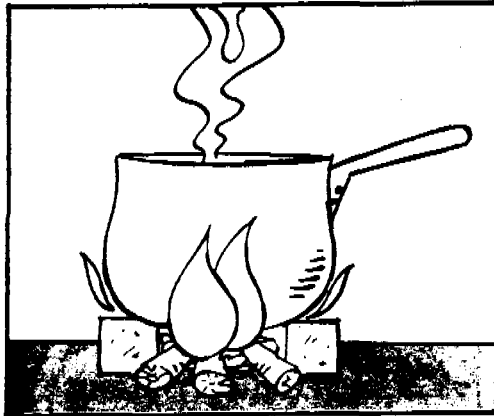
ATENÇÃO

Se alguém em sua casa apresentar diarreia, procure
imediatamente um médico; pode ser Cólera.

**EVITE A CÓLERA CUIDANDO BEM DA HIGIENE
DA SUA CASA E DE SUA FAMÍLIA.**

O SEGREDO PARA VENCER A CÓLERA É UM SÓ:

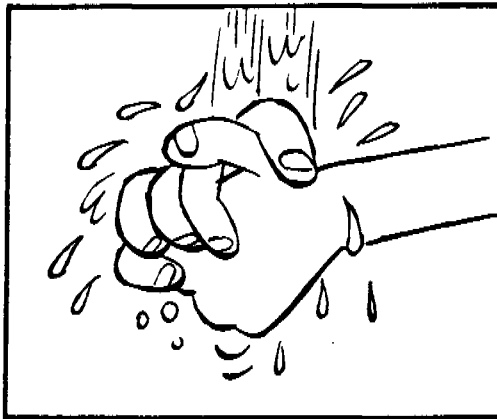
ÁGUA LIMPA



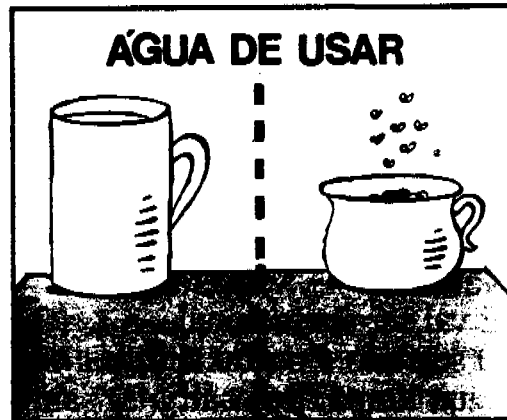
ÁGUA FERVIDA



GUARDADA E TAPADA



MÃOS LAVADAS



ÁGUA LIMPA | **LONGE DO COCÓ**

MINISTÉRIO DA SAÚDE		SAÚDE PARA TODOS		GOVERNO DO BRASIL	CONTROLADO IMPRESSÃO ACABAMENTO IMPRENSA NAVAL
----------------------------	--	-------------------------	--	--------------------------	---

Table 12: Preventive guidelines for the Brazilian public.
Source - Ministerio da Saúde, Brazil.

PLAN DE ACCION PARA LA PREVENCION Y CONTROL DEL COLERA

INTRODUCCION

La epidemia del cólera en el Perú tuvo su inicio a fines de enero de 1991 y se propagó con rapidez entre la población de la costa. En la actualidad hay varios países suramericanos que reportan casos de cólera y se considera que su propagación en el resto del Continente Americano no podrá evitarse.

Las condiciones ambientales precarias, la carencia o el deficiente saneamiento básico en las poblaciones, el hacinamiento de personas y viviendas y la ausencia de prácticas de higiene personal en la población, favorecen la rápida diseminación del cólera.

En Costa Rica el Sector Salud cuenta con una estructura regionalizada que debe ser organizada para efectos de un brote epidémico, con una utilización de los Comités Técnicos básicos y de los Comités Técnicos locales en todo el proceso de vigilancia epidemiológica.

Considerando que el cólera es una enfermedad diarreica más, dentro del Programa de Control de diarreas se debe fortalecer las coordinaciones interprogramáticas, interinstitucionales e intersectoriales de dicho Programa, para esto y dadas las características de difusión del cólera, se plantea el presente plan de acción que tiene el propósito de organizar los esfuerzos nacionales en una comisión que enfrente el problema en las dos primeras etapas de prevención y el seguimiento para lograr en el menor tiempo posible, alcanzar la tercera etapa de controlar la enfermedad e incorporar su ocurrencia dentro de un carácter de prevalencia controlada.

Lo anterior orienta los esfuerzos que el país debe desarrollar para combatir el cólera, hacia una intensa y sostenida información y educación a la población que busque modificar las normas de conducta antihigiénicas, al diagnóstico oportuno mediante una estricta vigilancia epidemiológica que investigue toda sospecha de cólera; al tratamiento adecuado a los casos presuntos o declarados y a las acciones concretas que mejoren el ambiente.

OBJETIVO GENERAL

Organizar los esfuerzos nacionales multisectoriales requeridos para prevenir, manejar y controlar el cólera en todo el ámbito del país, con énfasis en las áreas geográficas y grupos poblacionales de riesgo.

OBJETIVOS ESPECIFICOS

1. Fortalecer la vigilancia epidemiológica de las diarreas y especialmente del cólera, intensificando los mecanismos de identificación, notificación, análisis e interpretación de datos, capaces de demostrar las tendencias, para aplicar acciones oportunas de control en todos los niveles de atención y en comunidad.
2. Elaborar y aplicar normas de manejo del cólera en pacientes y contactos a nivel hospitalario por medio de un plan de capacitación del personal de salud y de educación en salud a la comunidad.
3. Reforzar la red de laboratorios de diagnóstico a nivel nacional y designar un Centro de Referencia Nacional que permita coordinar la información sobre diagnósticos bacteriológicos de cólera.
4. Intensificar el mejoramiento de las condiciones de saneamiento ambiental reforzando el monitoreo de la calidad del agua y el análisis del control sanitario de alimentos.
5. Establecer un programa de promoción y educación en salud dirigido a la prevención, manejo y control del cólera que comprenda la capacitación en servicios y la comunicación a la comunidad con participación interinstitucional e intersectorial.

ESTRATEGIAS NACIONALES PARA EL DESARROLLO DEL PLAN

Los ejes fundamentales de la puesta en marcha del plan de acción para la prevención del cólera son la Vigilancia Epidemiológica y el Programa Nacional de Control de Diarreas.

- A. Fortalecer el Programa Nacional de control de diarreas dinamizando la coordinación interprogramática, interinstitucional e intersectorial que garantice la articulación dentro y entre niveles de atención, así como la participación de todos los entes involucrados en la prevención y control del cólera.
- B. Ejecutar el plan de acción optimizando la utilización de los Sistemas Integrados Locales de Salud (SILOS) y de sus organismos funcionales, Comités Técnicos Básicos y Comités Técnicos Locales, así como CREP (Comisiones regionales de educación permanente) y CLEP (Comités locales de educación permanente).
- C. Elaborar y aplicar normas y procedimientos únicos a nivel nacional que favorezcan un criterio uniforme en todos los programas, actividades, acciones y tareas de tal manera de favorecer la evaluación y reajustes oportunos y pertinentes.



- D. Manejar el componente de capacitación al personal de salud bajo el principio de unidades integradas significando así contenidos completos de elementos normados de vigilancia epidemiológica, de diagnóstico, de manejo clínico y terapéutico, de saneamiento ambiental, de alimentos y de promoción y educación comunitaria, evitando la dispersión de esfuerzos por áreas, programas o subcomisiones.
- E. Establecer una línea única nacional de información dirigida a los medios de comunicación masiva, dicha línea estará a cargo de vigilancia epidemiológica como fuente de información y a la subcomisión de promoción y educación como ente coordinando a todos los medios de comunicación del país.

ORGANIZACION DEL PLAN DE ACCION

Para cumplir los objetivos mencionados se ha organizado a nivel nacional la Comisión Nacional de Prevención y Control del Cólera.

COMISION NACIONAL DE PREVENCION Y CONTROL DEL COLERA

El Ministerio de Salud, considerando el peligro real que representa para el país la epidemia del cólera que afecta actualmente a varios países de Suramérica, decidió la creación de la Comisión Nacional de Prevención y Control del Cólera.

Esta Comisión coordina las acciones a nivel nacional para evitar la entrada y/o la propagación del cólera en el territorio nacional y es el órgano encargado de convocar a subcomisiones técnicas, difundir información y vigilar por el cumplimiento de las normas y procedimientos establecidos.

El Sr. Ministro de Salud convocará y coordinará la labor de la Comisión y servirá de enlace para las relaciones con otros países con el fin de articular los esfuerzos que conllevan al control de esta enfermedad.

ESTRUCTURA DE LA COMISION NACIONAL DE PREVENCION Y CONTROL DEL COLERA

Forman parte de la Comisión las siguientes personas:

- Ministro de Salud
- Presidente Ejecutivo de la CCSS
- Presidente Ejecutivo de A y A
- Presidente Ejecutivo del IFAM



MINISTERIO DE SALUD
PÚBLICA DE COSTA RICA

- Representante de la OPS/OMS
- Delegado de la Comisión Nacional de Emergencia
- Delegado de la Municipalidad de San José
- Director de la División de Saneamiento Ambiental

La Comisión Nacional de Prevención y Control del Cólera tendrá el apoyo técnico de las siguientes cinco subcomisiones:

Subcomisión de Diagnóstico

Estará compuesta por el INCIENSA como laboratorio central de referencia y una red de laboratorios colaboradores de diagnóstico.

Es la responsable de implementar las metodologías y la capacitación a microbiólogos de los laboratorios de la CCSS, del Ministerio de Salud y privados en el aislamiento e identificación de *Vibrio Cholerae* y de organizar una red nacional de laboratorios para su diagnóstico.

Subcomisión de Vigilancia Epidemiológica

Tiene la responsabilidad de decidir o hacer recomendaciones, sobre bases científicas objetivas, acerca de las medidas a corto, mediano o largo plazo que es preciso tomar a fin de controlar o prevenir el cólera.

Mediante la información epidemiológica y estadística y los estudios e investigaciones pertinentes, establece las áreas del país de mayor riesgo y los grupos de población más susceptibles al cólera y a su propagación.

Subcomisión de Manejo Clínico Terapéutico

Su función es validar las normas y procedimientos de diagnóstico clínico y del tratamiento de casos y divulgarlos, velando por su cumplimiento.

Asegura la disponibilidad de suministros en cada nivel de atención y garantiza la referencia que permita articular los niveles de complejidad.

Tiene bajo su responsabilidad la capacitación del personal que lo requiera y la organización de la red de medicamentos y equipo, medios de cultivo, etc.

Subcomisión de Promoción y Educación

Es la responsable de capacitar al personal de salud así como producir y ejecutar el programa de divulgación y educación social de las normas producidas por la Comisión Nacional y de las demás Subcomisiones.



Establece una estrategia para los medios de comunicación social a efecto de mantener una apropiada y oportuna información a la población de todo el país, provocando una reacción de apoyo y ejecución a los mensajes educativos y preventivos formulados.

Subcomisión de Saneamiento Ambiental

Establece las normas y procedimientos para el control y remoción de los factores de riesgo del agua y los alimentos, los divulga y vela por su cumplimiento.

Promueve y recomienda las acciones que deben ser emprendidas a corto, mediano y largo plazo para dotar al país de una estructura sanitaria que disminuya el peligro del cólera y proteja el ambiente.

Instituciones que integran las subcomisiones

Subcomisión de Diagnóstico:

- Ministerio de Salud
- Instituto Costarricense de Acueductos y Alcantarillados
- Hospital de Niños
- INCIENSA

Subcomisión de Vigilancia Epidemiológica

- Ministerio de Salud
- Caja Costarricense del Seguro Social

Subcomisión de Manejo Clínico-Terapéutico

- Caja Costarricense del Seguro Social
- Ministerio de Salud

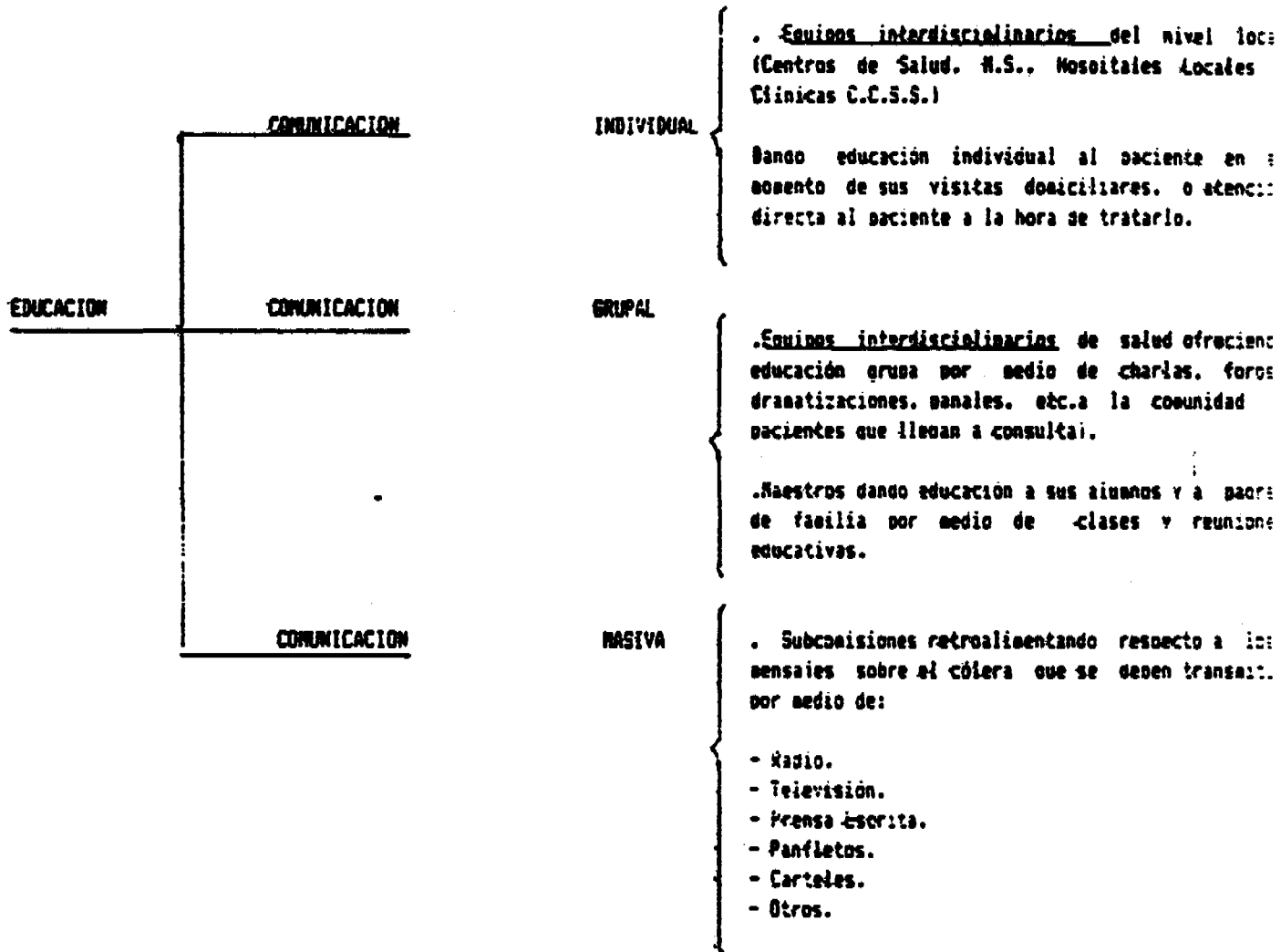
Subcomisión de Promoción y Educación

- Caja Costarricense del Seguro Social - *Emilio Duran / Alvar. Blanes / Mas*
- Ministerio de Salud
- Ministerio de Educación
- Instituto Costarricense de Acueductos y Alcantarillado
- Municipalidad de San José
- Universidad de Costa Rica
- Organización Panamericana de la Salud - *p.d. al*

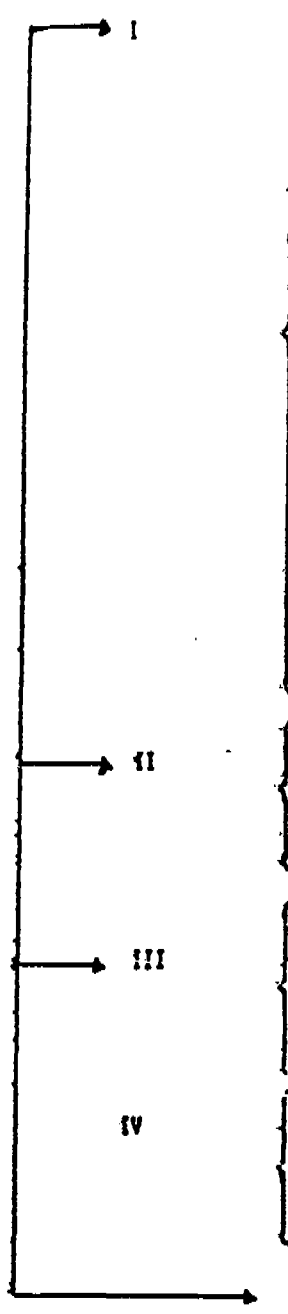
Subcomisión de Saneamiento Ambiental

- Ministerio de Salud
- Instituto Costarricense de Acueductos y Alcantarillado
- Instituto de Fomento y Asesoría Municipal
- Municipalidad de San José

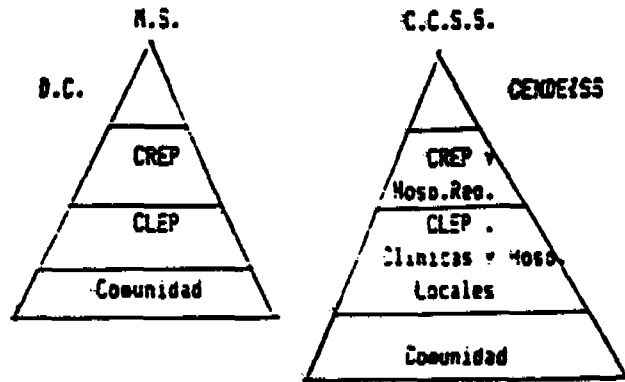
ESTRATEGIA DE EDUCACION Y PREVENCION DEL COLERA



CAPACITACION



A equipos interdisciplinarios de salud por medio de la estructura descentralizada de Educación Permanente existente en el Ministerio de Salud Caja Costarricense de Seguro Social.



Las diferentes comisiones conformadas deberán retroalimentar, respecto a los contenidos en que se debe capacitar. (Manual de "Pautas para el saneo y saneamiento con cólera)-Otros.(TALLER).

A maestros, sobre temas básicos en que deben educar a sus alumnos y padres familia. Las diferentes Subcomisiones retroalimentarán los temas.

A periodistas sobre temas y mensajes básicos en que se debe hacer educativa. Las diferentes Subcomisiones retroalimentarán los mensajes y temas.

Líderes comunales por medio del Departamento de Trabajo Social y el Programa de Participación Comunitaria del Ministerio de Salud con la ayuda de los equipos interdisciplinarios de salud. Hacer énfasis con los sacerdotes.

DMS'S con la ayuda de los equipos interdisciplinarios de salud.

**ESTRATEGIA DE CAPACITACION
SOBRE EL COLERA**

1. Taller para Jefes de Emergencia sobre "Pautas para el manejo del paciente con cólera".
Responsable: Dr. William Vargas
Fecha:
Lugar: San José

2. Capacitación para dos funcionarios de cada CREP, Ministerio de Salud y Caja Costarricense de Seguro Social. Además un pediatra y un internista por cada región (40 persona). Se discutirá la estrategia de capacitación para SILOS.
Responsable: Dr. William Vargas.
Dr. Mario León Barth
Fecha:
Lugar: San José

3. Capacitación de las CREP's Ministerio de Salud y Caja Costarricense de Seguro Social al personal de SILOS. (Cada CREP escogerá la estrategia de capacitación más adecuada).
 - Se hará énfasis en la capacitación del personal de atención primaria.
 - Se dará prioridad a puertos y zonas urbano-marginales del país.

4. Educación brindada por los equipos interdisciplinarios de Salud, Ministerio de Salud y Caja Costarricense de Seguro Social a la población:
 - a. Educación individual al paciente.
 - b. Educación a grupos (charlas, paneles, conferencias, etc.).
 - c. Educación a maestros.
 - d. Educación a ONG's (Organismos no gubernamentales).
 - e. Educación a sacerdotes.
 - f. Educación a líderes comunitarios.
 - g. Educación masiva por medio de televisión, radio, panfletos, carteles, etc.

NOTAS DE IMPORTANCIA

1. Los contenidos y mensajes en que se educará a la población y capacitará al personal de salud serán dados y avalados por las Subcomisiones de:
 - Diagnóstico.
 - Manejo clínico terapéutico.
 - Saneamiento Ambiental.

2. Se deberá preparar de inmediato el material didáctico de apoyo para educar a la población y capacitar al personal de salud.

Todos los materiales que se preparen deben ser avalados por la "Comisión Prevención y Control del Cólera".

3. No se debe dar al proceso de promoción y educación carácter de "campaña" pues se pueden descuidar los demás programas de salud que merecen igual tratamiento que el cólera.

Bibliography

- "A Continent Adrift on Red Ink," L.A. Times, August 15, 1991.
- Aizenberg, Moises. La Salud en el Proceso de Desarrollo de la Comunidad. (Michoacan, Mexico: OPS, 1968.)
- "Alarm Over Cholera Epidemic in Peru," Latin American Regional Report: Andean Region, March 7, 1991.
- "Back to the Time of Cholera," Development Forum, March-April 1991.
- Chambers, J.S. The Conquest of Cholera: America's Greatest Scourge. (New York: The Macmillan Company, 1938.)
- Chernomas, Robert. "The Debt-Depression of the Less Developed World and Public Health," International Journal of Health Services, vol. 20, number 4.
- "Cholera Claims First Political Casualty," Latin American Weekly Report, March 28, 1991.
- "Cholera Epidemic Goes on Spreading," Latin American Weekly Report, May 9, 1991.
- "Cholera Epidemic in South America," Canada Diseases Weekly Report, March 9, 1991, vol. 17 no. 10.
- "Cholera in Peru," The Lancet, March 2, 1991, vol 337.
- "Cholera in Peru," The Lancet, August 17, 1991, vol 338.
- "Cholera Outbreak - Peru, Ecuador and Colombia," JAMA: The Journal of the American Medical Association, May 1, 1991.
- "Cholera - Peru 1991," JAMA: The Journal of the American Medical Association, March 13, 1991.

- "Cholera: The epidemic in Peru - Part 1." Weekly Epidemiological Record, no. 20, 1991.
- "Cholera Update," AWWA Mainstream. (American Water Works Association, August, 1991.)
- Cockburn, Aidan. The Evolution and Eradication of Infectious Diseases. (Baltimore: The Johns Hopkins Press, 1963.)
- "Colera ja Atinge Tamben o Nordeste," Correio Braziliense, December 24, 1991.
- "Colera: Secuela de Muerte," El Universo, February 22, 1991.
- "Colera Volta para Ficar," Jornal do Brasil, April 28, 1991.
- "Deadly Cholera Arrives in Guatemala," Central American Report, August 10, 1991.
- "Declararan en emergencia la salud del pais," El Comercio, February 7, 1991.
- Duran, Flor. Personal Interview. Heredia, Costa Rica, August 27, 1991.
- "Epidemia del mal del colera mata a 23 en el pais," El Comercio, February 5, 1991.
- Feachem, Richard. Water, Wastes and Health in Hot Climates. (London: John Wiley and Sons Ltd., 1977.)
- Felsenfeld, Oscar. The Cholera Problem. (St. Louis, Missouri: Warren H. Green INC., 1967)
- "First Cholera Case in Argentina," Latin American Weekly Report, May 16, 1991.
- Foster-Carter, Aidan. The Sociology of Development. (Lancashire: Causeway Press Ltd., 1985.)
- Freeman, Howard E. and Levin, Sol. Handbook of Medical Sociology. (New Jersey: Prentice Hall, 1989.)

- Gomez, Luis Carlos. "Health Status of the Peruvian Population," Health Care in Peru: Resources and Policy. (Westview Press, 1988.)
- Hardiman, Margaret and James Midgley. The Social Dimensions of Development: Social Policy and Planning in the Third World. (Chichester: John Wiley and Sons, 1982.)
- "How Far Cholera may Spread," Latin American Weekly Review, May 2, 1991.
- "How the Cholera Scare is Waking Latin America," The New York Times, March 8, 1992.
- Jackson, Duc. "The Cholera Epidemic in Peru." Epidemiological study for the Center for Disease Control in Atlanta. UC Berkeley, Lecture, October 31, 1991.
- Jameson, Kenneth, Tom Vogel, Jr. and George W. Grayson. "In the Time of Cholera: Death and Debt in Peru," Commonweal, 25 October 1991.
- Jornal Nacional. National Evening News presented by Globo Television Network, Brazil, April 20, 1992.
- Lambo, Thomas A. (ed.) and Stacey B. Day. Issues in Contemporary International Health. (New York: Plenum Medical Book Co., 1990.)
- "Llegara ayuda Internacional por epidemia," El Comercio, February 9, 1991.
- Llopis and Halbrohr. "Historical Background of Cholera in the Americas," Epidemiological Bulletin, vol. 12(1), 1991.
- Mc Grew, Roderick E. Russia and the Cholera 1823-1832. (Madison: The University of Wisconsin Press, 1965.)
- Menezes, Luis Antonio. Personal Interview. San Jose, Costa Rica, September 7, 1991.
- "Mexico Fights Cholera but Hates to say its Name," New York Times, September 14, 1991.

- Ministerio de Salud. Plan de Accion para la Prevencion y Control del Colera. (San Jose, Costa Rica, 1991.)
- "Miraflores sierra desde hoy dos playas," El Comercio, February 12, 1991.
- Morris, R.J. Cholera 1832: The Social Response to and Epidemic. (New York: Holmes and Meier Publishers, 1976.)
- "Mueren ocho personas por deshidratacion en Chimbote," El Comercio, February 4, 1991.
- Navarro, Vicente (ed.). Imperialism, Health and Medicine. (New York: Baywood Publishing Company, INC., 1981.)
- Navarro, Vicente. "The Political and Economic Origins of the Underdevelopment of Health in Latin America," Medicine Under Capitalism. (Prodist, 1976.)
- "OMS teme que colera se propague a otros paises de America Latina," El Comercio, February, 12, 1991.
- Ouchterlomy, Orjan and Holmgren, Jan (eds.). Cholera and Related Diarrheas: Molecular Aspects of a Global Health Problem. (New York: Karger, 1980.)
- Parsons, Richard C. Interim Report of The Task Force on Cholera. (Washington D.C: U.S. AID, 1971.)
- "Perto do Perigo," Veja, December 4, 1991.
- "Preparation for Resurgence of Cholera," Latin American Weekly Report, September 12, 1991.
- "San Jose frena ventas callejeras," La Nacion, July 20, 1991.
- Silverstein, Ken. "Cholera and Austerity," Z-Magazine, September 1991.
- "Situacion del Colera," Boletin de la Oficina Sanitaria Panamericana, May 1991.

- "Situacion del Colera," Boletin de la Oficina Sanitaria Panamericana, July 1991.
- "Starting to Count the Economic Cost of the Cholera Epidemic," Latin American Weekly Report, May 9, 1991.
- Stille, Alfred. Cholera : Its Origins, History, Causation, Symptoms, Lesion, Prevention and Treatment. (Philadelphia: Lea Brothers and Co. 1885.)
- Stock, Robert F. Cholera in Africa. (Great Britain: Clarke, Doble and Brendon Ltd., 1976.)
- "Taking no Chance with Cholera," Latin American Weekly Report, August 15, 1991.
- USAID. Interim Report of the Task Force on Cholera (Washington D.C: USAID, 1971.)
- "Virus asiatico habria ingresado a Peru por los puertos nortenos," El Comercio, February 5, 1991.
- "Virus no se combate con remedios ni vacunas sino con precaucion," El Comercio, February 6, 1991.
- Walton, John. "Debt, Protest, and the State in Latin America," Power and Population Protest. (Berkeley: University of California Press, 1989.)
- WASH Update. (Washington D.C: USAID, July 1991.)
- "Wildfire Spread of Cholera Epidemic," Latin American Weekly Report. February 21, 1991.
- Winslow. The Conquest of Epidemic Disease 1823-1832 (Madison: The University of Wisconsin Press, 1965.)
- World Health Organization. El Sector Salud en el Decenio de los Ochenta. (Santiago de Chile: WHO, 1981.)
- WHO. Principles and Practice of Cholera Control. (Geneva: WHO, 1970.)