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PRITECH

DIARRHEAL DISEASE CONTROL

MEXICO

STRATEGY ASSESSMENT REPORT

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Introduction

PRITECH, or the Technologies for Primary Health Care Project, is a technical assistance program of the United States Agency for International Development, Bureau for Science and Technology, Office of Health. It is part of the Agency's overall commitment to expand the effectiveness of primary health care, particularly through the promotion of improved diarrheal disease control and expanded immunization programs.

The PRITECH team arrived in Mexico at the request of the Interinstitutional Committee on Oral Rehydration and the USAID Office, Mexico. The primary purpose of this Strategy Assessment Mission was the development of specific recommendations to promote the rapid and effective expansion of the Mexican Diarrheal Disease Control Program and Oral Rehydration activities.

The team made a special effort to provide a balanced and impartial review of each of Mexico's institutional programs. We have avoided judgemental comparisons of the relative effectiveness of one program or another. Instead, we have tried to understand how each program helps meet Mexico's overall needs and to recommend ways in which the total effort may be effectively accelerated.

It became clear to the team after only a few days that the Mexican system is highly complex and sophisticated. We do not pretend to understand it nor even to have seen a significant percentage of the diarrheal disease control activities being carried out through the system's thousands of hospitals, clinics, and health centers. We were continually impressed with the professional capacity of our Mexican hosts at all levels. Our intention is to provide an outside perspective, based upon our experience in more than 30 countries, with the hope that some portion of our recommendations may be useful to the government in its program of diarrheal disease control.

I. EXECUTIVE SUMMARY

At the request of the Government of Mexico, the United States Agency for International Development sponsored a consultant team from January 14 to February 16, 1985 to review the current Mexican Oral Rehydration Therapy (ORT) Program and to recommend ways of rapidly expanding effective coverage of the program. Information on the program was obtained thru visits to urban and rural health facilities in 3 states and the Federal District, interviews with government and private sector professionals as well as a review of numerous descriptive documents. Several general observations stand out as particularly striking to the team.

1. Mexico lacks neither practical experience nor capable human resources to mount a successful ORT program.

2. Despite more than 20 years experience with ORT demonstrating its effectiveness, and adequate production of ORS packets, Mexico is not yet occupying the role of leadership it could in Latin America.

3. Mexico's official health sector is complex and sophisticated covering to one degree or another the vast majority of citizens.

4. Coordination among the diverse institutional components of Mexico's health sector is difficult but possible and necessary if ORT is to meet its full potential.

5. Mexico's private sector also holds significant potential for rapidly increasing ORT coverage through the subsidized commercial sale of a low price ORT product.

The team was asked to review constraints inhibiting ORT expansion and to recommend specific actions which could help overcome these constraints. The primary constraints identified include:

1. The lack of a full-time program manager.

2. Lack of standardized ORS mixing and administration instructions among the various health sector institutions.

3. Insufficient support from the medical profession.

4. Widespread use of competing remedies, ranging from traditional medicine to anti-diarrheal and IV solutions.

5. Lack of information on existing consumer practices and preferences.

6. Lack of a cohesive program "image" with popular impact due to separate institutional promotion and education campaigns.

7. An excess of educational messages devoid of effective prioritization.

8. An underutilized private sector distribution channel.

9. Insufficient epidemiologic surveillance system.

The key recommendations respond to these constraints and include the following:

1. Name a full-time Program Manager/Coordinator for ORT program development for at least three years.

2. Develop an aggressive physician and health provider training and promotion campaign.

3. Conduct operational research on consumer beliefs and practices, product acceptance, educational materials effectiveness and in-put monitoring.

4. Focus on widespread promotion of ORS packets, leaving use of home prepared solutions for geographic areas where packets are unavailable until packet program is fully developed.

5. Implement a coordinated national promotion campaign with standarized slogan, product name, logo type, mixing and administration instructions, and complementary information.

6. Pursue creation of a subsidized ORT product sold through CONOSUPO or other commercial outlets throughout the country.

Summary of additional recommendations include:

7. Giving priority to Diarrheal Disease Control Program for at least three years.

8. Coordinating rather than integrating all diarrheal disease control activities.

9. Forming an institutional working group of <u>practitioners</u> to complement existing coordination system.

10. Adopting common measures of progress for first two years of program operation.

11. Establishing targets and preparing a sampling plan to provide an annual measure of progress.

12. Providing special recognition to states (within each institutional system) which perform best on each criteria.

13. Developing a population based epidemiological monitoring mechanism.

14. Preparing an analysis of ORS production costs.

15. Providing adequate financing to private sector so that they can participate in training and ORS promotion.

16. Encouraging private sector so that a new product containing 4 packets of 250 ml each packaged in a plastic container or cardboard carton (like a milk container) can be produced by one of the producing labs and marketed by the private sector.

17. Extending coverage in the rural areas where no health facilities exist thru Conasupo.

18. Classifying ORS as a "popular" product in order to permit sales in all types of establishments and in order to use all types of promotion channels (radio, TV, newspapers, etc.)

19. Advising producers as soon as possible of yearly requirements so that they will be prepared for production.

20. Improving diarrheal disease education in universities.

21. Improving circulation of existing ORT materials.

22. Including new findings in university health field curriculums.

23. Providing consolidated teaching of ORT in centers where modern methods of rehydration and other parallel activities such as mother-child rooming in, breast-feeding, and destimulation of bottle feeding are carried out.

24. Forming a multi-disciplinary team consisting of a pediatrician, a professional nurse, a bacteriologist and a health education expert to teach ORT.

25. Developing a certification program for health personnel providing incentives for those professionals who actually use ORT and who demonstrate a complete understanding of the basic principles of ORT.

26. Developing a special didactic poster for health professionals, which will provide practical reminders on clinical rehydration along with a prestigious status to rehydration wards.

27. Including a colored insert in every other issue of the SS Buletin for one year - giving publicity to local ORT experiences.

28. Developing an ORS curriculum guide which should be made mandatory in medical colleges.

29. Training which places a greater emphasis on hands-on experience and less use of lecturers as a means of instruction.

30. Development of a diarrhea management training program.

31. Development of structured training activities for ORT.

32. Adaptation of a two-phased implementation strategy with phase I lasting 2-3 years, concentrating on the development of a comprehensive health communication program to promote the use of existing ORT packets. Phase II would include both packets and home prepared S/S solutions.

33. Adaptation of an aggressive marketing strategy in the promotion of ORT.

34. Giving special attention to the standardization of educational materials.

35. The use of point of purchase generic advertising for ORS in health centers and medical stores.

36. Development of a health education program which limits itself to promoting only a few actionable messages.

37. Conducting research to study the contamination of ORS solution prepared with boiled and unboiled water.

38. A clinical study of sodium levels and home prepared solutions.

39. A clinical study comparing home prepared solutions with packets.

II. DESCRIPTION OF THE ASSESSMENT

A. OBJECTIVE

To provide specific recommendations to the government of Mexico on ways to rapidly expand the effective coverage of diarrheal disease control activities in Mexico.

B. TEAM MEMBERS

Dr. William A. Smith, Vice President, Academy for Educational Development, team leader and specialist in Health Education, Social Marketing and Health Communication.

Dr. Daniel Pizarro, Chief, Emergency Room Service, National Children's Hospital, San Jose, Costa Rica; clinical specialist in ORT.

Dr. Dieter Zschock, Health Economist; Assoc. Professor, Department of Economics, State University of New York; specialist in systems planning.

Mr. Rodrigo Arce, Senior Staff Member, Raven Laboratories; San Jose, Costa Rica; specialist in production and distribution of Oral Rehydration Salts.

Ms. Sandra Del Prado, Research and Logistics Consultant.

C. ACTIVITIES

The five member team spent a total of 77 person/days in Mexico during the period from January 14th to February 16th, 1985. They had more than 30 interviews with some 80 professionals at various levels of the Mexican health system. In addition they interviewed some 15 individuals outside the health sector. More than 86 documents were reviewed. Field visits were made to rural clinics in Morelos, Tlaxcala, Oaxaca and Chiapas. State and Federal District officials were interviewed and programs reviewed. Special attention was given to present a balanced review of all the major institutional partners which together comprise Mexico's health sector including:

Secretariat of Health (Secretaria de Salubridad)	SS
Mexican Institute of Social Security (Instituto Mexicano del Seguro Social)	IMSS
IMSS/COPLAMAR (Coordinacion General del Plan National de Zonas Deprimidas y Zonas Marginadas)	IMSS/COPLAMAR
Institute of Security and Social Services for Public Employees (Instituto de Seguridad Social al Servicio de los Trabajatores del Estado)	ISSSTE

National System of Integrated Development of the Family (Sistema Nacional Para el Desarrollo Integral de la familia)	DIF

Dependencies of the above which are referred to repeatedly in this document include:

Department of Preventive Medicine (Direccion General de Medicinas Preventivas)	DGMP
Department of Epidemiology (Direccion General de Epidemiology)	DGE
Coordinated Health Services (Servicios Coordinados de Salud)	SCS
Program for the Prevention and Control of Diarrheal Diseases (Programa para el control de Enfermedades Diarreicos)	PPCED
Infant Hospital of Mexico Federico Gomez (Hospital Infantil de Mexico Federico Gomez)	HIMFG

III. GENERAL INDICATORS OF DEVELOPMENT AND HEALTH STATUS

A. DEMOGRAPHIC INDICATORS

1. total population (millions) 1985	78.2
2. population annual growth rate (%) 1970-81	2.8
3. child population aged 0-4 (millions) 1981	11.7
4. GDP per capita (US$) 1981	$2,250
5. adult literacy - male/female (%) 1980	86/80
6. birth rate (per 1000 population) 1981	34
7. life expectancy at birth (years) 1981	66
8. death rate 1981	7
a. infant mortality rate aged 0-1 (per 1000 live births) 1981	50-54.4
b. child death rate aged 1-4 (per 1000 population aged 1-4) 1981	4

B. HEALTH INDICATORS

- major causes of disease - respiratory diarrheal disease (estimated to be 3 times reported)
- major causes of death - respiratory diarrheal disease
- diarrheal disease (*see annex #1)

a. morbidity	3,213/100,000
b. mortality	8.75/100,000

- % of one year old children fully immunized 1980

a. TB	13
b. DPT	10
c. Poliomyelitis	31
d. Measles	12

C. EDUCATION

- adult literacy rate	82.7%

D. COMMUNICATIONS

Radio Receivers per thousand	295.4
TV Receivers per thousand	108.1

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* UNICEF the State of the World's Children 1984/World Bank

IV. GENERAL DESCRIPTION OF HEALTH SECTOR INSTITUTIONS

Mexico's government health sector is composed of four principal institutions, the Secretariat of Health, the Mexican Social Security Institute, the National System of Integrated Development of the Family and the Institute of Security and Social Services for Public Employees. Each institution has separate operational systems, and with few exceptions serves different populations. There is an overlap of population served by the Secretariat of Health and DIF and in the case of diarrheal diseases, a new law provides access to emergency care to all citizens through the Social Security system as well. A recent reorganization of this health system has placed all four institutions under the nominal supervision of the Secretariat of Health, but this appears to represent a coordinating rather than an authority or controlling function.

A. THE SECRETARIAT OF HEALTH (SS), of which the Minister of Health is the director. The Secretariat is responsible for all health service norms, country-wide epidemiological analysis and monitoring, federal and state level sector coordination of all health services and for delivery of health services to those segments of the population not covered by other programs. Coverage is 25 million or 32% of total population and The SS receives 22% of the health sector budget. The SS is in the process of reorganizing at the State level under a decentralization plan to integrate federal, state, local and all health care programs.

The infrastructure of the SS consists of 17 specialized hospitals, 65 general hospitals and 2,781 health centers with three different levels of service. There are 14,638 medical doctors working in the hospitals, health centers and health posts, of which 2,354 are pasantes (recent graduates doing a year of social service). There are 16,262 nurses, of which 2,547 are located in health posts. The public sector nominal coverage in the rural area is approximately 70% that of the IMSS/Coplamar Program.

The responsibility for maintaining an epidemiological data base and disease monitoring system rests with the Bureau of Epidemiology (Direccion General de Epidemiologia), which is part of the Sub-Secretariat of Health Services.

B. THE SOCIAL SECURITY INSTITUTE OF MEXICO (IMSS)

IMSS has a coverage of approximately 27 million consisting of workers and their families, which represents 36% of the total population.

IMSS had 28,020 doctors, 44,306 nurses and 62,171 paramedics in 1984 and received 62% of the total health budget. The infrastructure of IMSS consists of 1,549 medical facilities, of which 392 are hospitals and 1,157 external consultation facilities.

In the urban areas IMSS health services are primarily hospital based and do not include community outreach services. At the state level, IMSS forms part of the decentralization plan.

IMSS/COPLAMAR

The IMSS rural program represents the government's principal attempt to extend health services to the rural population. Now known as IMSS-Coplamar, the rural program began in 1974 under the theme of social solidarity. IMSS-Coplamar is financed through a combination of federal and state government general revenue transfers and IMSS revenues which derive from urban employer and employee contributions. The theme of "Solidarity" implies a transfer of resources from the covered population (largely urban) to the previously non-covered population (largely rural).

IMSS-Coplamar, as such, dates back to 1979 when the then limited coverage (1.5 million) "Solidarity" program was merged with the GOM's integrated rural development program, Coplamar, which covered about 10 million people or approximately 30-40% of the rural population. With this merger, IMSS embarked on a program of building 60 rural hospitals and 3,025 health posts (including the absorption of 310 formerly IMSS-Conasupo Health Posts). This building program has been completed and all facilities are operating. They are staffed by a total of 4,400 medical doctors, including approximately 3,000 pasantes, 1,400 regular staff, and 4,555 nurses.

The IMSS-Coplamar staffing norm is one "pasante" plus nursing assistant and two local community health promoters per rural health post. Each health post is intended to serve a population of 2500-3000 rural inhabitants. Each rural hospital (50-60 beds), is staffed by four MD's, plus nursing and auxiliary staff. The total number of MD's currently employed includes the regional and central superstructure staff. Based on available data, discussions with IMSS-Coplamar, senior staff, and field visits, one can conclude that the program currently provides reasonably effective coverage for up to 11 million rural people. Total coverage claimed, however, is as high as 18 million.

Additionally, there is a team of Volunteer Social Workers (one for every 10 families or some 42,000 in 1983), rural health assistants, midwives and traditional healers. These units, in addition to drugs and other supplies, are given 18 manuals, one flip-chart, one manual of norms, and five in-service modulars to use for regular in-service training. The village level presence in each village is a Health Committee (some 11,000) which acts as the primary community voice for the IMSS/Coplamar system.

Coplamar has ceased functioning as an integrated rural development program, with its functions distributed among the more traditional governmental agencies at the federal and state levels.

A presidential decree dated March 8, 1984 instructs that IMSS/COPLAMAR progressively decentralize and integrate into State level health systems.

C. THE NATIONAL SYSTEM OF INTEGRATED DEVELOPMENT OF THE FAMILY (DIF)

DIF targets its activities towards those individuals with limited economic and social resources, specifically children, pregnant and lactating women, the aged, handicapped and those marginal populations which fall outside the Social Security system.

Primary assistance programs include: education, (primary, non-formal, and literacy); rehabilitation; immunization; complementary food programs; community development; family planning; legal assistance, and research on the causes and effects of priority welfare problems.

DIF's infrastructure consists of: The National Institute of Science and Technology for the Health of Children (INCYTAS); the National Institute for the Rehabilitation of Blind and Visually Deficient Children; 42 community development centers; 13 urban social welfare centers; one community medicine center; the National Infant Home; 12 additional infant homes; 2 experimental child health centers; 18 foster homes; the Ministry for the Defense of the Child and Family; 2 homes for the aged; 3 acustic units; 6 school feeding redistribution units; one rehabilitation center; the National School for the Blind; one professional rehabilitation center; one family feeding center, 7 "Friends of the Worker" homes; the Heroic Childrens Cultural and Recreation Center; 6 recreation camps and 16 rehabilitation special education centers.

DIF had 842 professional, 2,735 technical, and 6,942 other staff members in 1984.

They gave 10,996 talks on health care to an audience of 110,200 in 1983.

D. INSTITUTE OF SECURITY AND SOCIAL SERVICES (ISSSTE)

Providing health care only to government workers, ISSSTE has a coverage of 6,000,000 (8% of the total population) and a budget which represents 13% of the total health sector resources. ISSSTE had 7,953 doctors and 11,243 nurses in 1984.

E. PVO DELIVERY SYSTEM

Some 70 private voluntary agencies are reviewed in the Technical Assistance Information Clearinghouse (TAICH) Country Report for Mexico. Thirty-eight of the seventy report having some kind of health activities. Twenty-eight of the thirty-eight are limited to programs in single clinics or hospitals and involve services to relatively small populations. The Care Foundation provides regular radio programming on health topics. Catholic Relief Services has worked largely with DESMI in a a seven state program of health training, but has recently moved their office to Costa Rica. The Ford Foundation has provided assistance to the National Behavioral Science and Opinion Research Institute in Mexico. The Hesperian Foundation has helped popularize and promote home-prepared solutions of sugar and salt rehydration programs as well as some excellent child to child materials for schools. Partners of the Americas conducts training courses for Village Health Workers in some 6 Mexican States and PIAT /PATH has helped develop a pamphlet for non-literates on oral salts.

V. HISTORY AND CURRENT STATUS OF DIARRHEAL DISEASE CONTROL PROGRAM

There are several previous ORT experiences in Mexico worth noting. In 1956-60 an oral rehydration program was initiated by Dr. Victor Ceballos Cervantes in the State of Jalisco utilizing a hand packed formula of 3 g of NaCl, 1 g of KCl and 46 g of saccharose (to be diluted in one liter of water). For one year packets were distributed in seven states and education campaigns conduced. Even though the mortality rate for diarrhea disease in children under 5 decreased from 32 to 7.41 in a study group of 10,000, this program was discontinued.

In 1960 Dr. Joaquin de la Torre and Dr. Jorge Larracilla Alegre practiced rehydration utilizing nasogastric tubes and a solution containing 25mmol/liter sodium at the Infant Hospital of Mexico Federico Gomez (HIMFG). Rehydration took from 48-72 hours. This technique also did not prosper.

In 1980 the National Pediatric Hospital of the IMSS National Medical Center installed an oral rehydration unit in which the technique was taught using the formula recommended by WHO. The staff of the unit trained the personnel of IMSS's clinics No.'s 25 and 30, in which ORT is still practiced. IMSS later introduced ORT in health centers and hospitals belonging to the IMSS/COPLAMAR system, in which ORT is practiced today. Between May,1983 and February 1984, 4,175 patients were treated, among which 146 were newborns.

Also in 1980 a pilot program was initiated in the SS Hospital in the State of Guerrero. Following a great deal of resistance on the part of the doctors, the positive results of ORT convinced them of the benefits of the method. From the hospital, the practice of ORT was transferred to the community level. In this program, as in the initial IMSS experience, UNICEF donated packets were utilized. This program was eventually discontinued.

A. ORGANIZATION AND ADMINISTRATION BY INSTITUTION

1. SS

The functions of the Secretariat of Health are to establish and conduct national health policies and to formulate recommendations as well as coordinate the activities realized in relation to the prevention and control of diarrheal disease between the various entities of the health system.

The Sub-secretariat of Health Services analizes, agrees upon and submits for approval, the program, norms, and procedures for the prevention and control of diarrheal diseases.

It plans, organizes and evaluates the effectiveness of the PPCED, provides information to other dependencies and supports intersectorial coordination with respect to the PPCED.

The DGMP conducts the PPCED Program, proposes strategies and goals, supervises, guides and controls, promotes and supports participation in training courses, and evaluates in coordination with the Bureau of Epidemiology.

The DGE actualizes and supports the implementation of the Epidemiological surveillance system in cases of diarrhea disease. It evaluates PPCED impact and provides information which is unobtainable from the institutions where PPCED activities are carried out.

The Interinstitutional ORT Committee, established on July 20, 1983 by Presidential decree, is a sub-committee of the Sub-Secretariat of Health Services. With recent changes the Committee now falls under the direction of the DGMP and is responsible for coordinating the actions of the health institutions that carry out the PPCED, determining actions to be taken and verifying that they are carried out.

The Committee is composed of Dr. Felipe Mota Hernandez (HIMFG) Coordinator; Dr. Victor Ceballos Cervantes, (SS); Lic. Silvia Rodriguez Loza, Secretary, Dr. Agustin Carbajal Aguilar, IMSS; Dr. Joaquin Cravioto, DIF; Dr. Jorge Arenas Cervantes, SS; Lic. Marina Guzman Vanmeeter, SS; and ESP (Public Health Nurse) Alicia Maldonado Escamilla, SS.

The group, as originally formed, met only once. Dr. Cravioto (DIF) and Dr. Ceballos (SS) appointed representatives and Dr. Carbajal (IMSS) has not attended additional meetings.

The Committee has been influential in accomplishing the following:

- A monograph on ORT, written and published in 1984 in the Public Health Magazine of Mexico. IMSS distributed 3,000 copies and the SS distributed 5,000 to health personnel.

- A research protocol designed at the HIMFG for a unified formula of ORT to be used in Mexico.

- The International Seminar on ORT which was held in May, 1984 at the HIMFG. This seminar served as a conduit for information on ORT activities being conducted nationally and internationally in various hospitals and health centers.

- With the assistance of PAHO, two training courses were held on ORT; one for State level program managers of the Diarrheal Disease Control Program and the other for intermediate level supervisors.

In January, 1985, the DGMP of the SS presented their Program for the Prevention and Control of Diarrheal Diseases. This program is being reviewed and discussed by the Interinstitutional ORT Committee coordinated by Dr. Mota.

To date a director has not been named to head the National Diarrhea Disease Control Program.

The Health institutions are responsible for the diffusion and application of norms and parameters of the PPCED, implementation of the program and for informing the normative level of results obtained. At the State level, responsibilities include implementation, promotion, coordination and support activities. Norms are disseminated and objectives supported, supervision is provided and evaluations conducted. Training activities for health personnel are conducted, statistical information collected; necessary inputs are provided and monitored and the epidemiology surveillance system is implemented and controled.

Implementation of the diarrheal control program in the public health sector faces a big obstacle in that there is little continuity in personnel in the SS. In general, personnel changes occur 2 to 3 times during a 6 year administration and there are problems of program continuity.

The shortage of budget funds in the SS results in lower salaries and in some cases no salaries for pasantes doing their year of social service.

The therapeutic equipment in the health posts is practically non-existent and 40 pesos (U.S. 20 cents) is charged. While this is a small sum, it is one that many can't afford to pay.

The SS launched its Program for the control of Diarrheal Diseases in May, 1984 and to date approximately 1,000 doctors, 1,000 nurses and 600 health workers have received training in order to attend 200 health centers and 3 third level hospitals. The SS has instructed the Coordinated Services of each State to organize and implement a program for the control and prevention of diarrhea diseases.

2. IMSS

Since IMSS health services in the urban areas are primarily hospital based and do not emphasize community outreach activities, it is possible that ORT for the majority of IMSS beneficiaries is not yet being used widely in the home. However, mass media messages are frequently broadcast on radio and TV, and by law all children suffering from diarrhea have access to IMSS emergency services. IMSS urban facilities have reportedly experienced surges of demand, but there is no documentation of this phenomenon. One gets the impression that the management of ORT services is more appropriate and possibly more effective in the rural than in the urban health care programs of Social Security.

3. IMSS/Coplamar

At this time, programs for the control of diarrheal disease with an emphasis in ORT are being carried out throughout Mexico in all the medical units (health posts and hospitals) of the IMSS/Coplamar system. IMSS-Coplamar initiated ORT as part of its primary health care services delivery norm in 1979. ORT is not singled out, but rather given equally strong emphasis among the standard WHO PHC components. Extensive and detailed record keeping of cases seen in rural health posts and hospitals shows diarrheal diseases to be the leading cause of mortality and the third ranked cause of morbidity of the population covered by IMSS-Coplamar. Norms, training, supervision, and medical supplies information indicate that the program currently provides adequate ORT services by WHO standards, although their effectiveness may still be seriously limited due to reticence by both the medical staff and the population to fully utilize available ORS supplies. In one IMSS-Coplamar health post visited, IV solutions were in ample supply, as were ORS packets. The licensed M.D. seemed fully committed, however, to practicing the PHC approach, including the promotion of ORT in the community.

ORT training materials have been prepared, but it is not clear to what extent and how they are being used. Medical School curriculum do not yet include ORT training so that pasantes may not be informed about ORT when they begin their rural service. A strong emphasis on supervision (at least monthly visits to each health post by a supervisor) may compensate for this deficiency. Community outreach is also stressed, including completion of household interview forms that include relevant questions on diarrhea. Rural health posts also provide services both during the day and in the early evening hours which enhances their effectiveness.

IMSS/Coplamar has continuity in their programs as the personnel are stable, resources are abundant and the principle obstacle is the pediatricians in the hospitals who were not taught ORT, only intravenous rehydration therapy.

At the federal level, there is relatively little coordination of ORT program planning and development between the SS and IMSS (urban) or IMSS-Coplamar (rural). Data on coverage and incidence of diarrhea reported in the DGMP/ORT program and other SS data sources most probably refer only to SS services delivery. As previously mentioned, the SS has a mandate to organize health services at the State level under the Coordinated Health Services, integrating Federal, State and local programs. It is doubtful, however, that the SS will, in fact, be able to integrate the IMSS or IMSS/Coplamar programs. Rather, the two areas are likely to continue functioning in parellel fashion as they do at the federal level. This does not mean, however, that there may not be coordination of coverage and occasional cooperation on specific health interventions, such as immunizations.

4. Additional ORT activities are carried out in the following:

- The Pediatric Hospital of IMSS in Mexico City maintains 3 beds for ORT. In March of each year IMSS, medical and nursing staffs receive training in ORT.

- In the Juarez Hospital in Mexico City, an ORT unit has been functioning since 1980 in the Pediatrics Emergency Service, under Dr. Maximiliano de Leon.

- The Infant Hospital of Mexico has a two bed unit, and with the help of UNICEF, is remodeling an area with room for seven ORT modules and two or three beds for intravenous rehydration therapy and/or research.

- DIF has trained 1,130 persons including doctors, nurses and health workers who work in their community medicine program and produced flip-charts and other graphic materials for community education.

- ISSSTE has plans for ORT but has not become actively involved to date.

In the private sector, ORS is not prescribed for the prevention or treatment of dehydration because the packets are not available on the market and MD's may not have accepted this alternative to IV treatment.

B. PRODUCTION AND DISTRIBUTION

1. Calculating the Need

The basis for estimating required production should be the information on mortality and morbidity.

The available DGE data on mortality and morbidity seems to refer only to the cases registered by the SS services. If this is so, their use of the total population as the denominator in calculating mortality and morbidity rates may be misleading. For example, the SS reports 2 million diarrhea cases for 1982 and a rate of 2823/100,000. However, IMSS reports a rate of 9,150 per 100,000 insured members. Further analysis, summarized in Annex 1, leads the team to conclude that the national diarrheal morbidity rate is about 9,150/100,000.

Furthermore, we estimate that the diarrheal morbidity for the 0-4 age group is about 26/100. The conclusion reached in Annex 1 is that the current national production of 20 million ORS packets could satisfy this total social demand if they were efficiently distributed and effectively utilized.

The alternative approach to estimating the adequacy of current ORS production is to estimate the composition of total health sector coverage by institution, by urban/rural components, and by

age groups. This is done in Annex 1. The coverage estimates by the SS are probably too low for IMSS/IMSS-Coplamar. The estimate found in many other sources including Dr. Montero's report is 50%. Accepting a rural coverage total by IMSS-Coplamar of 9 million, and assuming 50% urban coverage, total IMSS coverage averages 46%. It is also reasonable to estimate rural coverage by the SS at about 25% or 6.3 million, which (optimistically) allows for the same 2,500-3,000 inhabitans per health post as does the IMSS-Coplamar coverage. Annex 1, while largely consisting of rough estimates, provides a consistent profile of total coverage that can be translated into another estimate of social demand for ORT (at least on the institutional side if not the intended consumer). The conclusion of this calculation also suggests that an annual production of 20 million packets is adequate, given current total health services coverage (82%) in Mexico.

Private demand for ORT is limited largely to solutions sold in pharmacies. Although a law exists to regulate the pharmaceutical industry, the reality is that its effectiveness is nominal. Pharmacy employees prescribe all kinds of products. Among those recommended for diarrhea are Furazolidina, Diapec, Poldemicina, Kaomicin, Kaopectate, etc.

A study conducted for PROFAM by BIMSA (Bureau for Market Research) shows that the sale of oral rehydration products was $159,000 (U.S.) in 1984. Pedialite, produced by Abbot, holds 61% of this market and Electrolite, produced by PISA, holds 26.4%. Both products are solutions of a liter or half-liter size.

2. Raw Materials

All the raw materials and packaging materials needed to produce ORS are produced in Mexico and their prices are similar to international prices.

Bicarbonate: Produced by Alcali Industries, S.A.

Tel: 918-348-4300, 918-348-7875 (Monterrey).

They have sufficient capacity and their price is 58 pesos per kilogram.

Sodium Cloride: Produced by Reactivos, RMSA.

Tel: 762-7492, Mexico, D.F.

The price is 520 pesos per kilogram. It is also produced by Merck of Mexico.

Potassium: Produced by Tecnica Quimica, S.A.

Tel: 582-6600. The price is 390 pesos per kilogram.

Dextrose: Produced by Arancia Polibasicos in their plant in Guadalajara. The price is 230 pesos per kilogram.

Tel: 531-3115 and 531-2085 (Mexico, D.F.).

Citrate: Produced by Quimica Mexama in Cuernavaca.

Tel: 373-5393 (Mexico, D.F.).

The price is 308 pesos per kilogram.

Aluminum Foil: One of the principal producers is Rotocelf. Tel: 373-5393. Packaging materials vary by quantity purchased, but as an average, in two colors, run 1,693 per kilogram.

Logically, all the prices vary with the quantity purchased and all the companies stated that there will be increases of between 20-30% in 1985. The products are all pharmaceutical quality similar to USP. The production capacity of the companies is sufficient to cover the Mexican market and also for export. Therefore, there would be no problem with a 100% increase in the production of ORS.

3. Production Sources

There are two laboratories currently producing ORS using the WHO formula (with sodium bicarbonate) and a third which has registered the product but as yet does not have adequate equipment. These three laboratories are:

Protein Laboratory, S.A. This laboratory has the largest capacity of the three, with two filling/sealing machines capable of producing 20 million packets in a year on one shift and the capacity of producing thirty million or more with more than one shift. They began production in 1983 and in 1984 sold 13,000,000 packets to the GOM, principally to the SS and IMSS.

The laboratory has good facilities and systems, both for production and quality control. In sales and marketing they have 25 sales representatives and 2 supervisors and a total personnel force of 148. Their advertising is concentrated in the Federal District (40%) and other zones such as Yucatan, Michoacan, Guanajuato, Morelos, Guerrero and Hidalgo for an approximate coverage of 60% of the country.

Most of their products are sold through 8 wholesalers or distributors who do reach the entire country. The sales to the public sector are made from the central warehouse in the Federal District or from regional warehouses. In some cases deliveries are made to delegations or Coordinated Services of a state.

They are currently promoting the product Electrolitos Orales PTN in the pharmacies and have developed an audio visual program (slides with sound) in which they claim to have invested 1 million

pesos. They have shared these promotion materials with some health centers and with the sales force of the distributors.

The laboratory is carrying out their own stability tests with the citrus formula with the idea of lowering costs by changing the packaging material.

Farmaceutic Corporation, S.A.

This laboratory is a consortium of various laboratories and has a good quality control system. Their installations are adequate and meet the production specifications of WHO. Their product is also called Electrolitos Orales and their packaging carries the logos of the public health institutions.

They sell only to the public sector but have plans to enter the private sector within 3-5 months.

They have the capacity to produce 8-10 million packets a year.

NOVAC - Infancia, S.A.

This laboratory has a registered product of the same name, Electrolitos Orales using the WHO formula but does not as yet have adequate equipment for producing large quantities. They are interested in selling only to the public sector, which won't be possible before August of this year.

Although it was not possible to see their installation, it is presumed that they have a filling/sealing machine, as they sell small quantities of packets called "Rehidratoral" with the following formula:

Trisodium citrate	0.368 g
Potassium chloride	0.466 g
Sodium biphosphate	0.172 g
Calcium Lactate	0.154 g
Sodium chloride	0.074 g
Citric Acid	0.300 g
Magnesium Sulfate	0.060 g
Saccharose	18.406 g

To be disolved in 250 ml of water.

They also use aluminum foil for packaging, and sell boxes containing 4 packets. Their annual production is 40,000 boxes and they employ 100 people. They sell directly to rural doctors with small pharmacies.

The laboratory sells other products to IMSS and thus has the quality control approval of IMSS.

Vitrium, S.A.

This laboratory is a state owned business (100%) formed 4 years ago with the objective of producing basic medicines which would complement the local private production. The project has varied somewhat by placing more emphasis on the production of incipients and the possible extraction of primary activants, without totally giving up the production of pharmaceutical products.

They have conducted a study on the production of ORS, including the construction of a small plant costing $60,000.00 (U.S.) with the capacity for producing 12 million packets per year which would complement private production. This, however, has not been approved and it would be two years before commencing production.

Proquivemex Laboratories comes under the direction of Vitrium and also produces some basic medicines. They are, however, limited by space and equipment. Apparently Vitrium may absorb this other para-state business.

DICONSA (Distributor for CONASUPO, S.A.)

Disonsa pertains to a branch of the Secretariat of Commerce and is 100% state financed. They have 14,000 establishments throughout the country, 12,000 of which are in rural areas. Their principal objective is to offer basic products at reasonable prices to the population through their markets and stores.

Meetings have taken place with the Secretariat of Health to discuss the possibility of including the sale of basic medicines in their program. Their structure and coverage is very wide and could offer a magnificent alternative for making ORS packets available at the community level where health centers do not exist.

Their budget, however, does not contemplate medical products although they do sell some popular items such as Alka-Seltzer and aspirin.

4. Financing and Cost of ORT

Mexico spends the equivalent of about US $12 billion on health services (6% of GDP). This is an average of $150 *per capita*. In very rough terms, the total and average expenditures in the public and private sectors break down as follows:

IMSS	+ 65%	= $7.8 bill or $220/capita
SS	+ 25%	= $3.0 bill or $120/capita
Private	+ 10%	= $1.2 bill or $300/capita

Detailed budgetary information for the Social Security and SS sub-sectors was not available for this report. Nor would such information be particularly useful because budgets generally do

not detail program expenditures by categories such as personnel, transportation, supplies, etc. All these standard categories cover multifunctional activities.

ORT is a component of PHC services delivery, and it would be useful to know the PHC components of total sub-sector expenditures by IMSS and the Secretariat. In the case of IMSS, IMSS-Coplamar has a separate operating budget, yet all its overhead costs are borne as an integral part of the total IMSS expenditures. The comparatively high quality and intensity of IMSS-Coplamar health services implies a direct cost of as much as $100 per capita, which would still represent only about 15% of total IMSS expenditures. The perhaps comparable staff quality but much lower intensity of SS coverage at the rural PHC level suggest a per capita cost of about $50, which would represent about 10% of total public health expenditures. These are "stylized" estimates, based on international comparisons, and would need to be checked against Mexican data (but these are unlikely to be available in the necessary detail).

The ORT draft plan by the DGMP shows a proposed budget of net additional (or "marginal") expenditures for the ORT program in 1985 as follows:

12 million ORS packets	Mex.$ 25.0 million
Educational materials	27.0 million
Training courses	28.0 million
Total Mex. $	80.0 million
Total US $	365,000 (220:1)

During 1984, the SS distributed 2.5 million packets of which half may have remained unused by year-end. The SS ORT program thus has a serious absorbtion problem. Our estimate of potential demand in the social security and public sectors, moreover, suggests a maximum demand of 8 million ORS packets. (see Annex 1). The cost for training courses and educational materials seems adequate. With these modifications, a marginal cost of about Mex. $50 million (U.S. $230,000) seems more reasonable.

The total production level of 20 million ORS packets represents a total cost of Mex. $560 million, or U.S. $2.5 million. This is less than 0.5% of the estimated total cost of PHC. The cost of ORS supplies has never been considered a barrier. The integration of ORT within existing PHC services also should not involve any increase in costs unless one assumes that the time of PHC personnel is already being fully utilized. The issue in ORT expansion should not be one of marginal cost in the long run (although even relatively small additional funds, such as printing of educational/promotional materials and travel and per diem expenses for training programs may be a problem if they have not been previously budgeted). Rather, the major economic

problems of ORS absorbtion and ORT expansion are likely to be found in the areas of management of ORT services delivery, or of PHC services delivery more generally.

A number of relatively minor but not unimportant cost constraints also currently inhibit ORT expansion in the public sector. These include the apparent unavailability of funds for production of ORT training and promotional materials, for conducting state-level SS staff travel to the states for ORT program development and coordination. Since these are not large cost items within the overall SS budget, proper budgetary planning and management should overcome these constraints, but only if ORT is accorded the necessary high-level priority that its potential in sharply reducing the leading cause of infant morbidity and mortality calls for.

Packets

Based on the cost factors provided by the producers and the raw materials of aluminum foil, the cost of a packet can be calculated as follows:

Formula/1000 packets		Price/Kilogram Pesos	(+2%) Total
Sodium chloride	3.5 Kg.	520	1856
Sodium bicarbonate	2.5 Kg.	58	148
Potassium chloride	1.5 Kg.	390	597
Dextrose Anhydrous	20.0 Kg.	230	4692
			$7293

Included is a 2% normal loss factor.

The cost of aluminum foil for 1000 packets is:

$3,720 pesos, including a 5% loss of aluminum and 2.2% of foil per packet.

7,293
3,720
11,013/1000 packets or 11 pesos/packet

Supposing that the labor and indirect costs are 30%, the final production cost would be 14,317 pesos or 14.31/packet. This figure does not include sales nor distribution costs. Since promotion costs are borne almost entirely by the public health sector, the sales cost is minimal.

If the exchange rate is calculated at $118/dollar, the net cost of production should be around U.S. $0.07 packet.

5. Present Availability of Packets

IMSS-Coplamar probably receives more than adequate supplies of ORS and its distribution system for basic medicines appears to be working well and includes providing rural health posts with the necessary quantity of ORS.

Currently IMSS calculates having some 3,000,000 packets of ORS in their warehouses, having distributed 6.5 million in 1984. The SS warehouses and Health Centers also have sufficient packets.

6. Public Sector Distribution

SS management in ORT is still largely in the planning stage, although in 1984 they began to purchase and distribute ORS supplies. The agency is not clear on the quantity of supplies needed, as is evident from its large overestimation of requirements for 1985 (i.e., 12 million planned, compared with maximum likely social demand of 8 million packets). The SS monitoring of the distribution and utilization of ORS is so far inadequate. Requests for reports were answered by only 15 (of 31) states. The responses received indicate that from 20 to 80% of supplies received remained unused at year-end. Site visits showed that large quantities of ORS packets were stored at the central SS level.

Distribution of medicines to rural health posts is a major problem in the public sector, as are training, supervision, and activity reporting. Community outreach appears to be limited as a result. SS officials acknowledge these problems and cite several explanations, including inadequate transportation and per diem payments for travel. The lower salaries received by public sector medical staff, the fact that many of them also work in private practice, as well as frequent staff turn-over are disincentives for providing more extensive training and supervisory service in the rural areas. Rural health posts also provide services only from 8:00 a.m. - 2:00 p.m. which limits their overall effectiveness.

Both IMSS and the SS have their own distribution systems. They have central warehouses in the federal district and smaller warehouses throughout the country. IMSS distributes to 6 regional warehouses which in turn distribute to the rural medical units. In addition to a quality control laboratory in the federal district, each regional warehouse has a small laboratory in which some tests can be conducted, in cases where the deliveries did not pass through the central warehouse.

Distribution is carried out by the Supply Bureau where the product arrives from the producer. In accordance with a distribution program worked out by the DGMP, supplies are dispatched to warehouses at the state level, and from there to the Health Centers.

It is important to mention that cooperation exists between the different institutions (principally the SS and IMSS) at the operational level where packets and educational materials are interchanged.

7. Private Sector Distribution

The distribution of medicines in the private sector is direct from the laboratory to the pharmacy, especially in the Federal District. The majority of products, however, are sold through wholesalers or distributors which have distribution systems allowing them to cover part or all of the country. Among the most prominent are Casa Autrey, S.A.; Casa Marzam, S.A.; and Drogueras, S.A. The utility margin of these distributors varies between 17-25% depending on the medicine. The pharmacy uses the same percentage and the price should be indicated on the package.

PROFAM, who distributes their own products (birth control) has 19 salesmen with pick-ups, 3 supervisors and a sales manager. Initially PROFAM had larger sales, which have been diminishing due to the inflationary process.

Currently they visit 5,000 pharmacies, of a total 12,500 throughout the country. In 1984 PROFAM conducted a market study with the intention of producing rehydration salts in tablet form. The product has been discarded, however, due to the high cost of the tablet and due to the economic situation of PROFAM.

C. HEALTH EDUCATION

The existing health education system is divided among each of the major institutional components of the overall health system, that is SS, IMSS, IMSS/Coplamar, ISSSTE, DIF and the individual state level systems. These activities are now coordinated through the Interinstitutional Committee on Health Education chaired by Dr. Ana Cristina Covarruvias, Director of the Bureau of Health Education within the SS. The committee meets regularly and participation of all members has been excellent so far. The basic objectives of the committee include sharing information and experiences as well as coordinated programming of specific activities such as the diarrheal disease program.

Health Education within the SS holds the status of a Bureau, one of 25 in the recent reorganization. Along with Epidemiology, Family Planning and the Regulation Council it forms part of the Subsecretariat of Health Services.

The Health Education Bureau is subdivided into 6 subdivisions and has approximately 55 technical professionals divided into three large areas of activity: 1) liaison with other institutions both within and without the SS; 2) research and materials production and; 3) training and supervision. Interviews with ten of these professionals indicated a high level of preparation and technical capacity. Dr. Covarrubias is particularly impressive because

of her enthusiasm, her clear understanding of the fundamentals of communication strategy and her previous management experience in the private-sector.

The primary role of the Health Education Bureau is the development of model educational materials for two audiences; health providers at all levels and the general public. It is important to note that the Bureau's budget of some 30 million Mexican pesos ($1,500,000) only covers the cost of research, materials development and reproduction of some print materials in press runs of less than 25,000 for posters and small pamphlets and less than 1000 for larger pieces such as flip-charts. The Bureau develops a wide variety of materials including radio and TV spots and programs, printed materials and audio-visual presentations. The actual production of the material is the responsibility of the Bureau's Social Communication Department which contracts with government and non-government sources to actually produce the radio and TV programs or print the graphic materials. They in turn can not place media, but must rely on the RTC of the Government Secretariat to contract air time on both local and national broadcast systems. This lack of control over media placement has led Dr. Covarrubias to conclude that segmented materials for urban and rural audiences is not practical at the moment.

Distribution of printed materials is through the sectorial system - capitol to state and then the state is responsible for distribution to municipal and local levels. Reports suggest that this system is slow and unreliable.

The Bureau for Health Education has established five priority areas for 1985 which include:

Maternal Child Health
Disease Prevention and Control
Nutrition
Family Planning
Improved Use of Health Services

The diarrheal disease activities share half the resources along with respiratory disease dedicated to the disease prevention and control themes. Specifically this means that approximately 3 million pesos will be available this year for diarrhea-related education activities through the Bureau. About 70% of this is planned for materials costs and 30% for research and administration. None of these costs include bureau personnel salaries.

Nine states - Baja California Sur, Sonora, Nuevo Leon, Jalisco, Mexico, Tlaxcala, Hidalgo, Guerrero, y Oaxaca have been selected as priority areas for decentralizing health education activities this year. Because the Health Education Bureau has no line authority over state health education departments it is

important to place emphasis on the promotion and "selling" of specific materials at the state level so that they in turn can be reproduced, distributed, and used.

The Bureau's Research Unit is composed of nine professionals and one secretary. Newly formed, they have completed relatively little research to date. Emphasis is given to qualitative research using small groups or more commonly, open-ended interviews with selected individuals. A review of a pre-test for a locally produced film on clinic staff health showed an excellent grasp of fundamentals. Perhaps most encouraging is that the results of the pre-test were actually being used to make changes in the final film. The investigation service is divided into four basic activities: diagnostic research on attitudes, knowledge and practices, pre-testing impact evaluation and monitoring which consists for the moment of checking broadcast times for radio and TV programs. Research on diarrheal disease is planned to begin on February 15, when they expect to receive the final norms upon which to base questionnaire design.

A review of plans for diarrhea related materials for 1985 showed little relationship between the schedule for investigation and production. The decision seems to be taken to base this year's materials on medical opinion and use research completed this year to impact on the 1986 program. Materials to be produced include one poster, pamphlet, flip-chart, 15 programs on radio and one on TV and one radio and TV spot. The criterion for deciding how many of which medium is necessary seems to be based on what is affordable rather than responding to any objective criteria of what's needed to meet specific reach and frequency goals. There are plans to produce training materials for health providers including a manual, users guide, a school package, and an audio-visual of some kind.

The present schedule of production is as follows:

Feb-March	-	Develop technical content
April-May	-	Develop draft outline
June-August	-	Produce original art
Undefined	-	Printing and distribution

This schedule will clearly miss a good deal of the diarrhea season for 1985. There seems to be recognition of this fact in that last year's radio and TV spots are to be rebroadcast this year.

Attention is also being given to relationships with non-health sector organizations. Negotiations are now underway between CREA, (Consejo Nacional para Recursos para la Atencion de la Juventud) and the Bureau of Health Education to use the network of some 2500 youth health educators to promote messages in areas such as alcoholism, drug dependence, sex education, family planning and nutrition. Similar discussions are now underway to approach

CONASUPO, the largest retail food chain in the country, to use food containers as a means to carry health messages. CONASUPO may also be considered as a distribution source for ORS packets.

Bureau for Social Communications/SS

The Bureau for Social Communications is the official representation of RTC (Radio Television and Film Division) in the health sector. RTC controls all government broadcast programming and places all media or gives authorization for special units to place media privately. RTC operates 4 of Mexico's largest radio stations, three television channels, (13 TRM and 11 and plans to open a new channel 7 in 1985). Channel 13 is the only one of the four which permits commercial advertising. TRM is a special network for rural programming while channel 11 is the national Educational Channel. A new channel 7 is proposed to emphasize cultural programming.

The Social Communication Bureau is organized in three departments: production, planning and systems, and information. Within the Planning and Systems Division there is a subdivision for research and for creative message development. Unfortunately the research division is practically inoperable due to a lack of resources.

Social Communication acts as a kind of switching station between government departments. Health Education may produce a story based on script. This is sent to Social Communication who in turn negotiates with the Government production house PRONARTE (Productora Nacional de Radio y Television). Once produced it is reviewed by Health Education and Social Communication and sent to Radio and Television Center for programming. Social Communication sends tapes to the authorized channels with a broadcast schedule to ensure the programs are broadcast. The monitoring system is impressive and quite effective.

Most government programming is placed free during the 12.5% of air time commercial channels must provide the government in lieu of a portion of taxes. Production costs for a single 20-30 second TV spot are approximately 600,000 pesos and 60,000 pesos for a similar radio spot. It is predicted that the costs will continue to rise at approximately 30% every 6 months.

The 1985 budget for Social Communication includes about 50 million pesos in production costs for the Health Education Council. No fixed % has been assigned to diarrhea control, but one can estimate that approximately one tenth of this sum might be available, or about 5 million pesos.

Social Communication estimates that about two months time is necessary between the time they receive a script and a finished TV spot is ready for broadcast. This breaks down as follows:

1-2 weeks to advise PRONARTE
1-2 weeks to produce spot
3 weeks to get air time approved by RTC
1 week to distribute tapes to stations

At the moment Social Communication is broadcasting some 12 health campaigns and has another 8 scheduled for the next 2-3 months. No request for the diarrheal campaign time has been made yet.

The Social Communication Bureau also publishes a bulletin which is mailed out to all government functionaries. A press run of 20,000 is produced each month. This, along with a quarterly journal constitutes two important vehicles of professional communication within the system.

Health Education in IMSS-IMSS/COPLAMAR

The Office of Health Education within the Mexican Social Security Institute (IMSS) is part of the Preventive Medicine Department. (See Organization Chart #2). This office acts as a normative and technical agent for both IMSS and IMSS/Coplamar health education activities. Composed of 4 professionals and 1 secretary, the office manages a budget of some 400 million pesos ($1,860,000) a year. The budget, exclusive of salaries, covers the design, production and distribution of materials for some 33 different health programs. Of these 33, Hypertension, Diarrheas and Immunizations are considered among the top 5 priority programs. It was impossible to determine the exact amount to be spent on diarrhea-related activities in 1985.

The IMSS Bureau of Health Education works with the Epidemiology Department to establish the technical content of diarrhea messages. This content is translated in script and a materials guide which follows a media plan defining the kind and number of materials needed. For 1985 it is now planned to produce 1 new poster, 2 pamphlets (one on home-prepared solutions, one on packets) 2 radio spots and 2 TV spots. These materials have already been designed and are now in the final production stage. They will be ready by March 1985.

Once a material is designed it is sent to the Press and Broadcast Division which plays a similar role as the Social Communication Division in the SS. They produce the final art and design and contract out the production to PRONARTE for media products and government printing houses for graphic material. As a general rule press runs of 500,000 for pamphlets and 1,500,000 for posters are made. RTC plays the same role in placing broadcast media on government channels. It appears that IMSS is more accustomed to purchasing commercial air time and using private sector production houses than other elements of the overall health system.

While a Department of Social Medicine within IMSS is enlarged with operations research, in fact, no studies have yet been undertaken of diarrhea related beliefs or practices. There is some intention to develop such studies this year, but obviously they will not be included in this year's programming which is already in final production.

IMSS/COPLAMAR, while able to produce its own educational materials, follows the same basic norms as those set out in the Health Education Office of IMSS.

D. Diarrhea Education for Mothers in Mexico

This section of the report attempts to summarize the principal thrust of each of the participating institutions towards the education of mothers about diarrheal disease and oral rehydration. The analysis relies almost exclusively on a review of the different educational materials being produced by each of the institutions. The audience is the same for each institution, that is mothers of children under 5. The analysis looks at four aspects of each program as follows:

PRODUCT: What form of ORT is being promoted

MESSAGES: What key ideas are being transmitted

MATERIALS: What communication channels and materials are being used

DELIVERY: How are messages and materials being delivered

1. SS

PRODUCT:

- Home prepared solutions, packets and packets labeled SUERO-ORAL.
- During the past year or so materials, particularly radio and TV spots have been made promoting all three products.
- No indication of how many packets to use per episode was in written material. Calculation was based on one packet per episode.

MESSAGES:

- Diarrhea can kill through dehydration.
- Diarrhea caused by microbes in water, food, etc.
- Dehydration is loss of water and salts.
- Signs of dehydration: no urine, sunken eyes, etc.

- Home solution replaces water and salts.
- Prevent diarrhea by personal hygiene, boil water, wash fruits; give child all he will drink.
- Add suero oral to one liter of boiled water.
- Discard left over solution. Go to Center if child gets worse.

MATERIALS:
- 2 radio spots and 2 television spots produced, planned for 1985.
- Posters, pamphlets, teacher guides, health workers guide, flip chart, and re-program some radio and TV spots.

DELIVERY:
- Radio and TV through RTC.
- Print materials through Sectorial delivery system.

FEDERAL DISTRICT/MEXICO CITY/SS

PRODUCT:
- Electrolitos Orales - 3 packets per episode.

MESSAGES:
- Diarrhea can kill through dehydration.
- When child looses water it must be replaced.
- Avoid dehydration by using powdered salts.
- To prepare, wash hands, boil water, put 4 cups of water in a jar, 1 liter for each packet.
- After 24 hours throw out left-over.
- Give solution with spoon or cup each time child has stool.
- Half cup if child under 1 - one cup if over 1
- Give 3 packets per episode.
- Child is dehydrated if more than 4 stools a day, sunken eyes, etc. - dry skin.
- Continue feeding normally. Take to center for check-up.

MATERIALS:
- None produced for mothers but 4000 copies of WHO manual were produced plus some 400 workshop modules.
- An estimated 176,000 flyers were needed for mothers, but lack of funds prevented printing.

DELIVERY: ° Using existing personnel

Some 953 Family Doctors
279 Doctors at Centers
600 Health Workers
1564 Nurse Auxiliaries

° Four technical meetings were held and subsequently some 100 introductory workshops were run for physicians and nurses.

2. IMSS

PRODUCT: "Packets for rehydration" and "Solution which will help retain liquid in the body".

MESSAGES: a) Packet

° During hot seasons dehydration is dangerous from diarrhea.

° Oral procedure is best for your child.

° If they give you a packet follow the instructions.

° Boil water and cool-disolve packet in water. Never boil the solution.

° Give your child what he wants of this solution during the day. Cover the solution.

° Discard what's not used in one day.

° Wash your hands to avoid diarrhea and dehydration.

b) Home Prepared Solution

° During hot season dehydration is dangerous.

° Give lots of liquids.

° Prepare the following solution to help child keep liquids.

° Boil liter of water - add a pinch of salt and and three heaping soup spoons of sugar - plus lemon or orange juice. Mix well.

° Give different amount for each age 1/2 glass in one day - 0-3 months. 1 glass in one day - 3-6 months, etc.

- You can give more if he'll take it.
- Don't forget to boil water.

MATERIALS: 2 radio spots, 2 TV spots, 500,000 posters 1,500,000 pamphlets each for home remedy and packet.

DELIVERY: System of Family Doctors, and mobil brigades.

IMSS/COPLAMAR

PRODUCT: "Rehydration Packet". Home prepared solution is mentioned in the guide but not in the educational materials for mothers.

MESSAGES:
- Take child with diarrhea to health units.
- Doctor decides how many packets are necessary (Sometimes as many as six packets are given to a mother).
- Nurse shows mother how to use.
- Boil water - wash hands - cool water - measure 1 liter - add packet to water - dissolve.
- Give medicine with cup.
- Give as much as necessary or when child wants.
- Give night and day.
- Keep giving breast and normal food.
- Take child back to Center for a check-up.
- Role of mother is important - win her confidence and let her mix the packet with you.
- Ask the mother to teach others to use oral rehydration.
- Give plain water after giving ORS.

MATERIALS: Poster, flip chart and pamphlet.

DELIVERY:
- Through the IMSS/Coplamar system of family doctors, mobil brigades and health committees.
- This system is described briefly in paragraph 5 p. 9 of this Report.

3. DIF

PRODUCT: "El Suero" and Prepared Solution.

MESSAGES:

- Rehydration replaces water lost during diarrhea.
- Add salts (doesn't say how much) to 1 liter of potable water.
- Don't change the volume of water.
- Liter measure is important - better to have a little more water than a little less.
- Discard after 24 hours.
- Give with cup, spoon, baby bottle, or nasal gastric tube.
- Give one or two packets to mother to take home.
- (No instructions are given for how much mother should give-implication is to teach the same clinic administration).
- (Excellent training exercises on salt concentration, role playing problems, rehydration demonstrations, local beliefs and traditions).

MATERIALS: Manual and flip chart.

DELIVERY: Through the Health Workers system.

The following two charts provide a brief overview of the instructions being given by different institutions through pamphlets, manuals and radio/TV programs on the use of ORS and Home-Mix solutions. Major areas of difference center around the name given to the ORS packet, to the amount of solution to be given which varies from "all the child will take" to the number of ounces by age of child. Feeding advice is also a variable. Perhaps the most dramatic difference is the amount of sugar recommended by DIF (4 soup spoons) versus that recommended by IMSS and SS (3 soup spoons). The picture emerges of general agreement on processes, with a somewhat wider divergent as how the different formulas are expressed, and illustrated.

ANALYSIS OF EDUCATIONAL MATERIAL FOR GENERAL POPULATION ON HOME PREPARED-SUGAR/SALT-SOLUTION

	Name Used	Mixing Instructions	Admin. Instructions	Other Advice
SS	Home Prepared Solution (Suero-casero)	3 Heaping spoons of sugar 1/2 teaspoon of salt 1 liter of boiling water	Give child all he will drink	
SS/D.F.	-			Not mentioned
IMSS	"Solution which will help retain liquid in the body"	Boil 1 liter of water add 1 pinch of salt 3 heaping soup spoons of sugar lemon or orange juice	In one day give 1/2 glass for 0-3 month 1 glass for 3-6 month Give more if child will take it.	Dehydration is dangerous during hot season Give lots of liquids
IMSS/COPLAMAR				Not mentioned in educational materials for mothers
DIF (This is really directed at health workers)	Home Prepared Solution	Boil + cool 1-1/2 liter of water measure 1 liter add 4 soup spoons of sugar 1/2 teaspoon of salt	Child 1= 1-3 ounces Child 1-3=2-3 ounces Child 3-5=3-4 ounces during 6 hours give each 1/2 hour	

ANALYSIS OF EDUCATIONAL MATERIAL FOR GENERAL POPULATION ON ORS PACKETS

	Name Used for ORS # of Packets per Episode	Mixing Instructions	Admin. Instructions	Feeding Advice	Other Advice
SS	Rehydration Salts and Home Prepared Solution 3*	Add to 1 liter of boiling water	Give child all he will drink Discard left-over solution	(None apparent)	Diarrhea can kill microbes Go to health Center if child gets worse
SS/D.F.	Electrolitos Orales 3*	Wash hands Boil water 4 cups = 1 liter	Give with spoon or cup each time child has stool 1/2 cup if child is under 1	Continue feeding normally	Diarrhea can kill Dehydration=4 stools a day Take to center for check-ups
IMSS	"Packet for Rehydration" 2*	Boil + cool water Disolve packet in 1 liter	Give child all he wants during the day. Discard left-over solution	(None apparent)	Hot season brings dehydration from diarrhea. Oral procedure is best. Wash hands to avoid diarrhea
IMSS/ COPLAMAR	"Rehydration Packets" 2-6* Doctor decides	Boil + cool water wash hands measure 1 liter add packet & dissolve	Give with a cup Give as much as child wants Give plain water too Give night & day	Keep breast feeding Give normal food	Take child with diarrhea to health center. Role of Mother is important. Ask mother to teach others.
DIF	The Solution ("El suero") 1-3*	Boil 1 1/2 of water Add salts to 1 liter of water Don't alter amount of water More water is better than less	Give ounces by age for 6 hours. Give with cup, spoon, baby bottle, nasal tube, etc. Discard after 24hrs	(None apparent)	Give solution after first stool (training exercises)

* Includes one packet prepared at center.

D. STATE LEVEL PROGRAMS

1. Visit to Chiapas

Population: 2,096.812 — 91% rural 27% indigenous
Capital: Tuxtla Gutierrez — 77% agricultural
33.9/1000 Infant Mortality
Diarrhea 1° morbidity 2° cause of mortality
Health sector covers 92.4% of population

1985 Diarrheal Disease Plan "Program de Gastroenteritis"/SS

Intend to distribute 70,000 packets (no more have been requested at the moment). Last year they received 90,000 - 50,000 of which have been distributed to health facilities but many yet remain at that level. Evidence of packets at almost all centers - no one complained of shortage.

11,513 cases of diarrhea were treated from January - October of 1984.

State support for Primary Health Care Workers has increased payment from $550-$3500 pesos. A medical kit containing 11 basic drugs is being distributed. $27,600.00 available from program budget for Posters, Materials, Promotion.

24,480 radio spots to be transmitted
246,600 flyers to be printed
3,200 flip charts sessions are to be run

Health Education:

Has another $5 million pesos for gastroenteritis program.

Last year a lack of packets caused suspension of radio programming.

Transmit taped radio program prepaid in Mexico as well as live broadcast.

Mixing Receipes

° Medical student — 5 small spoons of sugar
1 spoon of salt
1/2 spoon of bicarbonate

gone from 2-5 packets to mothers depending on her judgement.

° Mother — 5 spoons of sugar
1-1/2 of salt
1-1/2 of bicarbonate

Mother said "it took my child's diarrhea away"
"I gave about 3 small glasses"

Health Center visited had no diarrhea posters or materials - although there were posters on rabies, immunization, and family planning.

Pharmacies

- 1 preference is a Kaolin based anti-diarrheal
- 2 preference is an antibiotic
- No one suggested Pedialyte on their own - and seemed to think "stopping the diarrhea was more important than dehydration"

2. Visit to Morelos

Population: 931,675	76% urban
Capital: Cuernavaca	24% rural
Infant mortality: 28.8/1000	13% illiteracy rate

Population attended by:

IMSS	430,491
IMSS/Coplamar	113,165
ISSSTE	80,541
SS	310,928

Diarrhea disease 4th cause of morbidity in 1980. Goal - to reduce by 64.3 mortality caused by diarrhea in children under 5 years of age, reduce morbidity by 8.4%.

Strategies:
1) promote better use of health services
2) train personnel in use of ORT
3) develop better information system
4) coordinate health sector (coordination apparently taking place in Morelos)

ORT program responsibility of Coordinated Services.

Promoting breast feeding.

200,000 packets requested for 1985;

101,533 distributed in 1984, 7,013 on hand come from central warehouse.

Cost: 21.46 each packet.

521 health workers trained in ORT in 1984 (doctors, nurses, social workers, promoters, administrators).

3. Visit to Oaxaca

Population: 2,518,157 urban: 30.2%
rural: 69.8%

1. PRODUCT: "Sales Rehidratantes" UNICEF packets, less emphasis on home prepared solution

2. MESSAGES: (No educational materials-based on conversations)

Mix in 1 liter of water

Give as much as child will take

Give 2-3 ounces for 6 hours = then as much as child will take

Don't give packets if mother doesn't receive education

Give 2 packets per episode

IMSS/Coplamar not giving antidiarrheal

SS - gives antidiarrheals with packets

3. MATERIALS: None available. Plans for audio-visual-radio-flip charts

Budget seemed very limited and indefinite

4. DELIVERY: Health centers - saw new rehydration center of SS - seemed like a good showcase

5. PACKETS:

Received	150,975	in 1984-85
Dis-	43,026	in 1984
tributed	15,300	in 1985
	58,326	
	92,649	in stock

Reported 1006 cases treated between September 1984 and January 1985.

6. ADMINISTRATION

Dr. Sylvia Fuentes Fidelia Director of Program (recently appointed by Dr. Jaime Manuel Calderon, Chief, Coordinated Services of Oaxaca).

8. HEALTH

Birth rate: 42.1
Infant mortality: 39.9
Life expectancy: 59.1 years

VI. OBSERVATIONS

1. Mexico's history of diarrheal disease control activities is impressive and includes a wide variety of successful projects and administrative systems. From the pioneering experiments in 1960 to the present efforts of IMSS/Coplamar and others, Mexico has demonstrated the fundamental viability and appropriateness of oral rehydration therapy throughout the country.

2. Mexico has highly trained human resources at every level capable of developing and implementing a full scale diarrheal disease control activity now. The Mexican health sector is both sophisticated and hierarchical. Well written plans require definite decisions and aggressive leadership at top levels if operation changes at all levels are to occur.

3. Given its history of leadership and resources, Mexico could play a very important role in Latin America and internationally in the promotion of ORT if an effective and aggressive program could be implemented nationally.

4. The five fundamental components which constitute a successful diarrheal disease control program include:

- A reliable supply of ORS.
- An adequate distribution system which places ORS within easy reach of those in need.
- An informed and supportive community of health providers, particularly physicians, at all levels.
- An educational and promotional program which impacts positively on popular demand for and use of ORS.
- A research and surveillance system which channels relevant information into program design and implementation.

Mexico's greatest need at this point is in areas 3, 4 and 5.

- Despite initial efforts at health provider training among almost all of the health institutions, there continues to be evidence of physician resistance, of apathy, and less than maximum utilization of ORT at most levels. This problem is consistent with experience in other countries and will require a concentrated creative approach to overcome.
- Mexico's present educational program lacks popular impact. The full creative capacity of the system has not been brought to bear, rather isolated and qualitatively uneven activities and materials have been the norm. A uniform promotional strategy, similar to that outlined during the May International Diarrheal Conference could make a significant difference in program impact.

- Of all the essential components, Mexico has done perhaps the least in the area of operations research. Very little is known about basic audience acceptance, about educational materials effectiveness, or about product supply, distribution and use at the home level.

5. Nevertheless the production and distribution system of ORS packets is excellent, assuring a possible future growth and expansion of the program.

There is no shortage of packets, on the contrary there is a good supply in the state and municipal warehouses somewhat due to a lack of demand.

6. At the moment the Mexican program is several separate programs, promoting slightly different OR products, with different names through different channels. The experience in other countries, even those which have managed to create a uniform strategy at the top, has shown how easily simple instructions become distorted at operational levels. The multiplicity of messages at the national level in Mexico suggests an even greater potential for confusion at lower levels of the system. To cite only one example, a resident physician had taught a mother to add 1 small spoon of salt and 1/2 spoon of bicarbonate. The mother repeated the instructions saying 1-1/2 spoons of salt and 1-1/2 spoons of bicarbonate.

7. A unification of health sector institutions has begun, but most observers agree that full integration and coordination of Mexico's different institutional partners will not occur easily or quickly. Each element of the system will maintain a somewhat separate ORT program, reflecting its own operating style. This operational independence respresents a potential strength for the Mexican program, opening the possibility of reaching larger numbers of people if a uniform set of basic instructions could be developed.

8. The government program of ORS promotion enters a complex market of competing products. Competition emanates from traditional remedies such as teas, soups, massages, as well as popular pharmaceutical products such as antidiarrheals and Pedialyte which are widely available and physician prescribed drugs such as antibiotics and widespread use of IV solutions for even mild and moderate dehydration.

9. Two different viewpoints on an implementation strategy for ORT in Mexico continued to be debated. Expressed simply and without doing full justice to either, the one argues that the Mexican program must be practical and focus now on oral rehydration at the expense of longer-term prevention messages which dilute scarce resources. The second argues that the program must be more optimistic in scope and attack the fundamental problem of diarrheal morbidity as well as simply promoting ORS. An agreement of sorts has been reached to focus emphasis on ORS for a year or so, but not abandon entirely important prevention messages.

10. It must be recognized that National austerity measures suggest that any future program expansion will have to be well presented and somewhat frugal by past standards.

VII. RECOMMENDATIONS

This section of the report provides a list of thirty-nine specific recommendations designed to rapidly increase effective coverage of the diarrheal disease control program. Five of these nave been separated out as key recommendations requiring special attention, the others have been organized under four sub-headings as follows:

- Organization and Administration
- Products, Production and Distribution
- Health Providers Orientation and Training
- Popular Promotion and Education
- Operations Research

A. PRIORITY RECOMMENDATIONS

1. Standardization Across the Health Sector (See Recommendations 32-36) of key program elements to significantly increase their impact at the consumer level, particularly:

- a common product name and program logo
- a common set of mixing and administration instructions
- a common set of additional messages on feeding during episodes, signs of dehydration, danger of diarrhea, and the advantage of government packets over competing products.
- a coordinated operations research plan and
- a coordinated mass media plan.

While field research is necessary to develop specific mixing and administration norms in Mexico, the team recommends the following general guidelines be considered:

IN THE HOME

Mixing

- Volume - 1 liter standardized across public and private sector packets, as well as future sugar and salt recipes. Research to determine local liter measure.
- Use cleanest water available, do not require using boiled water.
- Make solution fresh each day.

Administration

- One glass of solution for every stool, given slowly with a spoon.

Monitoring

- After one day, if a child has not improved, seek help at health facility.

Feeding

- Give water and other liquids
- Continue breastfeeding.
- Give soft foods (need to identify specific starchy foods).

2. A Full Time Project Manager (See Recommendations 6-13)

Capable of coordinating and keeping all the institutional partners informed of program developments. This individual should give special attention to: a) budgetary analysis to ensure maximum utilization of scarce resources; b) standardization of key educational messages; c) monitoring packet supply and distribution; d) operational coordination of research; and e) physician and other health providers training and promotion.

3. Operations Research (See Recommendations 37-39)

To define the standarized instructions listed in item 1, particularly research on:

a) rural attitudes, knowledge and practices concerning diarrhea to determine relative advantage of government packets over competing products and identify popular vocabulary for educational materials.

b) product research to determine obstacles to correct use of the packet.

c) physician and health care provider research to identify reasons for continued physician resistance.

d) educational materials testing, particularly of packet logo, mixing and administration instructions and selected radio and television spots to insure they have the intended impact.

e) monitoring research to detect unexpected implementation obstacles - particularly on-going packet distribution checks, consumer acceptance and awareness, and physician resistance/ acceptance.

4. Agressive Physician Orientation and Training

To help reduce health provider apathy and resistance to oral therapy. (See specific Recommendations 20-30)

5. Private Sector Initiative (See Recommendations 14-19)

There appears to be a middle level market segment within Mexico that will be left uncovered if free government packets and costly commercial remedies are the only ones available. It is recommended that the government pursue with CONASUPO the creation of a low cost, 250 ml packet, distributed in a 250 ml volume plastic glass containing 4 packets. Such a product would open a new market to ORT reaching that group unable to pay commercial prices but reticent to use government give-aways. It would be consistent with other CONASUPO products such as baby bottles, Alka-Seltzer, etc. Legal registration of ORT as an ethical drug would have to be explored further.

B. ADMINISTRATION, ORGANIZATION AND COORDINATION

6. Priority Emphasis on Diarrheal Disease Control for at Least 3 Years

Diarrheal disease control, because of its role as a major killer of young children and because of the demonstrated effectiveness of diarrheal disease control interventions to reduce infant mortality, should be given priority emphasis for a period of at least three years. Unlike immunizable diseases which respond to short intensive campaigns, diarrheal mortality is associated with a four-six month seasonal peak which resist short campaign interventions. Effective diarrheal disease control intervention requires a fundamental reorientation of both health provider and the general populace, introducing not only oral therapy but changing more intransigent practices such as the dependence on antibiotic and antidiarrheals, the tendency to withhold water and food during episodes, and the lack of appreciation of diarrhea's threat to life. Only a concerted and continual program can hope to alter these beliefs and practices sufficiently to lower present mortality rates.

7. Coordination, rather then integration of all diarrheal disease control act vities appears preferable at this time. Because each of the independent institutional partners of the health sector serve different populations and are administered in slightly different ways, this diversity of approach should be exploited as a strength rather than a weakness. All health sector institutions need not do the same thing at the same time. Standardization of key elements already mentioned would be beneficial however, greatly increasing the overall impact of each seperate program.

8. Institutional Working Group

It is recommended that an institutional working group be formed, bringing together practitioners, rather than high level directors, to compliment the existing coordination system. It is essential that all institutions participate in the working group and that regular reports are produced illustrating progress being made by each institution.

9. Common Measures of Progress

Some common measures of progress should be adopted for the first two years of program operation and used as the primary measure of initial success. These include:

- # of doctors, and other health providers giving practical training
- # of oral rehydration packets used as a % of total packets
- # of mothers able to correctly identify the name of packet used to treat the child's last episode of diarrhea.

10. Targets Should be Established

Targets in each area above should be established for every state and a sampling plan prepared to provide an annual measure of progress.

11. Special Recognition

Special recognition should be given to states within each institutional system which perform best on each criteria.

12. Population Based Epidemiological Monitoring

Mexico currently lacks a population-based epidemiological monitoring mechanism such as the sentinel system promoted by CDC. The proposed program of training epidemiologists for posting in each SCS and the development of a sentinal system may help develop a population-based information system of morbidity and mortality. Another device is the household sample survey. Such a survey has recently been designed by the DGE with financial and technical assistance from UNICEF and PAHO. It is a large sample frame, including 122,252 households with an estimated 136,197 children in the 0-4 age group, contained within 1,280 geographical clusters. The methodology is a proven one, although the budgeted marginal expenditure is probably too low (US$50,000), even if one assumes that health workers will be used as interviewers without additional pay. The larger potential problem, however, is that DGMP may not want to accept the survey results for planning and programming purposes unless it is included in the design and monitoring of the survey, which it apparently has not been so far.

Encourage the improvement of state-level epidemiological data bases, including use of the sentinel system, and carry out the national diarrheal morbidity and mortality household survey in close cooperation with the DGMP/SS and the corresponding IMSS and IMSS/Coplamar authorities. Unless these potential "users" of the survey data are involved in its design and implementation, this survey is likely to become a useless exercise. More generally, disease assessment by the DGE should be more closely coordinated with planning, programming and budgeting, not only within the SS, but also with epidemiological data gathering and management of PHC via IMSS/Coplamar.

13. Detailed Analysis of ORS Production Costs

A more detailed analysis of ORS production costs, distribution mechanisms in both IMSS/Coplamar and the public sector, and factors affecting ORT utilization is called for. The PRITECH team has identified a number of specific problems most of which our Mexican hosts already recognize. However, the solution of these problems will require an analysis in greater depth, given the complexity of the current situation in Mexico. IMSS/Coplamar and the SS should be strongly encouraged jointly to undertake such an analysis, with acceptance by the SS that the IMSS/Coplamar experience with ORT expansion so far should be of some benefit also for ORT expansion in the public sector.

C. ORT PRODUCT TYPES, PRODUCTION, AND DISTRIBUTION

14. Limited Home Prepared Solution

Promotion of a home prepared solution should be limited exclusively to areas where packet availability is questionable. This does not represent a view that a home remedy should not play a major role in a future Mexican program, but rather reflects a practical need to reduce potential confusion to a minimum. The team's limited experience in Mexico reinforces the overwhelming evidence from other countries of the difficulty of transmitting simple mixing instructions without serious distortion. Brief conversations with medical personnel and mothers who have used both a home prepared solution and packets revealed an unacceptable range of formulas.

As the program matures and acceptance of packets improves then a home prepared solution should be introduced as a complimentary element. This requires, however, that Mexico maintain its commitment to produce and distribute sufficient packets to meet a growing market.

15. Adequate Financing

Provide adequate financing so that the private sector (Protein laboratory or others) can participate in training and promotion of ORS.

16. Private Sector Encouragement

Encourage private sector so that a new product containing 4 packets of 250 ml each packaged in a plastic container or cardboard carton (like a milk container) could be produced by one of the producing labs and marketed by the private sector. This product could be distributed to pharmacies and Conasupo outlets, especially in the marginal urban areas.

17. Extended Coverage in Rural Areas

Extend coverage in the rural areas where no health facilities exist thru Conasupo.

18. Classify ORS as Popular Product

Classify ORS as a "popular" product in order to permit sales in all types of establishments and in order to use all types of promotion channels (radio, TV, newspapers, etc.)

19. Advise Producers of Production Requirements

Advise producers as soon as possible of yearly requirements so that they will be prepared for production.

D. HEALTH PROVIDER TRAINING AND PROMOTION

20. Improved Diarrheal Disease Education

To achieve improved and expanded utilization of ORT at all levels, better education in diarrhea diseases is required. This should begin at the university level in all the health field curriculums. ORT should be practiced in second and third level hospitals where pediatricians and nurses are trained. For this, ORT units should be established in these hospitals primarily for training purposes more than for providing services. Training courses should include practical experience or at least observation of cases being treated in the ORT units mentioned.

21. Improved Circulation of Materials

Improve circulation of existing ORT materials such as Oral Rehydration Therapy: An Annotated Bibliography (PAHO, 1984); reports of the Program for the Control of Diarrhea of the World Health Organization which are published periodically; "Diarrhoea Dialogue", the Bulletin of the SS; and the Proceedings of the International ORT Seminar.

22. Include New Findings in Health Field Curriculums

Curriculums in universities and institutes of health professions should include new findings on anatomy, intestinal physiology, pathophysiology and etiology of diarrhea disease and actualize intravenous rehydration in the pertinent branches of

23. Training Centers

Consolidated teaching of the above should be provided in the centers where modern methods of rehydration and other parallel activities such as mother-child rooming in, breast-feeding, and destimulation of bottle feeding are carried out. These centers could be organized in hospitals of the ten states with highest infant mortality due to diarrhea.

24. Multi-Disciplinary Team Training

A multi-disciplinary team consisting of a pediatrician experienced in ORT, (who would promote rooming in and breast feeding); a professional nurse experienced in ORT and in organizing ORT centers; a bacteriologist experienced in the detection of agents (intestinal pathogens); and a health education expert with experience in mass media communications could work a month in one of these hospitals. Five homogeneous teams could come from 5 states for 15 days and another 5 teams from the remaining 5 states for the remaining 15 days. These ten teams would then establish a similar unit in a hospital in their home state where three teams from three more states could come for 2 weeks. This would establish a multiplying effect in each state. The following year a follow-up seminar could be held to share experiences and additional support could be provided the ORT units showing deficiencies.

Before sending the multi-disciplinary team, a counterpart team (consisting of a pediatrician or pasante, the head nurse and the hospital director) from the hospital selected for the training could visit a center which specializes in the training of ORT, such as the one in the Children's Hospital in San Jose, Costa Rica, with the objective that the counterpart team rapidly familiarize themselves with the practices of diarrhea disease control. The visit could be for two weeks for the pediatrician and the nurse, and one week for the director.

25. Certification Program

A certification program for health personnel should be developed providing incentives for those professionals who actually use ORT and who demonstrate a complete understanding of the basic principles of ORT.

26. Didactic Poster

A special didactic poster should be developed for health professionals, giving practical reminders on clinical rehydration along with a prestigious status to rehydration wards.

27. ORT Publicity

A colored insert should be included in every other issue of the SS Bulletin for one year - giving publicity to local ORT

experience. Publications in other health sector institutions could be used similarily.

28. Curriculum Guide

It is recommended that an ORS curriculum guide be developed and made mandatory in medical colleges. The several institutions now teaching ORS could meet to establish a standard guide, or, at least, minimal standards for teaching ORS.

29. Training

It is recommended that in general, training should include the following:

- Greater emphasis on practical, hands-on experience. Less use of lecturer as a means of instructing.
- Greater use of competency based instruction and verifiable outcomes. Materials to support instruction should discourage instructors from doing all the talking and all the demonstrations or practice.
- Outcome should be measurable skills which can then be taught to others.
- Greater enthusiasm of instructors and sense of fun among trainees.

30. Management Training Program

A typical diarrhea management training program might have the following objectives, modified slightly for the different medical or paramedical group:

- All trainees will assess child's hydration status correctly.
- All trainees will implement a diarrhea treatment plan correctly.
- All trainees will mix an ORS packet and water correctly.
- All trainees will mix a S/S solution correctly.
- All trainees will teach ORS and S/S preparation and administration effectively.
- All trainees will teach diet for diarrhea effectively.
- All trainees upon completion of the training will train additional health workers.

31. Structured Learning Method

It is recommended that training activities for ORS should be structured according to the following learning method:

- A rationale for the target behavior is provided.
- The behavior is modeled expertly by a trainer.
- Participants practice the behavior.
- Participants learn to discriminate between correct and incorrect performance, especially in key areas where critical mistakes are likely.
- Intensive individual practice is aimed at greater fluency and skill in performing the behavior, and gradually performing the behavior under actual field conditions.
- Group discussion is held on relevant participant experience and potential constraints to performing the behavior in real-life conditions.
- Performance is reviewed together with self-corrected testing of knowledge and skills to be acquired.
- Immediate post-training application and rewards are provided.

E. PUBLIC EDUCATION AND TRAINING

If ORT is to realize its potential of saving thousands of Mexican children each year and reduce the impact of diarrheal episodes on infant malnutrition, then it must be widely available and correctly used both in the home and the health facility. Correct home use implies a range of new information and practices which mothers, older siblings, and other child caretakers must learn. These include:

- knowing what ORT is for
- knowing where to get it
- believing it works and be willing to use it
- mixing it properly in the correct volume of water
- giving the correct amount
- continuing breastfeeding and giving soft foods and other liquids during diarrhea
- using a set of simple cues to detect if the treatment is failing.

This suggests that unlike many other health interventions the mother must become a partner with the health professional in the diagnosis and treatment of her child. Her role is pivotal and comprehensive.

32. Two-Phased Implementation Strategy

It is recommended that Mexico adopt a two phased implementation strategy. Phase I lasting 2-3 years, will develop a comprehensive health communication program to promote the widespread proper use of existing ORT packets. Once Phase 1 is completed, Phase II would then use the information developed in Phase I to expand Mexico's Oral Rehydration Program to include both packets and home prepared S/S solutions.

The promotion strategy developed for Phase I should recognize that S/S solutions will be introduced during Phase II. For example, positioning the S/S solution as a diarrhea "drink" while the packet might be positioned as a "power tonic for diarrhea". Obviously, this would need to be studied and the final solution based on careful audience and market research.

33. Aggressive Marketing Strategy

It is recommended that the health education program adopt an aggressive marketing strategy for the promotion of ORT during both Phase I and II. Extensive experience with ORS in Latin America and Africa has demonstrated that social marketing when combined with widespread ORT availability can produce dramatic reductions in infant mortality due to diarrheal dehydration. In Honduras, infant mortality attributed to dehydration dropped by 40% after only one year. An important finding was the ability of this approach not only to "inform people about ORT", but to go further and ensure that large numbers of women actually used ORT correctly. For example, half the women in Honduras had actually used ORT at least once to treat their children.

34. Special Attention to Standardizing Educational Materials

In standardizing the educational material special attention should be given to:

- use of more popular vocabulary
- incorporation of popular beliefs where possible
- use of less didactic and more entertaining formats - dramatization, testimonials, interviews
- Repetition of the information on mixing and administration in fun and attractive ways
- reducing the number of messages

- ways to involve other family member to help mothers
- sufficient budget must be made available to produce graphic material in larger quantities approaching saturation levels.

35. Messages

MESSAGES such as - "where to acquire packets", "how to mix them in a correct and standard measure of water", "how much solution to give", "what other foods to give", and "what signs to look for if the child is not improving". Specifically we recommend that Mexico develop:

- an attractive and easily identifiable name for oral rehydration as distinct from their specific product
- a campaign logo relevant to the audience and generalized to a variety of ORT products, both public and commercial
- an instructional flyer, which could also be part of a packet label, which demonstrates how to mix the solution
- an instructional poster for health centers reminding health workers of key mixing and administration information
- a colorful flag with ORS emblem to be placed on all health posts and given to all community volunteers trained to mix and administer ORT. Special radio program informing people that flag is sign of help for mixing ORS.
- point of purchase generic advertising for ORS in health centers and medical stores
- a series of radio spots which instruct the public about:
    - the importance of ORT
    - acquisition, mixing, and administration of ORS in the home
    - feeding during diarrhea, and
    - monitoring indicators for the mother to judge the child's improvement
    - focus on danger, especially in young children under 1 year of age

- a series of television spots directed at physicians, pharmacists and other opinion leaders on the importance of ORT, and training courses and seminars for medical professionals which permit them to actually rehydrate children.

- pulsing of the diarrhea campaign should reflect the seasonal pattern of diarrhea, intensive effort during the peak months;

- a campaign against anti-diarrheals should be avoided in favour of "everything works better with ORT". While legal restrictions against antidiarrheals may be useful, they should not be included as an educational theme;

- exploration of non-conventional media - rural theatre, puppets, community organization, and the involvement of traditional healers be included;

- cooperation with other donors, particularly UNICEF and PAHO be maximized.

36. Health Education Programs

The Health Education Program should:

- limit itself to promoting only a few actionable messages;

- integrate several different communication channels, ensuring that they interact to reinforce the impact of each;

- stress long-term programming, avoiding the "quick-fix" mentality of mass campaigns;

- use regular monitoring of the target population to detect significant problems and make changes as needed.

The legal rights of the population for emergency services from any source needs to be translated into coordinated service responses by the major health care providers, especially in the urban areas. An appropriate stratified and regionally adaptable "social marketing" approach to the promotion of ORT should be developed in order to increase community awareness and demand for this health service. Mass media messages may already be stimulating such demand but they are not yet being coordinated with ORT expansion.

F. OPERATION RESEARCH

While the advantages of ORT over the extensive and frequently unnecessary use of IV are widely accepted elsewhere, this acceptance in Mexico will require adapting international experience to Mexican circumstances. This may call for sponsorship of research to demonstrate both the medical and socio-economic advantages (i.e.,

lower cost) of ORT to IV treatment of dehydration, and especially to the prevention of serious dehydration. The publication of the memoirs of the 1984 conference on this subject may fill this need to some extent, and it should be widely circulated within the health sector and adopted as required reading in medical schools.

Only two studies were uncovered which gave any evidence of systematic analysis of diarrheal related beliefs and practices, although a good deal of the literature on health education in Mexico points out the importance of this type of research. Of the two studies identified one was still being undertaken at Children's Hospital through UNICEF assistance. The second was a market study conducted by BIMSA for PROFAM to help determine the market viability of a tablet form of ORS in Mexico. It is hard to believe that given the sophistication of the Mexican anthropology and sociology faculties, that other studies are not available. But even the BIMSA alone points out the importance of such studies. A number of areas requiring further research were suggested. For example:

- A general distrust of government services and "give away" medicines as second class remedies.
- Obstacles which women suggested in using ORS include:
  - having to mix the solution and making mistakes
  - not wanting to discard left-over solution and a preference for smaller packets
  - doubt about the clear liquid effectiveness
  - lack of flavoring which "all modern medicines for children now have".

In addition, conflicting impressions were given about the relative credibility of media vs. face to face. In some cases mothers commented that TV reminded them of something important, other mothers felt TV was not trustworthy.

The UNICEF study seems to be focusing on traditional remedies and development of popular vocabulary. No firm results were yet available to the team.

In addition to research studies already mentioned clinical studies such as the following could be useful:

37. Water Research

Study of contamination of ORS prepared with boiled vs. unboiled water.

38. Sodium Levels and Home Mix Solutions.

38. Comparison of Home Preparation With Packet.

VIII. FUTURE PRITECH COLABORATION

PRITECH is a private entity, with international outreach and limited resources. Their basic contribution is technical rather than financial assistance.

Within these limitations, PRITECH would be pleased to consider future assistance to the Mexican ORT Program if the Mexican Government and AID, Mexico so desire.

Possible areas of assistance could include technical assistance in:

- The design of operational research
- The design of training programs for medical personnel
- Market studies for expanding the private/commercial sector popular promotion campaign

Any decisions for future assistance would depend on a specific request from the GOM to the Agency for International Development in Mexico and upon the availablity of resources at the time of the request.

ANNEX 1

Analysis of Mortality Rates

Mexico's estimated population for 1985 is 78.2 million. 42% is under 15 and 16% under 5 (12.5 million). The birth rate averaged 4.6% through 1960. It decreased to 4.4% in the 1970's and to 3.4% by 1980; it is currently estimated at 3.2% for 1985. The initial decrease is attributed to better living conditions and more recently to the expansion of family planning programs. By 1990 the birth rate is expected to be 2.6%.

The mortality rate in 1950 was 1.61% and has constantly declined; 1.01% in 1970; 0.75% in 1980 and estimated at 0.62% for 1990.

This gives a natural growth of 3.46% for 1960, 3.41% in 1970; 2.69% in 1980; and 2.51% in 1985 with an estimated 1.98 for 1990.

Infant mortality (children under one year of age per 1,000 live births) has also been decreasing.

Year	Rate
1940	124.5
1950	101.3
1960	73.8
1970	66.5
1979	56.8

Infant, neonatal and post-natal mortality rates (for each 1,000 live births) listed by the age of the mother.

	Mother's age when birth took place							
In years	15	15-19	20-24	25-29	30-34	35-39	40-49	Total
Neo natal mortality	121.2	53.6	39.4	40.3	42.0	55.9	63.4	45.3
Post natal mortality	85.4	58.0	44.5	36.1	33.5	43.7	40.9	43.8
Infant mortality	206.4	111.6	83.9	76.4	75.5	99.6	104.3	89.1

Infant, neonatal and postnatal mortality rates between birth and the following:

Months

Interval in months

		8-11	12-18	19-24	25-36	37-48	49	Total
Neonatal	%	101.0	53.5	34.3	32.1	32.1	32.6	42.5
	N.	130	278	177	190	62	25	862
Postnatal	%	104	57	34.1	33.9	28.5	37.9	44.0
	N.	134	297	176	201	55	29	892
Infant	%	205.1	110.4	68.4	66.0	60.6	70.5	86.5
mortality	N.	264	575	353	391	117	54	1754

Mortality due to diarrhea has also declined:

Year	Deaths	Rate
1972	66,864	127.0
1974	50,847	87.8
1976	51,235	82.9
1978	39,872	60.5
1980	37,125	53.1
1981	32,084	44.5

The large majority of these deaths occur in children under one year of age. In 1980, the number of deaths in children under one year (due to diarrhea) was 21,254 with a rate of 8.752 (per 1,000 live births). The highest rates were in the States of:

	States	Deaths	Rate
1.	Guanajuato	1,707	17.14
2.	Tlaxcala	230	15.60
3.	Edo. Mexico	3,069	15.19
4.	Aguascalientes	288	14.05
5.	Queretaro	365	12.63
6.	Baja California Sur	99	11.38
7.	Chihuahua	702	10.83
8.	Tabasco	548	10.67
9.	Puebla	1,400	10.03
10.	Chiapas	775	10.01

2. Infectious Disease Morbidity and Mortality

Mortality (rate 100,000 pop.)

Age	1960	1975
0-1 year of age	4,366	2,963
1-4 years of age	922	255

Data on the impact of the PPCED on mortality rates is currently being tabulated and was not available at the time of this writing. In 1961 the document entitled Home Remedy Oral Rehydration: A Pilot Project in a Rural Zone of Mexico was published in which the experiences of 12,158 individuals were compared with a control group of 4,042 for the period of one year (1959). Hand packed packets were utilized consisting of 3 g of NaCl, 1 g of KCl and 46 g of saccharose to be dissolved in a liter of water.

In the study group the mortality rate for diarrhea was 7.4/10,000 as opposed to 29.6/10,000 in the control group.

3. Diarrheal Disease

Morbidity due to diarrhea disease, on the contrary, has increased in total numbers and rate, which could be explained by better coverage and reporting.

Year	Cases	Rate (Per 100,000 pop.)
1974	334,032	591.3
1976	457,046	733.3
1978	582,520	869.7
1980	1,152,702	1,706.8
1982	2,010,635	2,821.7
1983	2,348,753	3,213.1

IMSS reported 3,571,189 diarrhea episodes in 1981 with a rate of 13,267.93 per 100,000. The estimated for the total country is 12,000,000 cases of diarrhea.

The States with the highest morbidity rates in 1983 were:

State	Cases	Rate (Per 100,000 pop.)
Aguascalientes	51,163	9,241.5
Morelos	84,602	8,253.8
Baja Cal. Sur	20,254	8,147.3
Yucatan	86,561	7,754.8
Coahuila	119,493	7,056.3
Nuevo Leon	189,193	7,023.7
Quintana Roo	15,595	6,338.4

Depending on the age of the patients under 5 years of age, the numbers remain stable in all age groups, except in children between 1-4 years of age, in which there was a decline.

	One Year		1-4 Years	
Year	Cases	%	Cases	%
1979	114,224	19.2	221,311	37.2
1980	276,648	24.0	357,338	31.0
1981	349,351	20.6	434,503	25.6
1982	400,168	19.9	502,536	25.0
1983	464,564	19.8	631,472	26.8

(X% of total cases of diarrheal disease)

Diarrhea episodes increase rapidly in the months of May-September, during the hot and rainy season and decrease during the dry season when temperatures are lower.

Longitudinal etiology studies have not been carried out in Mexico and the vertical studies provide a different type of data. In a two year study including 595 children with diarrhea in Mexico City, Shigella was found to be most prevalent (17%) followed by Salmonella (12%) and Coli (7%). Among the viruses, Rotavirus represented 17%. In another study of 256 patients under 2 years of age in the Federal District, conducted between December 1980-June 1981, Enteropathogenic E. coli was found in 43.7%, Rotavirus in 4.2%, Campylobacter fetus in 2%, Salmonella in 4.2%. 67% of the isolated Campylobacter cases occured between April-June.

Diarrheal Diseases and Diseases Preventable by Immunization

In 1982 there were no reported cases of diptheria. There were 1,917 cases of whooping cough for a rate of 2.64 per 100,000 population; 203 cases of tetanus, 0.28; 92 cases of poliomyelitis, 0.13; and 5,710 cases of measles, 7.86.

Malnutrition

There is a chronic deficiency in the consumption of basic foods in certain economic strata and zones of the country as well as unbalanced diets for a major portion of the population.

Low basic levels in the consumption of proteins and calories, and irregularity of consumption by groups and regions of the country illustrate the magnitude of nutrition problems.

According to Pronal (Programa Nacional de Alimentacion) the unequal distribution of foods between certain population groups results in 40% not covering their basic minimal requirements of 2,300 calories and 60 grams of protein a day.

Children under 5 and pregnant and lactating mothers are the hardest hit. Of 2 million children born in Mexico 100,000 die before the age of 5 and 1 million live with physical or mental defects resulting from malnutrition.

The % of children under 5 with adequate nutrition (considered as normal) was 48% in 1979 - a figure that is lower than in countries such as Costa Rica, Panama, Trinidad and Tobago.

The nutrition survey of 1979 shows 19 million people show a grave deficit in the consumption of calories and proteins and that of the total, 13 million were in rural areas. Malnutrition is found to be most prevalent in the south-east area of the country.

The cause of malnutrition is directly related to infection, hygienic and educational factors more than to economic factors.

Pronal estimates that only 18% of the population has adequate diets.

Infant mortality rates are clearly related to the factors of nutrition and dietical deficiencies raise the vulnerability for chronic illnesses.

Frequency of malnutrition in dehydrated children due to diarrhea who received ORT in 1983-84:

	Grade of Malnutrition	N	%
I	(10-25% deficit of weight for age)	1,233	29.5
II	(26-40%)	992	23.8
III	(More than 40% deficit or edema)	428	10.2
	Without malnutrition	1,522	36.5
	Total	4,175	100

(Children treated by IMSS/Coplamar)

REPORTED DIARRHEAL MORBIDITY FOR 1982

SS: 2 million cases, incidence 2,823/100,000 (this probably refers to all reported cases from SS sources only, divided by total pop.)

IMSS: Reports incidence of 9,150/100,000 insured members.

If IMSS had about 37mil insured members in 1982 (50% of 76 mil total pop.), the number of IMSS cases would have been 3.4 mil cases.

It makes more sense to assume that one should add the SS + IMSS cases for a country total of 5.4 mil cases reported in 1982.

Next, one should divide this by the combined coverage of IMSS + SS, ie. 78% of total pop, or 59 million for a combined incidence of 9,150/100,000.

The SS reported about as many cases for the population it effectively covers as did IMSS.

The SS also reports that of the total reported cases, 45% were 0-4 groups = i.e. 2.54 mil. divide this by total 0=4 age group (i.e. 75 mil X .16 X .82 = 98 mil) and one derives a 0-4 incidence of 25,900/100,000.

Next, if each case reported 0-4 case is serious enough to require treatment with 3 packets, then the total "social demand" of covered pop. in 1985 would be:

78.2 mil pop X 0.16 = 12.5 mil (0-4)
Of whom 9.6 mil are covered by IMSS, SS.
Multiply 9.6 X 0.259 (tasa) = 2.6 mil
(i.e., cases reported by institutions.)

Present supply of 20 mil packets, would provide 7.7 packets for each 0-4 year old.

However, one must assume that 5-65 age group (55% of reported cases) also have some demand for packets. If so, the available supply is still adequate in about 4 packets/0-4 case and 3 packets/ 5-65 case reported.

All of this implies that the 20 mil packets being produced actually reach the service delivery level and are then actually used.

Considering an annual population increase of 2.8%, the population in 1985 of children 0-5 years will be 12.5 million of which 5.5 million will seek health care services. This figure is a projection based on assistance data for 1982, including the following figures:

Institution	% Population	Cases 0-5 Years of age
SS	32	2,098,617
IMSS	36	2,360,944
ISSSTE	8	524,648
Others	1.5	98,372
	77.5	5,082,581

Therefore, if the coverage in 1985 is 5,463,775 cases, in terms of packets considering 2 episodes a year and 2 packets per episode (WHO) it would be:

1985 5,463,775 X 2 X 2 = 21,855,100 packets.

If the total population is 12.5 million children this constitutes 43% of this population which is the average for a first year program. For future planning purposes, a minimum 10% increase in coverage should be considered.

Taking into account the 2.5% normal population increase, this calculation would give us the following requirements:

See chart

1986 - 6,160,406 X 2 X 2 = 24,641,624 packets
1987 - 6,945,858 X 2 X 2 = 27,783,430 packets
1988 - 7,831,455 X 2 X 2 = 31,325,819 packets

The plans for 1985 include 12,000,000 packets to be distributed in 32 states. This is calculated on one episode of diarrhea a year. The availability of packets does not represent a problem, even considering two episodes a year, which WHO considers to be the norm, as the national production capacity is above 30,000,000.

ANNEX 2

ESTIMATED COVERAGE OF HEALTH SERVICES, 1985

Pop. 78.2 mil. = 100%	53.2 mil (68%) urban 25.0 mil (32%) rural
Coverage by IMSS & IMSS-COPLAMAR & ISSSTE	
Total 35.6 mil: (46%)	26.6 mil (50% of total urban) 9.0 mil (36% of total rural)*
Coverage by the SS & DIF	
Total 25.0 mil: (32%)**	18.7 mil (35% of total urban) 6.3 mil (25% of total rural)
Private sector, etc.	
Total 3.9 mil: (5%)	3.9 mil (7% of total urban) no rural coverage
Total coverage	
Total 64.5 mil: (82%)	49.2 mil (92% of total urban) 15.3 mil (61% of total rural)
No coverage	
Total 13.7 mil: (18%)	4.0 mil (8% of total urban) 9.7 mil (39% of total rural)

* IMSS-COPLAMAR estim. 11.5 mil rural coverage in 1983
** SS coverage claim.

Coverage of 0-4 age group who need ORT

(0-4=16% of total pop. = 12,500,000)

IMSS + IMSS-COPLAMAR = ISSSTE

		ORS PACKAGES @ 2/0-4 YEARS OLD
Urban 26.6 X 0.16 = 4.25 mil		8.5 mil
Rural 9.0 X 0.16 = 1.45 mil		2.9 mil
Sub. = 5.60 mil		11.4 mil
SS & DIF		
Urban 18.7 X 0.16 = 3.0 mil		6.0 mil
Rural 6.3 X 0.16 = 1.0 mil		2.0 mil
Sub. = 4.0 mil		8.0 mil
	Total ORS	19.4 mil
Private, etc.		
Urban 3.9 X 0.16 = 0.6 mil		1.2 mil*
Rural 9.7 X 0.16 = 1.6 mil		3.2 mil
2.2 mil		4.4 mil

Cost estimates

ORS 20 mil X 28 pesos = 560,000.00 - 220 = US $2.5 mil

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* Solutions 1.2 mil X 220 pesos = 264 mil pesos = US $1.2 mil
Total OR "Market" = US $3.7 mil

* In 1982, PROFAM study estim. 350 mil pesos total sales of solutions.

ANNEX 3

LIST OF PERSONS VISITED AND DOCUMENTS REVIEWED

I. PERSONS VISITED

A. SS

1. Dr. Jose Aceves Chavez
   Director, Coordinated Services, Morelos

2. Dr. Dionisio Aceves Sainos
   Director of Norms
   Council of Preventive Medicine (DGMP)
   Presidente Mazaryk #490, 8th Floor
   Tel: 520-4429

3. Dr. Ernesto Calderon Jaimes
   Director, DGMP

4. Dr. Jaime Manuel Calderon
   Director, Coordinated Services
   Oaxaca

5. Dr. Diaz Colinga

6. Dr. Ana Covarrubias
   Director, Health Education Department
   Insurgentes Sur. #1397, 5th Floor
   Col. Insurgentes Mixcoac
   Tel: 563-5946

7. Dr. Roberto Israel Cruz
   Health Center, Zaachila

8. Dr. Maximiliano de Leon
   Chief, Emergency Services Unit
   Juarez Hospital, D.F.

9. Dr. Norberto de Regil Agila
   Chief, Research and Education Department
   Coordinated Services
   Morelos

10. Lic. Alejandro Del Conde
    Health Education Department

11. Lic. Ramon Fonseca Notario
    Assistant Director of Research
    Social Communication Bureau
    Lieja #8, 3rd Floor
    Tel: 553-7774

12. Irma Eugenia Franco Flores
Finance Department
Coordinated Services
Morelos

13. Dr. Sylvia Fuentes Fidelia
Coordinator, ORT Program
Oaxaca

14. Dr. Felipe Garcia - Pedroza
Assistant Director
Prevention and Control of Infectious
Diseases and Parasites, DGMP

15. Dr. Salvador Gonzales
DGMP

16. Dr. Julio C. Gonzales
Coordinated Services, Chiapas

17. Dr. Adelita Goujon

18. Dr. Mario Martinez
Coordinated Services, Chiapas

19. Dr. Jose Maldonado Obregon
Assistant Director, Coordinated Services
Morelos

20. Dr. Felipe Mota (HIMFG)
Calle Dr. Marquez #162
Co. Doctores
Tel: 761-0333 Ext. 123

21. Dr. Blanca Raquel Ordonez
Director, Bureau of Epidemiology
Aniceto Ortega #1321, 7th Floor
Col. Del Valle
Tel: 524-7537, 524-7972

22. Dr. Enrique Perez Castillo
Chief, Health Education Department
Coordinated Services, Morelos

23. Lic. Vicente Rivera Lugo
Coordinated Services, Chiapas

24. Dr. Vivaldo Salazar Reyes
Assistant Director of Health Services, SS
Tuxtla Gutierrez, Chiapas

25. Dr. Blanca Sierra (HIMFG)

26. Dr. Benardo Sepúlveda
Secretary, Health Council
Calle Ocaso #101, 4th Floor
Col. Insurgentes Quiguilco
Tel: 655-4394

27. Dr. Concepcion Tavera Diaz
Coordinated Services, Morelos

28. Lic. Margarita Valverde A.
Health Education Department

29. Dr. Luis Velasquez Jones (HIMFG)
Editor, Boletin Médico del
Hospital Infantil de México

30. Dr. Francisco Vicentes
Oaxaca

B. IMSS

1. Ruben Arismendi
Coordinator of Advanced Degrees
Tel: 761-0241

2. Dr. Antonio Campos Rendon
Delegation Coordinator, IMSS/Coplamar
Morelos

3. Dr. Jaime Cervantes Rangel
Chief, Preventive Medicine Department

4. Ing. Ernesto Cordera Perdoma
Central Warehouses
Calzada Vallejo #675
Col. Magdalena de las Salinas

5. Dr. Ernesto Diaz del Castillo
Director, Education Department

6. Dr. Angel Flores Alvarado
Chief, Evaluation and Support Unit, D.F.

7. Dr. Georgina Gomez Carrillo
Medical Advisor, D.F.

8. Dr. Rosa E. Gris
Warehousing Division
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9. Dr. Hector Guiscafre
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10. Dr. Gonzalo Gutierrez Trujillo
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11. Dr. Jose Murguia Gonzales
Coordinator, Preventive Medicine Program
Morelos

12. Dr. Aida Ma. Rodriquez Veliz
Chief, Norms Verification Unit, D.F.

13. Lucina Rosales Rodriquez
Nursing Advisor, D.F.

14. Dr. Georgina Velasquez Diaz
Medical Coordinator, D.F.

15. Dr. Felia Escandon
Chief, Health Education Office

16. Dr. Jose Rosales
Director, Rural Hospital of
Calpulalpan, Tlaxcala

C. DIF

1. Lic. Alejandro Cinta Bravo
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2. Dr. Manuela Hinojosa
Coordinator, ORT Program

D. ISSSTE

Dr. Jorge Arenas Diaz

E. Metropolitan Autonomous University

Dr. Jaime Knazov G.
Director, Biological Systems Department
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F. PAHO

1. Dr. Pablo Isaza
Homero 418
Col. Chapultepec Morales
Tel: 254-2815

2. Dr. Italo Barragán
   Epidemiologist

G. PROFAM

1. Ing. Luis de la Macorra
   Director

2. Raul Roca G.
   Marketing Manager

   Calle Jose Vasconcelos No. 218
   Col. Condesa
   06140 Mexico, D.F.
   Tel: 533-1206 (Mexico City)
   9-9-1-463-61118 (Querretaro)

H. UNICEF

1. Dr. Rodrigo Arboleda
   Director, ORT Programs
   Presidente Masaryk #29, 8th Floor
   Col. Polanco
   Tel: 250-1434

2. Arg. E. Orofino

I. Private Sector

1. Alcali Industries
   Ing. Ernesto Porras
   Tel: 918-48-4300
   918-48-7875

2. Arancia Polibasicos
   Ing. Alejandro Badilla
   Lago Muritz #84
   Col. Anahuac
   Tel: 531-3115, 531-2085

3. CORA (Center for Adolescent Orientation)
   Fernando Ursua
   Tajin #422
   Col. Narvarte
   Tel: 687-5424

4. Diconsa - (Conasupo)
   Lic. Luis Francisco Moncayo
   Corporate Coordinator
   Av. Tamaulipas #150, 5th Floor
   Col. Condesa

5. Drogueros, S.A.
   Mr. Celestino Poza
   Obrero Mundial #358
   Col. Del Valle
   Tel: 536-1336

6. Laboratory Corp. Pharmaceutica, S.A.
   Ing. Alfonso Ruiz N.
   Puente de xoco 35
   Tel: 688-9488

7. NOVAC Infancia Laboratory
   Inc. Jaime Mares
   Calzado de Tlalpan #3417
   Tel: 573-0011

8. Productos Mavi (Produer of Gluco-sobi)
   Fuente de Xoco 35
   Col. General Anaya

9. Protein Laboratories
   Ing. Alberto Diaz
   Ing. Victor Diaz
   Mr. Raul Martinez
   Anil #865
   Col. Granjas Mexico
   Tel: 657-0888

10. Tecnica Quimica, S.A.
    Ing. Jaime Avila
    Calle 10 #123
    Col: Granjas de San Antonio
    Iztapolapa
    Tel: 582-6600, 581-2938

11. Vitrium
    Ing. Juan Angeles V.
    Assistant Director of Research and Development
    Horacio #1844 - 7th Floor
    Col. Polanco
    Tel: 294-3566 Ext. 270

II. DOCUMENTS REVIEWED

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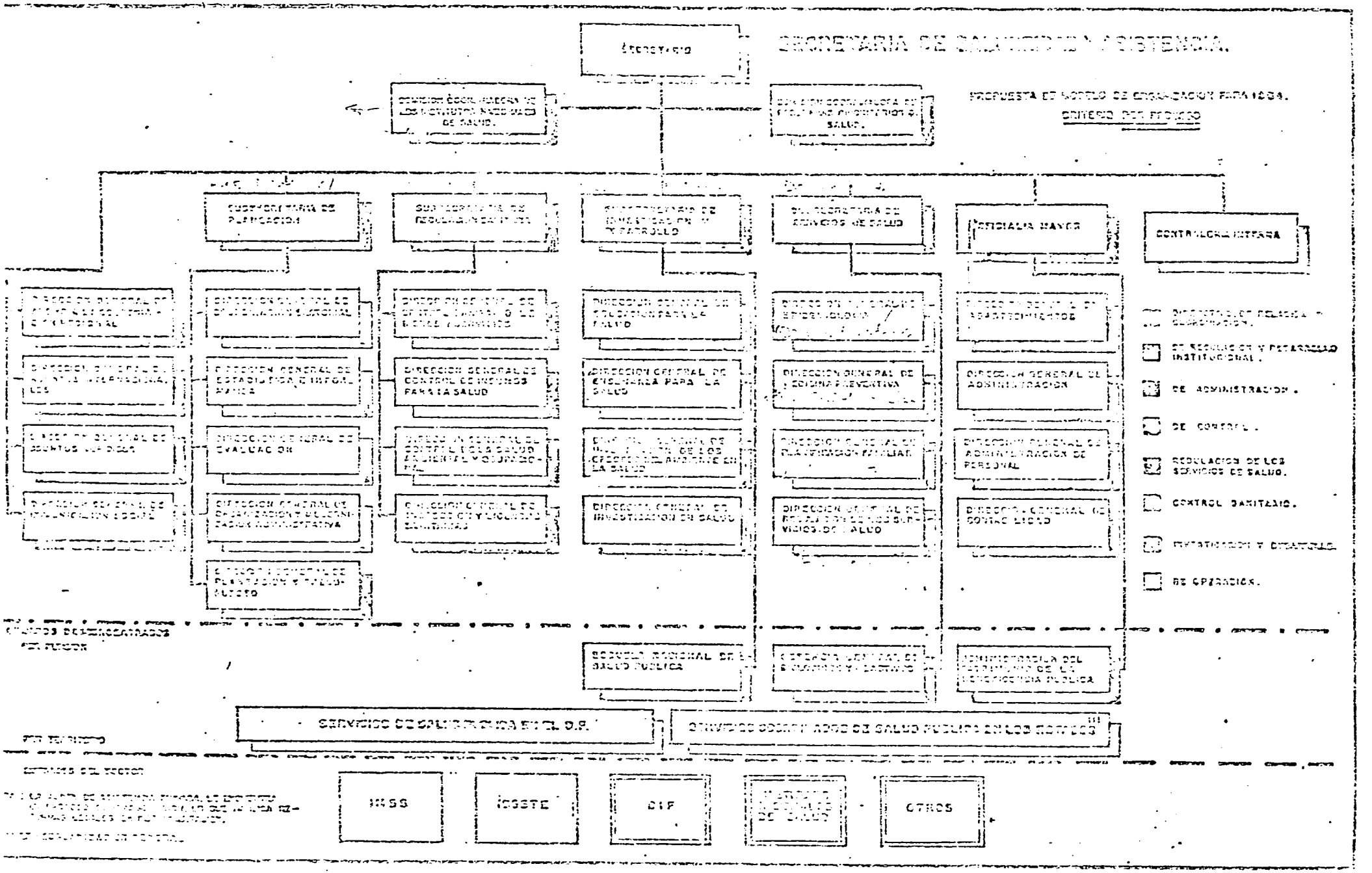
ANNEX 4

ORGANIZATIONAL STRUCTURE OF PRINCIPLE HEALTH SECTOR INSTITUTIONS

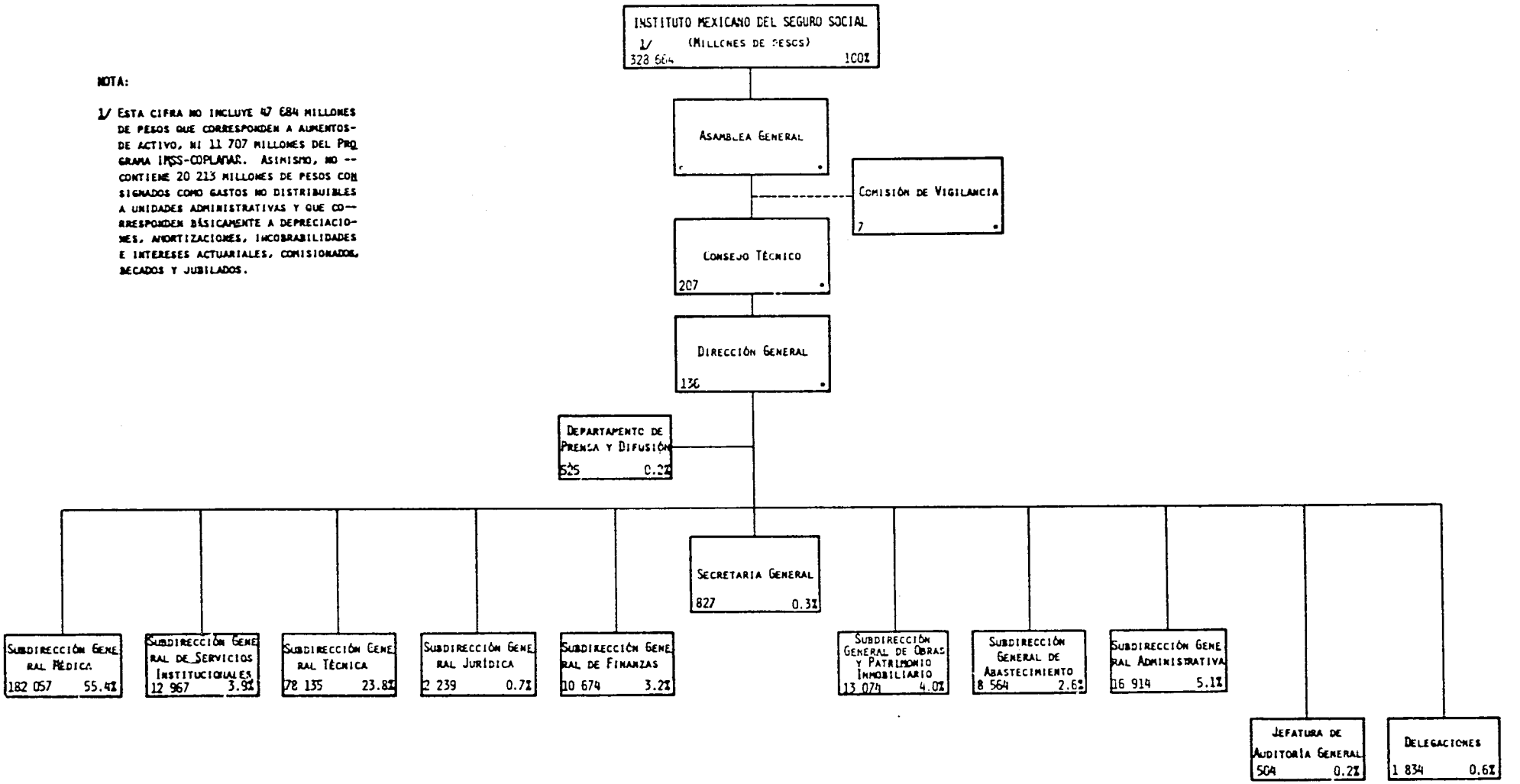
ORGANIGRAMA



Best Available Document

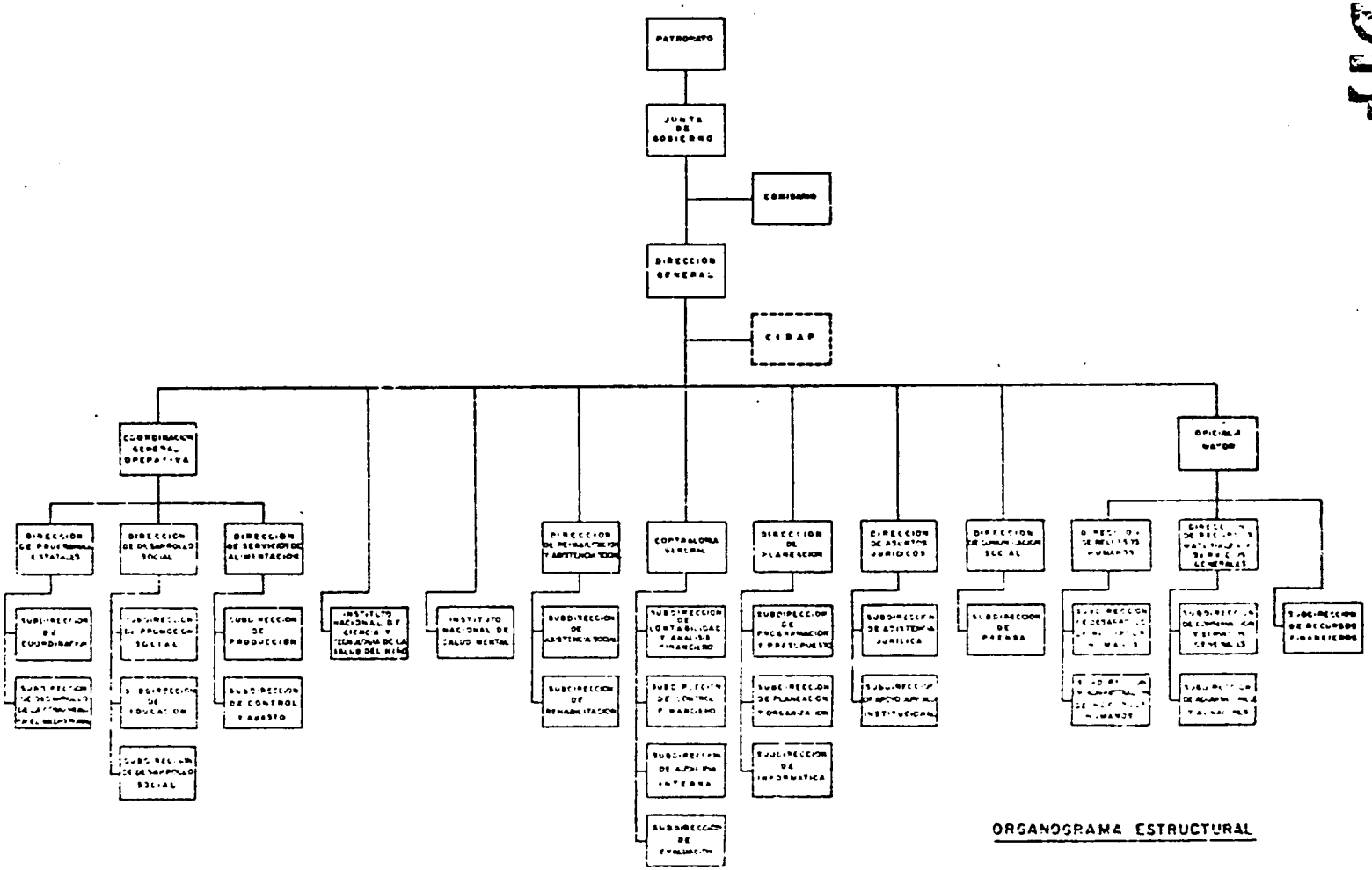
NOTA:

1/ ESTA CIFRA NO INCLUYE 47 684 MILLONES DE PESOS QUE CORRESPONDEN A AUMENTOS DE ACTIVO, NI 11 707 MILLONES DEL PROGRAMA IMSS-COPLAMAR. ASIMISMO, NO CONTIENE 20 213 MILLONES DE PESOS CONSIGNADOS COMO GASTOS NO DISTRIBUIBLES A UNIDADES ADMINISTRATIVAS Y QUE CORRESPONDEN BÁSICAMENTE A DEPRECIACIONES, AMORTIZACIONES, INCOBRABILIDADES E INTERESES ACTUARIALES, COMISIONADOS, BECADOS Y JUBILADOS.

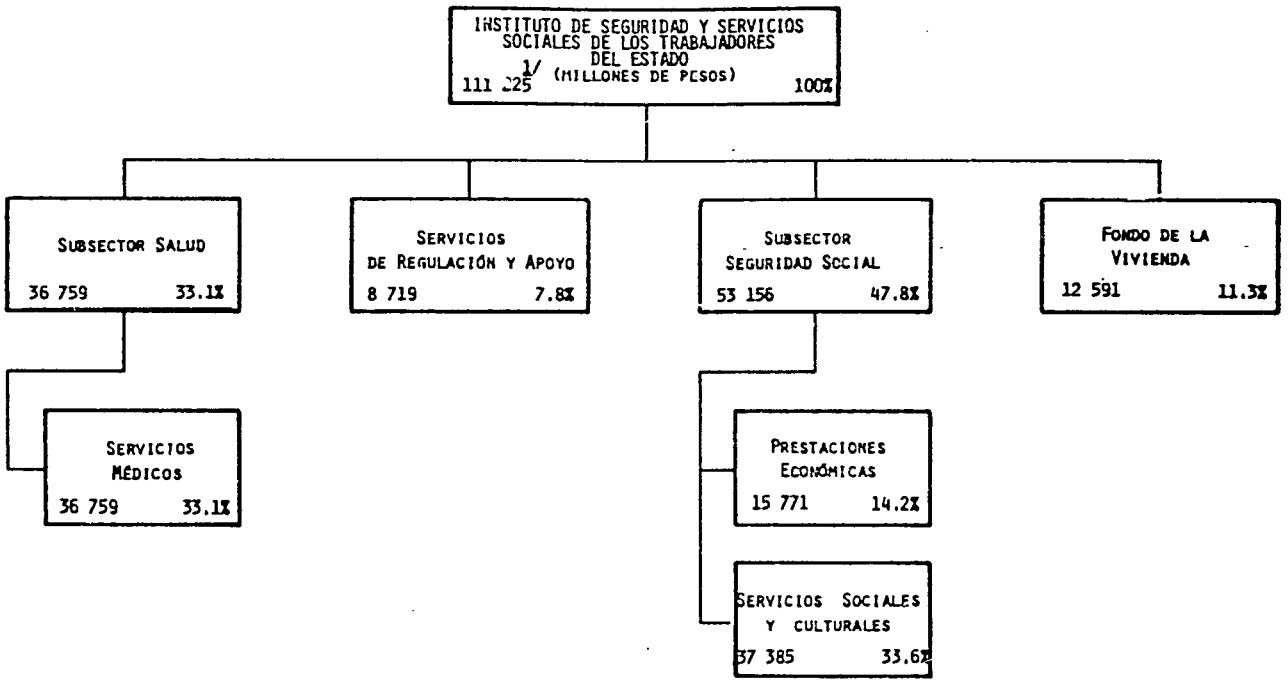


* CANTIDADES MENORES A 500 MIL PESOS Y PORCENTAJES INFERIORES A 0.05%

FUENTE: INSTITUTO MEXICANO DEL SEGURO SOCIAL.



ORGANOGRAMA ESTRUCTURAL



1/ NO INCLUYE 52 711 MILLONES DE PESOS DE GASTO NO ASIGNABLE POR PROGRAMAS DE LOS CUALES 3 565 MILLONES DE PESOS CORRESPONDEN AL FOVISSSTE.

FUENTE: INSTITUTO DE SEGURIDAD Y SERVICIOS SOCIALES DE LOS TRABAJADORES DEL ESTADO.

ANNEX 5

PROTEIN LABORATORY ADVERTISEMENT FOR ELECTROLITOS

FROM AMBITO FARMACEUTICO, VOLUME 12; DEC. 1984

NUEVAS PRESENTACIONES NUEVOS PRODUCTOS

ELECTROLITOS P.T.N.
Sales Orales de Hidratación

Formula: Cada sobre contiene 27.5 g. de polvo con:

Cloruro de Sodio	3.5 g
Bicarbonato de Sodio	2.5 g
Cloruro de Potasio	1.5 g
Glucosa	20.0 g

INDICACIONES:

Tratamiento oral de los problemas derivados por pérdida de iones y líquidos, tales como: Diarrea de cualquier etiología, vómito, cólera, fiebre prolongada, etc.

Las enfermedades gastrointestinales son el problema que por su morbilidad y mortandad ocupa el 1er. lugar entre la población infantil menor de 5 años.

La causa de muerte generalmente se debe a la deshidratación, que puede evitarse tratando rápida y oportunamente al paciente, ya que la gravedad va directamente relacionada con el grado de deshidratación.

ELECTROLITOS P.T.N., aporta las sales que se pierden por la diarrea y vómito en las cantidades adecuadas y su fórmula ha sido ampliamente comprobada en millones de pacientes por la O.M.S., en todo el mundo.

La facilidad de preparación de ELECTROLITOS P.T.N., su sencillez de almacenamiento, su estabilidad, unidos a su eficiencia terapéutica, los hacen el tratamiento oral de elección para prevenir y tratar la deshidratación.

ELECTROLITOS P.T.N., se prepara disolviendo el contenido de un sobre en un litro de agua potable a la temperatura ambiente o previamente hervida, para administrarse por vía oral lentamente en cucharadas, en la cantidad que el médico señale o hasta que los síntomas de la deshidratación desaparezcan; en caso de vómito es recomendable dar continuamente los ELECTROLITOS P.T.N., en cantidades pequeñas, incluso con gotero hasta que cedan los vómitos.

La solución preparada con ELECTROLITOS P.T.N. debe ser ingerida como terapia complementaria mientras exista el peligro de una posible deshidratación en cualquier proceso patológico, se recomienda que la solución se deseche después de 24 horas de haber sido preparada y que no se hierva.

CONTRAINDICACIONES:

Hipersensibilidad a los componentes de la fórmula.

REACCIONES SECUNDARIAS:

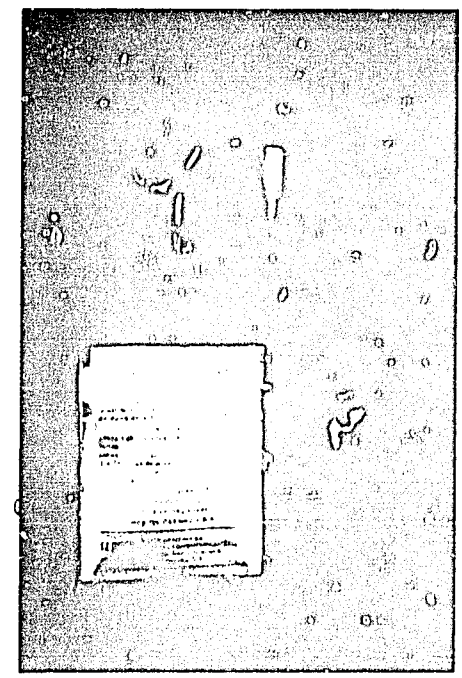
A dosis terapéuticas, no se conocen hasta la fecha.

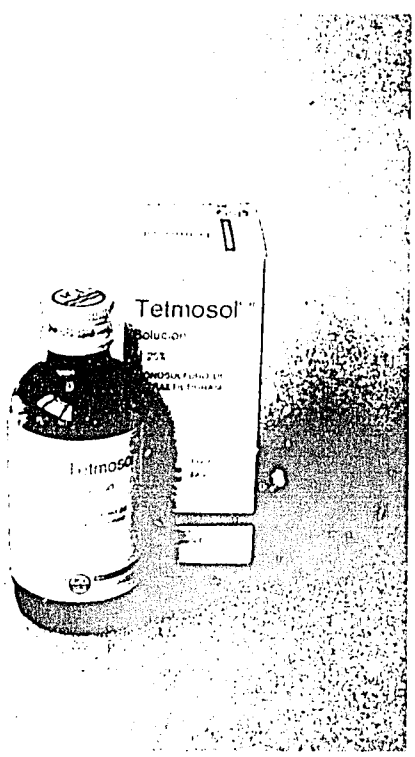
PRESENTACION:

Sobres conteniendo 27.5 g

PROTEIN LATINOAMERICANOS, S.A.

Clave Sector Salud No. 3623 Reg. 038M82 S.S.A.





TETMOSOL

SOLUCION AL 25% MONOSULFURO DE TETRAETILTIURAM

"Tetmosol" es monosulfuro de tetratiltiuram, poderoso escabicida que ha demostrado ser sumamente eficaz contra la sarna. Mata rápidamente el ardor Sarcoptes scabiei var hominis, y los parásitos del género Notoedres. En la solución este producto se presenta disuelto al 25% en alcohol, a modo de líquido pardo claro que forma una suspensión fina al diluirlo con agua.

Indicaciones:

Tratamiento de la Escabiasis.

Método de dilución:

Antes de su empleo, la solución de "Tetmosol" se diluye vertiendo una parte de producto en tres de agua, agitando el líquido suavemente durante la adición. La dilución deberá ser preparada momentos antes de cada aplicación.

Aplicación:

Aunque no es esencial que el paciente tome un baño caliente antes del tratamiento, conviene hacerlo así en pacientes con sarna y resulta útil en casos de infección secundaria. Entonces debe lavarse bien el cuerpo con abundancia de jabón y agua caliente, secándolo luego perfectamente. A continuación, toda la superficie del cuerpo, excepto la cara se humedece con la solución diluida de "Tetmosol", que se friccionará con energía. Se deja secar naturalmente la piel durante diez minutos y el paciente se viste.

En casos difíciles esta operación se repite en dos o tres días sucesivos. Se tendrá dispuesta ropa interior limpia los días primero y último, y ropa de cama limpia también el primer día. Las prendas retiradas deberán ser objeto de desinfección.

Ventajas:

La solución de "Tetmosol" se aplica con facilidad, se seca pronto y su olor es agradable. Su uso resulta económico.

Su aplicación no causa dolor, ni siquiera en heridas y excoriaciones. A diferencia de la mayoría de los sarcopticidas, la solución de "Tetmosol" muestra poca tendencia a producir dermatitis y las manifestaciones secundarias son excepcionales.

Presentación:

Solución de "Tetmosol" al 25%

Frascos de 120 ml.

Precauciones:

Se aconseja que los pacientes se abstengan de ingerir alcohol antes, y por lo menos 48 horas después, de la aplicación de "Tetmosol".

Evítese el contacto con los ojos

ICI – FARMA

Reg. No. 0635M79. S.S.A.

ANNEX 6

SUMMARY PRESENTATION TO MEXICAN GOVERNMENT AND USAID MISSION PRIOR TO DEPARTURE

CONTROL DE ENFERMEDADES DIARREICAS

MEXICO

ANALISIS ESTRATEGICO

OBSERVACIONES Y RECOMENDACIONES PRELIMINARES

Presentado al:
Comité Inter-Institucional Para El Control De Enfermedades Diarreicas
Sector Salud
Gobierno de México
y
AID/México

Preparado por:
Dr. William Smith
Lic. Rodrigo Arce
Dr. Daniel Pizarro
Dr. Dieter Zschock
Lic. Sandra Del Prado

15 de febrero, 1985

PRITECH

Este informe preliminar representa un resumen de la labor realizada por el Proyecto de Tecnología en Salud (PRITECH). Las observaciones y recomendaciones adjuntas son preliminares, sujetas a modificaciones posteriores, de acuerdo con los comentarios y sugerencias del Gobierno de México.

El Informe Final de PRITECH será entregado a la Misión de AID en México, para ser distribuido a las diferentes dependencias e instituciones que conforman el Sector Salud.

INTRODUCION

PRITECH es un programa de la Dirección de Ciencias y Tecnología, Oficina de Salud, de la Agencia Para el Desarrollo Internacional (AID), de los Estados Unidos de America.

PRITECH refleja el compromiso de AID para promover el programa de atención primaria en salud, particularmente en las áreas de control de enfermedades diarreicas y los programas ampliados de immunización.

El equipo de PRITECH vino a México a petición del Comité Inter-Institucional de la Terapia de Rehidratación Oral y la Oficina de AID en México. El propósito principal de la visita fue el de desarrollar recomendaciones específicas que servírían al Gobierno Mexicano en la rápida y efectiva expansión de las actividades de control de enfermedades diarreicas y la rehidratación oral.

Se hizo un esfuerzo especial para ofrecer un análisis balanceado e imparcial de cada uno de los programas de la TRO en las diferentes instituciones que constituyen el Sector Salud en México. Se ha tratado de evitar comparaciones sobre la efectividad de un programa sobre otro. Al contrario, se ha visto cada programa como una contribución a las necesidades de México y se han hecho recomendaciones sobre cómo se puede acelerar y expandir el esfuerzo total.

Se nos hizo claro desde el comienzo que el Sistema de Salud en México es muy complejo y sofisticado. No pretendemos entenderlo habiendo visitado solo una pequeña parte y visto algunas de sus actividades para el control de diarreas que se realiza en los hospitales, clinicas y centros de salud.

Nos ha impresionado repetidamente la capacidad profesional de los Mexicanos en todos los niveles. Nuestra intención es dar una perspectiva independiente, basados en nuestra experiencia en más de treinta países, con la esperanza de que una porción de las recomendaciones sean utiles al Gobierno en su programa de control de enfermedades diarreicas.

EN AGRADECIMIENTO

El equipo de PRITECH desea expresar su agradecimiento a todos los profesionales Mexicanos que dieron tan generosamente de su tiempo para que los miembros del equipo tuvieron acceso a los datos más recientes y apropiados.

Particularmente deseamos expresar nuestra agradecimiento al Dr. Felipe Mota, Dr. Ernesto Calderón Jaimes, Dr. Dionisio Aceves Sainos, Dr. Felipe García-Pedrosa, Dr. Salvador Gonzalez, y la Dra. Ana C. Covarrubias, de la Secretaría de Salud; Dr. Ernesto Díaz del Castillo, Dr. Jaime Cervantes Rangel y Dr. Gonzalo Gutiérrez del Instituto Mexicano del Seguro Social; Lic. Alejandro Cinta Bravo del Instituto para el Desarrollo y Integración de la Familia; Dr. Jorge Arenas Díaz, ISSSTE; y a la Dra. Georgina Velásquez Díaz del IMSS/COPLAMAR.

Deseamos agradecer al Sr. Samuel Taylor y la Srta. Magda Cantú de AID por toda la ayuda que nos prestaron para que se realizara esta visita, asi como al Dr. Pablo Izasa de la OPS y al Dr. Rodrigo Arboleda de UNICEF.

Ademas queremos expresar nuestra gratitud a los profesionales fuera del Sector Salud, quienes dieron de su tiempo y conocimientos. Ellos incluyen al Lic. Luis Francisco Moncayo, CONASUPO; Ing. Alfonso Luis Negrete, Productos Mavi; Ing. Raul Roca, PROFAM; Ing. Alberto Díaz, Laboratorios Protein; Sr. Celestino Pozo, Drogueros, S.A.; y Ing. Jaime Mares, Laboratorios Novac.

RESUMEN EJECUTIVO

Respondiendo a una petición del Gobierno de México, la Agencia Para el Desarrollo (AID) patrocinó un equipo de 5 consultores desde el 14 de enero hasta el 16 de febrero de 1985 para analisar el programa actual en México de la terapia de rehidratación oral y para hacer recomendaciones para incrementar la cobertura efectiva del programa.

Información sobre el programa fue obtenido por medio de visitas a instalaciones del Sector Salud, tanto en áreas urbanas como rurales, en tres estados de la República Mexicana (Morelos, Chiapas y Oaxaca) y el Distrito Federal; entrevistas con representantes del Sector Salud, y del sector privado; y revisión de numerosos documentos descriptivos.

Algunas observaciones generales sobresalieron para el equipo:

1. A México no le falta ni experiencia ni capacidad humana para montar un programa exitoso de la TRO.

2. El Sector Salud de México es complejo y sofisticado y su cobertura a un nivel u otro abarca a la mayor parte de la población.

3. A pesar de su experiencia con la TRO y los recursos con los cuales se cuenta el país, México no está dis peñando el rol de liderazco que le corresponde a nivel . ino americano o internacional, ni alcanza la TRO el vel de cobertura necesario para lograr el descenso de mortalidad infantil esperada.

4. La coordinación entre las diversas instituciones del Sector Salud es difícil pero posible y es necesario si la TRO va a realizar su maximo potencial.

5. El Sector Privado Mexicano tiene un potencial significativo para incrementar rápidamente la cobertura de la TRO por medio de la venta subsidiada de productos a bajo costo.

Se solicitó al equipo analizar los obstáculos que impiden la expansión de la TRO y hacer recomendaciones especificas sobre acciones que podrian superar los obtaculos. Los obstáculos principales que se han identificado incluyen:

1. La falta de un Coordinador a tiempo completo del Programa.

2. La falta de instrucciones uniformes para la mezcla y administración de la TRO entre las instituciones del Sector Salud.

3. Apoyo inadecuado por parte de la comunidad médica.

4. Uso extensivo de remedios competitivos, incluyendo medicinas tradicionales, anti-diarreicos y soluciones I.V.

5. Falta de una imágen coherente del programa de la TRO con impacto popular.

6. Falta de información sobre las prácticas y preferencias del consumidor.

7. Exceso de mensajes educativos sin prioridad efectiva

8. Inadecuado sistema de investigación epidemiológica.

9. La sub-utilización del sector privado como canal de distribución.

Las recomendaciones claves responden a estas obstáculos e incluyen:

1. Nombrar a un coordinador de programa (tiempo completo) por un mínimo de tres años.

2. Desarrollo de un programa agresivo de capacitación y promoción para los médicos y demas personal de salud.

3. Llevar a cabo investigaciones específicas sobre las creencias y prácticas del consumidor, aceptación del producto, efectividad de los materiales educativos y monitoreo de las actividades del programa.

4. Promover ampliamente el uso de los sobres dejando el uso de la "receta casera" a las areas geográficas donde no existen sobres, hasta que se establezca bien el programa de sobres.

5. Buscar un productor subsidiado de la TRO que canalizara un nuevo producto de 250 ml. por medio de las tiendas de CONASUPO en todo el pais.

FUTURA CONTRIBUCION DEL PRITECH

PRITECH es una entidad privada, con un alcance internacional y recursos limitados. Actualmente su area de acción es la asesoria técnica, descontando otras contribucciones financieras. Sin embargo, PRITECH estaría complacido de consideran una futura contribucion al Programa Mexicano si el Gobierno y la Misión de AID lo consideraran conveniente.

Posibles áreas de contribución pudieran ser asesoría técnica para:

- la elaboración de las investigaciones operativas
- el desarrollo de la capacitación profesional médica
- los estudios del mercadeo necesarios para la expansión al sector comercial/privado.
- el desarrollo de la estrategia para la promoción popular

Cualquier decisión sobre su futura contribución dependeria de un pedido específico del Gobierno a través de la Oficina de AID en México y de acuerdo con los recursos disponibles en ese entonces.

NORMAS PARA EL USO EN CASA

1. Al momento que el niño tenga diarrea....

2. Mide un litro de agua limpia
   (Muestre la medida)

   Disvuelve 1 sobre de suero en el agua

3. Dar un vaso del suero

4. Sigue dando pecho, agua, y comidas suaves

5. Si no mejora el niño llevelo al Centro de Salud.

TEMAS PARA RADIO Y TELEVISION

- Peligro de la diarrea en niño pequeño

- Como medir un litro

- El Suero sirve para toda clase de diarrea

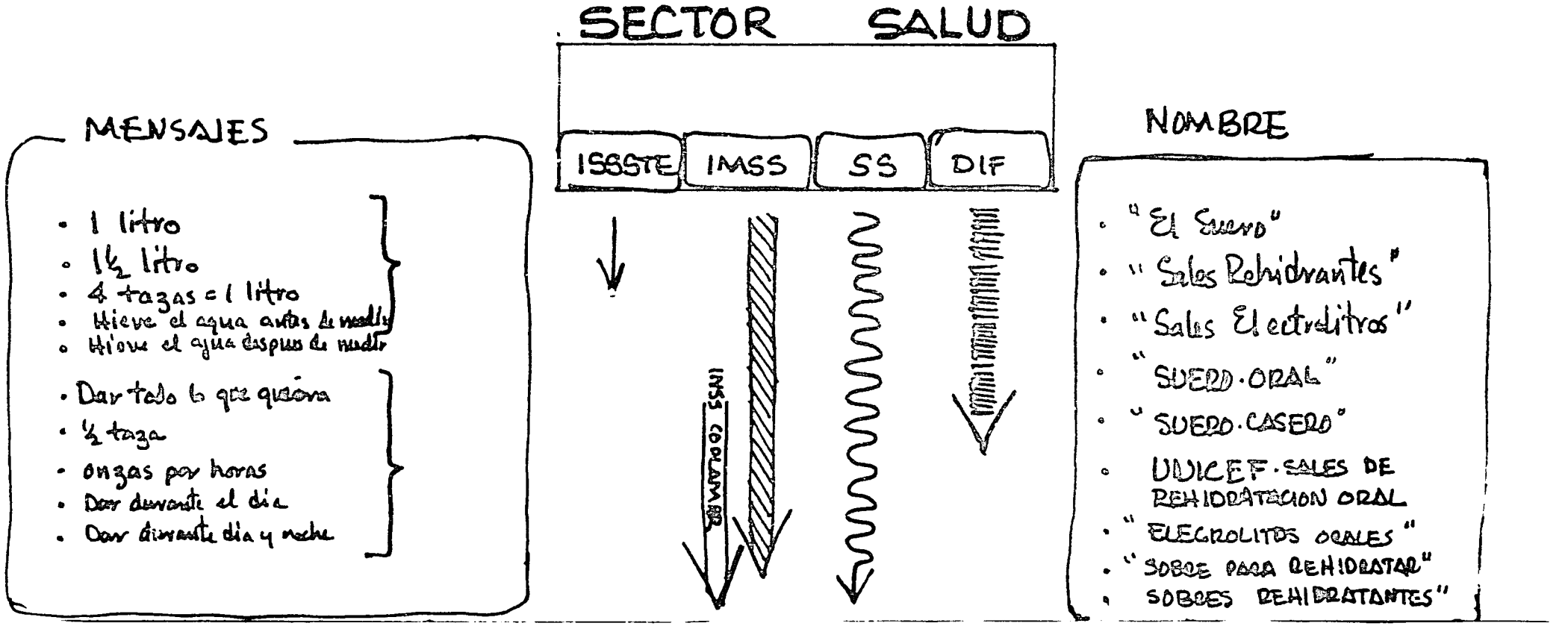
- Suero da fuerza al niño

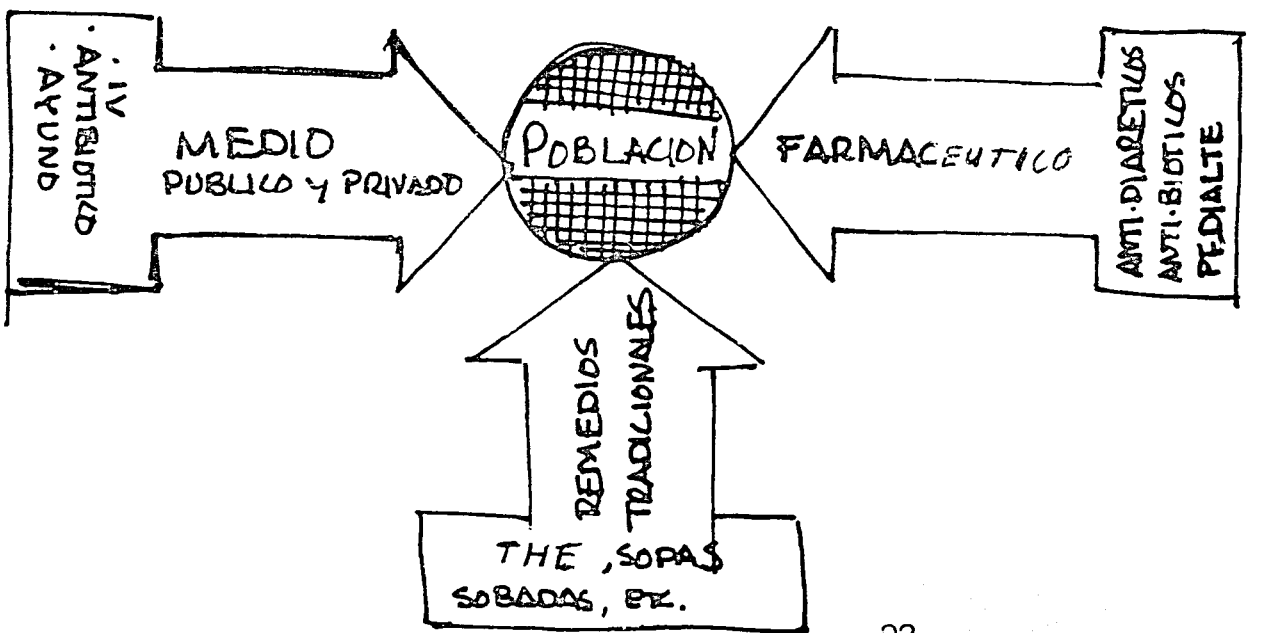
- Pecho, agua, comida son mejor que la medicina comprada

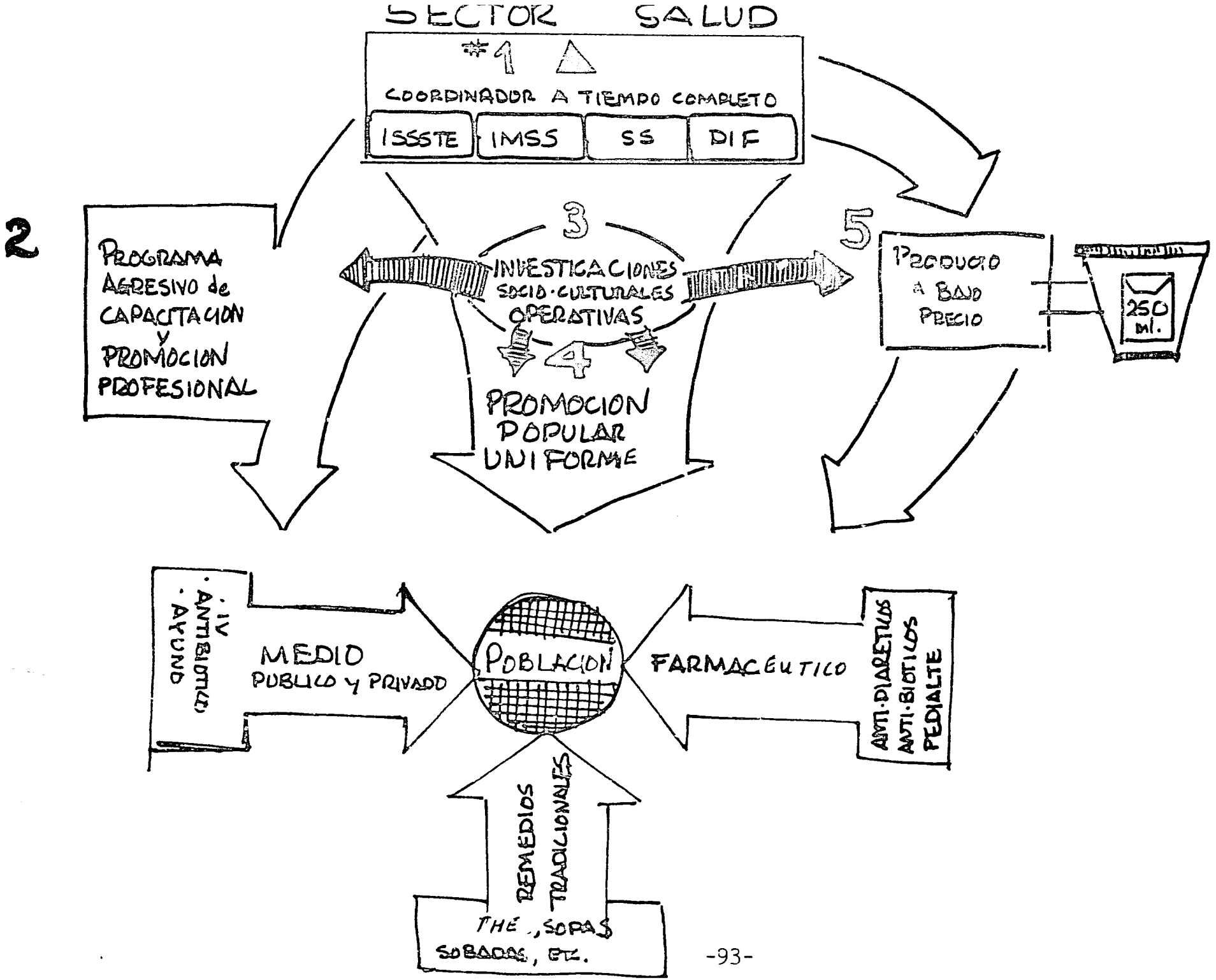
- Dar bastante suero al niño
  5 - 8 vasos al dia

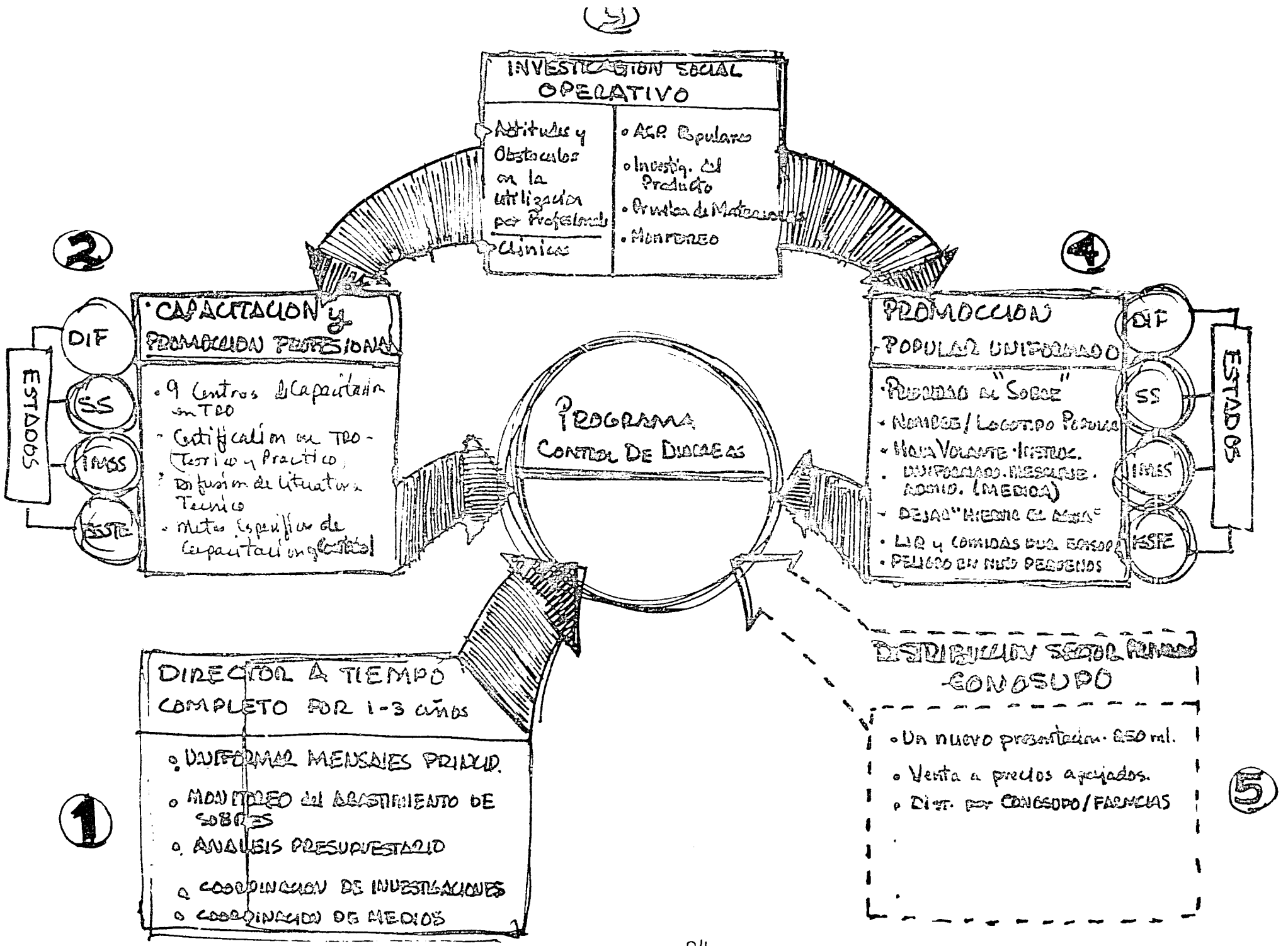
- Conseguir suero en el Centro de Salud - IMSS, SS, DIF, Todas

- Busque donde el aviso


SECTOR SALUD
ISSSTE
IMSS
SS
DIF
IMSS COPLAMAR
MENSAJES
• 1 litro
• 1½ litro
• 4 tazas = 1 litro
• Hierve el agua antes de medir
• Hierve el agua despues de medir
• Dar todo lo que quiera
• ½ taza
• onzas por horas
• Dar durante el dia
• Dar durante dia y noche
NOMBRE
• "El Suero"
• "Sales Rehidrantes"
• "Sales Electrolitros"
• "SUERO·ORAL"
• "SUERO·CASERO"
• UNICEF·SALES DE REHIDRATACION ORAL
• "ELECROLITOS ORALES"
• "SOBRE PARA REHIDRATAR"
• SOBRES REHIDRATANTES"


· IV
· ANTIBIOTICO
· AYUNO
MEDIO
PUBLICO Y PRIVADO
POBLACION
FARMACEUTICO
ANTI·DIARETICOS
ANTI·BIOTICOS
PEDIALTE
REMEDIOS
TRADICIONALES
THE, SOPAS
SOBADAS, ETC.


SECTOR SALUD
#1
COORDINADOR A TIEMPO COMPLETO
ISSSTE
IMSS
SS
DIF
2
PROGRAMA AGRESIVO de CAPACITACION Y PROMOCION PROFESIONAL
3
INVESTIGACIONES SOCIO-CULTURALES OPERATIVAS
4
PROMOCION POPULAR UNIFORME
5
PRODUCTO A BAJO PRECIO
250 ml.
· IV
· ANTIBIOTICO
· AYUNO
MEDIO PUBLICO Y PRIVADO
POBLACION
FARMACEUTICO
ANTI-DIARRETICOS
ANTI-BIOTICOS
PEDIALITE
REMEDIOS TRADICIONALES
THÉ, SOPAS
SOBADAS, ETC.


INVESTIGACION SOCIAL OPERATIVO
Actitudes y Obstaculos en la utilización por Profesionales Clínicas
• AGP Populares
• Investig. del Producto
• Pruebas de Mercadotecnia
• Monitoreo
2
CAPACITACION y PROMOCION PROFESIONAL
• 9 Centros de Capacitación en TRO
• Certificación en TRO - Teórico y Práctico
• Difusión de Literatura Técnica
• Metas específicas de Capacitación
DIF
SS
IMSS
ISSSTE
ESTADOS
PROGRAMA CONTROL DE DIARREAS
4
PROMOCION POPULAR UNIFORMADO
• Publicidad al "Sobre"
• Nombre / Logotipo Propios
• Hoja Volante - Instruc. Uniformados. Mensajes. Admin. (Medica)
• Dejar "Muestra de Mesa"
• L.R. y Comidas Dual Bonos
• Peligro en Niños Pequeños
DIF
SS
IMSS
ISSSTE
ESTADOS
1
DIRECTOR A TIEMPO COMPLETO POR 1-3 AÑOS
• UNIFORMAR MENSAJES PRIMARIO
• MONITOREO del ABASTECIMIENTO DE SOBRES
• ANALISIS PRESUPUESTARIO
• COORDINACION DE INVESTIGACIONES
• COORDINACION DE MEDIOS
5
DISTRIBUCION SOCIAL MARCADO CONDOSUPO
• Un nuevo presentación. 250 ml.
• Venta a precios apoyados.
• Dist. por CONDOSUPO / FARMACIAS