

Official No.: C.H. 908 (1) 5,

Geneva, November 15th, 1930.

LEAGUE OF NATIONS

Health Organisation

8

**ENQUIRIES INTO INFANT MORTALITY
IN SOUTH AMERICA**

by

Robert DEBRÉ and O. E. W. OLSEN

**Report approved by the Health Committee at its Sixteenth Session
(September 29th to October 7th, 1930)**

Series of League of Nations Publications

III. HEALTH
1930. III. 15. ✓

CONTENTS

	Page
INTRODUCTION	5
I. — CONFERENCE OF HEALTH EXPERTS ON INFANT WELFARE, HELD AT LIMA ON JULY 13th, 14th AND 15th, 1930:	
List of Participants	6
Agenda	7
REPORT ON THE SOUTH-AMERICAN ENQUIRIES:	
Districts selected	7
Introduction.	8
General Conclusions to be drawn from the Discussions.	9
<i>General Conditions affecting Infant Mortality and Still-births:</i>	
State of Health of the Mother and pre-natal Care	11
Obstetrical Assistance	11
Care of Infants	12
Pre-natal Clinics	12
Medical Assistance	12
<i>Principal Medical Causes of Death:</i>	
Digestive Disturbances	13
Respiratory Disturbances	13
Specific Infectious Diseases:	
(a) Acute Infectious Diseases	13
(b) Chronic Infectious Diseases:	
Syphilis	14
Tuberculosis	14
Malaria	14
<i>General Conclusions:</i>	
1. Tasks of the Central Authority and Co-ordination	14
2. Economic and Legislative Measures	15
3. Psychological Measures	15
4. Sanitary Measures.	16
5. General Problems	17
6. Vital Statistics	17
Resolutions of the Conference.	18

II. — EXAMINATION ON THE SPOT OF THE MAIN PRACTICAL FINDINGS OF THE ENQUIRY IN THE ARGENTINE REPUBLIC, BRAZIL, CHILE AND URUGUAY:

	Page
Argentine Republic	19
Brazil.	19
Chile	20
Uruguay	20

INTRODUCTION.

The enquiries into infant mortality conducted under the auspices of the Health Organisation in the Argentine Republic, Brazil, Chile and Uruguay, following upon the Conference held at Montevideo in 1927, were concluded at the end of 1929. Their results were discussed at the Conference convened by the Health Organisation at Lima on July 13th, 14th and 15th, 1930.

The findings of this Conference, together with the results of the enquiries undertaken in Europe, will enable the Health Administrations of the South American countries which have taken part in these enquiries to concentrate on the principal medical and social factors affecting infant mortality and to adapt their methods of action to the causes found to be the most important.

The Health organisation is particularly grateful to Professor Robert Debré for having agreed—at the request of the President of the Health Committee and of the President of the European Committee of Health Experts on Infant Welfare—to represent this Committee at the Lima Conference and subsequently to co-operate with the South American experts in applying the conclusions reached by the Conference.

The Health organisation communicates the report submitted by Professor Robert Debré and Professor O. E. W. Olsen, Member of the Health Section.

This report is divided into two parts:

- I. Discussions and Findings of the Conference of Health Experts on Infant Welfare, held at Lima on July 13th, 14th and 15th, 1930.
 - II. Examination on the spot of the Main Practical Findings of the Enquiry in the Argentine Republic, Brazil, Chile and Uruguay.
-

I.

CONFERENCE OF HEALTH EXPERTS ON INFANT
WELFARE, HELD AT LIMA ON JULY 13TH, 14TH and 15TH, 1930.

The Conference met at Lima on July 13th, 14th and 15th and was able to carry out its work under the most favourable conditions, thanks to the courtesy and hospitality of the Government of Peru.

There were present:

Professor Gregorio ARAOZ ALFARO, Honorary Professor at the Faculty of Medicine of Buenos Ayres, former President of the National Health Department, President of the "Liga Argentina" against Tuberculosis, Buenos Ayres (Argentine Republic).

Dr. J. BARROS BARRETO, Assistant Director of the National Public Health Service, Rio de Janeiro (Brazil).

Professor Luis CALVO MACKENNA, President of the Council in Chief for Maternity and Infant Welfare, Medical Director of the Orphanage of Santiago, Vice-President of the National Society for Child Welfare, Santiago (Chile).

Professor Diego CARBONEL, Professor at the School of Medicine, Caracas (Venezuela).

Dr. Romulo EYZAGUIRRE, Head of the Demographic Section of the Public Health Department, Head of the Clinic of Pediatrics of the "Recoleta", Lima (Peru).

Dr. Sebastien LORENTE, Director of the National Public Health Service, Lima (Peru).

Professor Carlos Enrique PAZ SOLDAN, Professor of Hygiene at the Faculty of Medicine, Director of the Child Welfare Institute, Lima (Peru).

Professor Robert DEBRÉ, Professor at the Faculty of Medicine of Paris and Visiting Physician of the Hospitals, representing the European Committee of Health Experts on Infant Welfare.

* * *

The Health Section of the Secretariat of the League of Nations was represented by Professor O. E. W. OLSEN.

Mlle. Cora MAYERS, Doctor of Medicine and Head of the School of Visiting Nurses at the University of Santiago (Chile), Dr. José Manuel OSOPIO (Colombia), and M. Teodosio VALLEDORÉ (Cuba) were also present at the meetings.

* * *

The individual reports of the experts were distributed before the Conference to all those in attendance and will ultimately be published separately by each expert. The *agenda* of the Conference was as follows:

1. Enquiries into the causes and prevention of infant mortality and stillbirths carried out in the Argentine Republic, Brazil, Chile and Uruguay, and the results of these enquiries.
2. Conclusions to be drawn from a comparison of the data furnished by enquiries undertaken in European and in South-American countries.
3. Proposed further enquiries.

DISTRICTS SELECTED.

The districts selected for the South-American enquiry following upon the first Conference held at Montevideo from June 7th to 11th, 1927, were the following:

ARGENTINE REPUBLIC.

- Urban districts: Districts III and XII of the city of Buenos Ayres;
A section of the city of Tucumán.
- Rural districts: Azul district (Province of Buenos Ayres);
Monteros district (Province of Tucumán).

BRAZIL.

- Urban districts: Santa Anna district, of the city of Rio de Janeiro.
- Suburban district: Inhauma, in the federal district of Rio de Janeiro;
Sé-Paço district, of the city of Bahia;
Santa Ephigenia district, of the city of São Paulo.
- Rural districts: Piraja-Paripe district, of the State of Bahia;
Santa Cruz district, in the federal district of Rio de Janeiro;
Neves district, of the State of Rio de Janeiro;
Barra Mansa district, of the State of Rio de Janeiro.

CHILE.

- Urban districts: Santa Anna district, municipal commune of the city of Santiago;
Hippodromo Chile, Santiago district;
The small town of San Bernardo.
- Rural district: San Isidoro, near the town of Quillota.

URUGUAY.

- Urban districts: Judicial sections VII, XII, XIII and XV of the city of Montevideo;
 The small town of Minas, capital of the department of Lavalleja;
 The small town of Tacuarembó, capital of the department of the same name;
 The small town of Fray Bentos, capital of the department of Rio Negro.
- Rural districts: Sauce y Toledo, in the department of Canelones;
 Solís de Mataojo district, in the department of Lavalleja;
 Fray Marcos district, in the department of Florida;
 Young district, in the department of Rio Negro.

INTRODUCTION.

The method of work adopted was the following:

The enquiries carried out in each country were subjected to a strict and comparative analysis, each report was then discussed in turn in order to throw light on the problems and difficulties peculiar to each of the countries visited and to arrive at definite conclusions with regard to the most urgent needs of each country in the matter of infant welfare.

The enquiry covered:

Country	Deaths under one year of age	Still-births
Argentine Republic.	1,277	290
Brazil	1,344	337
Chile	635	47
Uruguay	557	127
Total	3,813	801

The results of the enquiries in all these countries were discussed, except those conducted in Uruguay — as Professor Morquio was absent. We were, however, able personally to follow this enquiry with Professor Morquio during our subsequent visit to his country.

The Conference opened with a report on the results of the European enquiries and the conclusions to be drawn therefrom. The representative of the European Committee of Health Experts emphasised the interest aroused in Europe by the enquiry, and the general desire to arrive at practical conclusions capable of immediate application; he expressed the hope that this would also be the case in South America, since the chief object of the present mission of the representatives of the

European Committee of Health Experts and of the Health Section of the Secretariat was to co-operate with the experts and health authorities of the South-American countries in which the enquiries were carried out.

DISCUSSION.

The following pages give a summary of the general conclusions to be drawn from the Conference's discussions.¹

The main subjects discussed were the statistical, economic and ethnical data and the medical causes of infant mortality.

No doubt, each country under discussion presents its own peculiarities, but a general survey would nevertheless appear legitimate.

STATISTICAL DATA.

In spite of the progress made, certain statistical returns are still imperfect.

CENSUS OF THE POPULATION.

In the districts selected for enquiry, the census of the population was not taken sufficiently recently to afford a reliable basis for the determination of the relation between the figures for births and deaths and the number of inhabitants; moreover, in several districts, a considerable portion of the population frequently changes its residence. This fact renders the compilation of official statistics very difficult and has added to the complexity of the task of the experts.

REGISTRATION OF BIRTHS.

In several districts the registration of births is not regularly enforced and the investigators were obliged in certain cases to send their visiting nurses to these districts in order to obtain as accurate information as possible with regard to births.

INFANT DEATHS.

The deaths of infants are not accurately known in certain districts, for the practice of secret burials still exists in spite of all the efforts made to prevent them; hence a further and considerable difficulty in the way of the enquiry.

STILL-BIRTHS.

Errors regarding still-births are even more frequent; in the first place, for the reasons which have just been mentioned, and, secondly, because the definition of still-birth differs fairly widely.

¹ This report has been approved by the South-American experts.

BIRTHS BEFORE TERM.

The same observation applies to a certain extent to the statistics regarding births before term.

CASES NOT COVERED BY THE ENQUIRY.

As regards the statistics of the enquiry it was found necessary, after discussion, to make a formal distinction between deaths the cause of which is unknown in spite of the enquiry, and those the cause of which was not ascertained on account of the impossibility of conducting an enquiry.

These circumstances fully explain why the absolute accuracy of the various figures published in the reports cannot be vouched for in every case, and also throw light on the immense difficulties the experts had to overcome.

SOCIAL AND ETHNICAL CONDITIONS.

Except in the more well-to-do districts, the number of illegitimate children was found to be very high, amounting in certain districts to more than half of the cases covered by the enquiry. This fact appears to be due, not to a higher mortality among illegitimate children, but to peculiar social conditions. In some districts, a large number of couples settle down and make a home together without contracting marriage; in some places such couples are even more numerous than those that are legally married. Children born in these homes are therefore brought up under much better conditions than the children of abandoned women, or those whose father is unknown. This distinction is so important that one investigator considered as illegitimate only the children of a woman living alone. One noteworthy fact is that the number of abandoned children is everywhere decreasing and that, in some districts, such children are practically unknown. Abandonment is now hardly ever due to moral causes but, in almost all cases, is the consequence of economic difficulties.

One of the most serious factors affecting infant mortality is undoubtedly ignorance and a comparatively low level of general education. To this cause must be attributed serious dietetic errors from which infants suffer (even those who are very largely breast-fed); lack of medical supervision of sick children, obstetrical assistance by unqualified midwives (*curiosa*), the persistence of prejudices and superstitious practices, faith in *curanderos* (popular quacks).

Among these simple people, the campaign against infant mortality must therefore be conducted on very special lines. Education is the more difficult since, in certain districts, racially different populations live side by side; Creoles, half-breeds, Indian and negro communities and immigrants from Europe.

NUTRITION.

A very important problem which primarily affects Chile (page 19) but is also of importance to several other South-American countries is that of the nutrition

of the whole population. With the general problem of nutrition is linked up that of milk, which is a serious one in certain districts. We will revert to this point when discussing the medical causes of infant mortality.

HOUSING.

In the majority of districts, housing conditions are bad; in certain urban and rural districts, they may even be described as lamentable: lack of space, overcrowding, inadequate protection against the weather and the variations in temperature, swarms of parasites, fouling of floors, combine to have the most deplorable results. On the other hand, it should be said that these children who are out of doors all day long do not suffer from lack of sun as do those who live in the hovels of certain European towns and rural districts. The housing conditions deserve special study and call for special measures.

CLIMATE.

The housing problem is the more serious, since climatic conditions are not good in certain districts. The investigators laid stress on the very marked variations in temperature between day and night in the coastal districts on the Pacific Ocean and certain districts bordering on the Atlantic.

GENERAL CONDITIONS AFFECTING INFANT MORTALITY AND STILL-BIRTHS.

STATE OF HEALTH OF THE MOTHER AND PRE-NATAL CARE.

In several districts covered by the enquiry, the state of health of the mother is described as poor or bad, much more frequently than is the case in Europe. They do not appear to suffer from definite diseases but from an unsatisfactory state of nutrition due to dietetic errors or deficiency. Overwork, on the other hand, which is so often reported in urban and rural districts in Europe is practically non-existent in South-American countries, where there is very little female industrial labour. In view of the conditions of life in the rural districts it is not surprising that traumatism (shocks, falls) are much more frequent during pregnancy and may be taken to be an important cause of premature labour.

Stress must be laid here also on the almost total absence in nearly every district of pre-natal supervision of any kind. All the experts have drawn attention to the importance of this factor.

OBSTETRICAL ASSISTANCE.

Obstetrical assistance given by a surgeon or midwife is insufficiently provided for in the towns and almost totally lacking in the rural districts, where no obstetrical assistance of any kind is available or where it is given by unqualified midwives. The

seriousness of this factor is shown, not only by the frequency of still-births and of the deaths of premature and weakly infants, but even more perhaps by the relatively high incidence of umbilical tetanus.

In Brazil, the situation is serious, and steps have been taken, with good results, for the instruction and supervision of these midwives.

CARE OF INFANTS.

In the majority of districts, even those where economic conditions are fairly good, the number of deaths of infants who were considered to have been inadequately looked after or neglected by their mothers is fairly high, a fact to which attention has already been drawn in connection with the general ignorance of the population. Every mistake that can be made in hygiene is committed: no precautions against infection, infectious diseases, changes of temperature, and errors of diet often of the grossest kind.

PRE-NATAL CLINICS.

In the larger towns, energetic measures have been taken to improve the situation, and excellent results have been obtained by the institution of services and organisations of different types (infants' consulting clinics, free distribution of milk, health centres). In the majority of the rural districts, on the other hand, infant welfare is not yet provided for in any way.

MEDICAL ASSISTANCE.

Medical assistance, which is not always perfectly organised in urban districts, is badly provided for in nearly all rural districts and that for several reasons: difficulty and sometimes impossibility of communications, delay in summoning the doctor, faith in *curanderos* and in certain traditional practices. In some districts, the practice of entrusting waifs to the care of mercenary nurses without adequate supervision has had deplorable results.

PRINCIPAL MEDICAL CAUSES OF DEATH.

In the South-American districts studied, the proportion of the various causes of death appears to be identical with that in the comparable districts of Europe. In the districts with a low mortality rate, death during the intranatal period constituted the most important factor. In districts where mortality is high or even exceptionally high—and these are by far the most numerous—this is not the case. Of the three main groups of deaths (1) death from digestive disturbances, (2) death from infectious diseases, including diseases of the respiratory system, and (3) death during the

obstetrical period, the first category is almost everywhere responsible for the larger proportion of deaths.¹

A very striking fact in all the districts covered by the enquiry is the high incidence of infectious diseases and the gravity of disturbances of the respiratory system. Another important fact is the high incidence of syphilis mentioned by several experts and its influence on still-birth and infant mortality. Further, the existence of malaria and dysentery in certain rural districts must be regarded as a contributory cause of death in early infancy.

Let us examine each of these causes in turn.

DIGESTIVE DISTURBANCES.

Their frequency and gravity in several districts is easily explained by the combined effects of the climate, grossly unsuitable diet, bad nursing, feeding with milk of bad quality and often also lack of milk. One remarkable fact is that in several districts deaths of breast-fed infants from digestive disturbances have been reported; in actual fact, as the experts themselves noted, these infants are given various indigestible foods in addition to the mothers' milk; the practice of earth eating has been reported by one of the experts. The dietary of nearly all hand-fed infants is considered defective. Milk is often of very bad quality, although some administrations have taken steps to improve the situation. The preparation of infants' bottles is, generally speaking, quite deplorable.

In some rural districts, the part played by dysentery and intestinal parasites in undermining the general health is well-known, but requires more thorough study from different points of view.

RESPIRATORY DISTURBANCES.

Some are sequels of specific infectious diseases, such as whooping-cough, measles and influenza, to which we will refer again later. Others are secondary to some serious disturbances of the general health (hypotrophy) and some would appear to be primary.

Some of the experts laid stress—and rightly so—on the inadequate protection afforded against the cold at night which, especially on the Pacific coast, is severe in comparison with the heat of the day (the children are not properly covered, sleep close to the ground in ill-closed houses, etc.), and also on the evil effects of overcrowding.

SPECIFIC INFECTIOUS DISEASES.

(a) *Acute Infectious Diseases.*

In the South-American districts covered by the enquiry (as was the case in Europe), of all the acute infectious diseases, whooping-cough has been the most dangerous for little children during the year under consideration.

¹ See the classification given by the European experts, document C.H. 820, "Memorandum relating to the Enquiry into the Causes and Prevention of Still-Birth and Mortality during the First Year of Life (Austria, France, Germany, Great Britain, Italy, Netherlands, Norway)", pages 35 et seq.

(b) *Chronic Infectious Diseases.*

Syphilis. — Syphilis has been recognised by all the experts as a frequent cause of still-birth and also of death in early infancy. In many of the districts, the disease in adults is the more easily diagnosed as the population has not the same tendency, as in Europe, to hide the disease. In the course of the discussions, the South-American experts drew attention—as the European experts had done already—to the difficulty of diagnosing hereditary syphilis and to the unreliability of clinical symptoms in many cases, and they insisted on the urgency of a thorough investigation including the sero-diagnostic examination of the blood of the infants and their mothers. It is difficult, therefore, to vouch for the absolute accuracy of the figures given and to compare the percentage of the different districts with one another.

Tuberculosis. — The experts realised the relative importance of the danger of tuberculosis for infants, and added that a certain number of cases had certainly escaped investigation and were entered under other headings.

Malaria. — Malaria was notified as the cause of death of some infants in a few districts. There is no doubt therefore that this chronic infection has also played a more or less important part in the death of other infants (still-born or live-born), who were carried off by an acute infection (digestive disturbances, diseases of the respiratory system) but were suffering at the same time from chronic malaria.

GENERAL CONCLUSIONS.

The discussions on “preventible deaths” which were held during this meeting afforded a solid basis for the general findings of the experts.

1. TASKS OF THE CENTRAL AUTHORITY AND CO-ORDINATION.

In several districts covered by the enquiry, excellent child welfare and maternity institutions are in operation, and give very good results. They owe their existence either to private enterprise or public administrations and contain in embryo all the factors essential for a well-organised campaign against infant mortality. Their number should therefore be increased, but they will only be really effective if their work is co-ordinated. All the experts laid stress on the capital importance of co-ordination. They ask that the central Government of their country should take measures to co-ordinate the work undertaken in this field, should supervise this work, subsidise it and promote the establishment of new institutions organised on the same lines. Thus the part to be played by the central Government is well defined; while initiative is left to private persons or associations, to the towns and to the States,

the central Government must take steps to prevent waste of effort, correct certain erroneous tendencies and avoid overlapping; it must furnish subsidies to the poorer districts and provide a sanitary equipment adapted to the needs of the various parts of the country. According to the countries and their constitutions this work should be centralised in the hands of a Ministry or Department of Public Health, including a specialised maternal and child welfare service. Obviously, such a service can only work satisfactorily if it is supported by an adequate budget appropriation, regularly paid.

2. ECONOMIC AND LEGISLATIVE MEASURES.

In order to remedy to some extent the principal economic causes of infant mortality, the following measures are to be recommended :

In the industrial districts where provision is made for a period of rest for the worker towards the end of pregnancy and after confinement, this measure can only be effective if a sufficient allowance is paid to the mother receiving benefit, and this allowance will only be of real use if it is combined with judicious social assistance.

The same principle applies to the two other kinds of benefits which are recommended: nursing benefit in order to encourage breast-feeding, and benefits to prevent the abandonment of the child under the pressure of poverty.

Economic and legislative measures cannot be uniform even in the territory of one and the same country, and a good deal of latitude must be allowed in their application.

In certain districts, a health insurance law is in force, which affords real protection to the worker's family. In others, the Government is still engaged in a preliminary study of the question. It should be emphasised that measures for maternal and child welfare and the organisation of preventive medicine must be given first place in the framing of social insurance legislation.

3. "PSYCHOLOGICAL" MEASURES.

All the experts laid stress on one of the most influential factors in infant mortality, if not the most important in certain districts—namely, ignorance. The competent authorities should study and introduce without delay the best means of popular education. The methods must obviously vary according to the districts and the nations, but the essential instrument for popular education, especially in the matter of maternal and infant welfare, is everywhere the visiting nurse or the social welfare worker. The establishment of new training schools for health visitors and welfare workers and the extension of existing schools, the recruiting of an efficient staff, provisions for adequate remuneration, the judicious distribution of the personnel—these are measures with which a beginning has been made, but most of which still remain to be carried out. Obviously, in certain rural districts (forest lands, pampas, mountains)—particularly in South America,—it will be difficult to establish posts

of visiting nurses, but by adapting methods to local conditions the introduction of this measure would not seem impossible.

In the towns and their suburbs, the immediate establishment or increase of such posts is absolutely essential. The influence exercised by the visiting nurse or the social welfare worker in the home does not long remain limited to maternal and infant welfare, but soon extends to the field of general hygiene. The protection and supervision of the infant is one of the best means of gaining admittance into the humbler homes.

Among "psychological" measures we would include improvement in the training of midwives, of medical officers of health and also of general practitioners.

As in all countries of the world, the level of knowledge among general practitioners in the matter of the pathology of early infancy must be uniform, but serious efforts have already been made in the universities to achieve this end.

Hospital Treatment.

In the large towns, the number of beds available for the treatment of infants is not everywhere adequate, and the same applies to accommodation for maternity cases. On the whole, these services (infant welfare and maternity services) are well organised; in some cases they may even be regarded as model institutions. In the small towns and in the rural districts, however, the position is less satisfactory and the inadequacy of their hospital accommodation and equipment compares very unfavourably with that in the majority of the large towns.

In the South-American countries, the general level of education of the population constitutes a serious and peculiarly complicated problem, for social and ethnical reasons to which the experts were anxious once more to draw the attention of the Governments.

4. SANITARY MEASURES.

While home confinement and even the home treatment of sick children is generally to be preferred, it should be pointed out that properly-equipped children's wards providing a sufficient number of beds are still lacking in many hospitals. Maternity wards should also be provided; homes for pregnant women and nursing mothers are everywhere lacking.

The most urgent health measure is the establishment of clinics for the supervision of healthy children from birth.

These infant welfare centres cannot be operated, however, without the supervision of a medical specialist and the help of visiting nurses or social workers to see that children are brought to the clinics and attend them regularly. Health centres where consultations on puericulture are combined with advice concerning pre-natal supervision, dispensaries for tuberculous and syphilitic patients and services for the prevention of infectious diseases would be better still. They have been established in certain districts selected for enquiry and have given excellent results. An important

problem, and one that is difficult to solve, is that of the distribution of doctors and midwives, who are too numerous in the towns and too few in the rural districts. The experts desire to draw attention to this serious question and ask that an adequate fixed remuneration be introduced to promote the establishment of doctors and midwives in the districts where they are lacking.

Milk.

Among the health measures which the experts consider of particular urgency is the provision of a sufficient quantity of milk and the supervision and regulation of the sale of good milk for infants.

5. GENERAL PROBLEMS.

The questions raised in connection with infant mortality are linked up with general problems, some of which are common to all South-American countries; the campaign against tuberculosis, syphilis, malaria, smallpox and dysentery is very important, but does not present any features peculiar to the countries under discussion. The same cannot be said of the housing problem, alike in the towns and the country, which is serious and very difficult to solve and has not yet sufficiently engaged the attention of the public authorities. The problem of general nutrition is more particular referred to in connection with the enquiry in Chile (see page 19).

6. VITAL STATISTICS.

All the experts laid great stress on the value of vital statistics which, in the districts covered by the inquiry, are, to say the least, inadequate. Absolutely regular notification of births should be enforced, since that alone will ensure, from the first days of the infant's life, the care of the health centres and of the visiting nurses. The regular notification of marriages and of still-births is also essential. Each expert recommended the adoption in his own country of the definition of still-birth given by the Commission set up by the Health Organisation of the League of Nations to study this question. Further, the authorities are recommended to take steps to prevent secret burials where this practice persists, and to enforce regular registration of deaths.

The campaign against infant mortality is particularly difficult in most of the South-American districts. It is perhaps hardly necessary to refer once again to the primitive character of certain populations, their ignorance, their negligence as regards the care of little children, the crowding of families into hovels both in the urban and rural districts, errors of diet, economic difficulties and even the severity of the climate. However, many favourable factors also deserve attention. In the first place, the efforts made up to the present and the good results already achieved, a spirit of progress and a desire for immediate action are in evidence everywhere. In view of the experts' statements, there seems to be every prospect of success, provided the

campaign is judiciously conducted. A large number of deaths, in particular from digestive disturbances, is certainly preventible by relatively simple measures. If the advice of the experts is followed, infant mortality should decrease in the districts under review.

* * *

At the end of the Conference, the experts expressed the hope that enquiries similar to those conducted in the Argentine Republic, Brazil, Chile and Uruguay should be undertaken in the other South-American countries, and more especially in Peru.

They asked the Secretariat to convey their thanks to the Governments and authorities who facilitated the enquiry in the different districts. They further requested it to convey their sense of gratitude to the Government of Peru for the cordial welcome and hospitality accorded to the Conference.

II.

EXAMINATION ON THE SPOT OF THE MAIN PRACTICAL FINDINGS OF THE ENQUIRY IN THE ARGENTINE REPUBLIC, BRAZIL, CHILE AND URUGUAY.

FINDINGS OF THE ENQUIRY CONDUCTED IN THE ARGENTINE REPUBLIC.

At Buenos Ayres we made a particular study, with the assistance of the expert, Professor Araoz Alfaro, and a great number of qualified persons, of three outstanding problems:

- (1) Pre-natal supervision in the capital;
- (2) The organisation of the campaign against infant mortality in rural districts;
- (3) The prominence to be given in medical studies to the importance of preventive medicine.

The third question, which also concerns the neighbouring countries, should be studied with particular care. A practical beginning was made during our stay with the solution of the problem of pre-natal care in the capital.

The organisation of measures for the prevention of infant mortality in the rural districts, which is closely connected with that of rural hygiene, calls for very urgent attention. The lack of co-ordination between private and public institutions was unanimously deprecated.

FINDINGS OF THE ENQUIRY CONDUCTED IN BRAZIL.

The vastness of the territory of the United States of Brazil and the diversity of its climate and populations make general conclusions almost impossible. As regards the districts covered by the enquiry, the problems which particularly engaged our attention and that of the expert, Dr. Barros Barreto were:

- (1) The inadequacy of pre-natal supervision, particularly in rural districts;
- (2) The lack of qualified nurses — sick nurses as well as visiting nurses. Very serious efforts have already been made to improve the situation in this respect.

We must also note with satisfaction that the Federal Public Health Service is more and more centralising the work of the health services of the different States in its own hands.

FINDINGS OF THE ENQUIRY CONDUCTED IN CHILE.

At Santiago we were able to proceed with the examination of the practical findings of the enquiry in Chile and to study, together with the expert (Professor Calvo Mackenna) and local authorities the problem concerning tuberculosis, syphilis, pre-natal care and obstetrical assistance, as well as housing and social insurance questions. On all these different points, the enquiry has furnished the authorities with valuable data. Two points deserve special attention: (1) the necessity of co-ordinating the work of a number of excellent private welfare institutions with the central health administration, particularly in the matter of public hygiene in general and maternal and infant welfare in particular; (2) the urgency of extending general health and medical relief measures to the country districts.

In Chile, there is one problem of capital importance: malnutrition. This has been engaging the attention of the authorities for some time and has been subjected to a more detailed enquiry. As we have said already, the problem is a serious one in Chile, and it is complicated, since it must be considered at the same time from the hygienic, economic, agricultural and educational point of view. Up to the present, in spite of several attempts, it has not been possible to begin the serious study of this problem in Chile.

FINDINGS OF THE ENQUIRY CONDUCTED IN URUGUAY.

The Government, the health authorities and the public of Uruguay, who all take a particular interest in the work of the Health Organisation of the League, are at present engaged in completing the health equipment of the country. With the assistance of the expert, Professor Morquio, the enquiry into infant mortality could therefore be discussed under particularly favourable conditions during our stay in Montevideo. The President of the Public Health Council decided to propose to the Council the adoption of the conclusions published at the end of the Lima Conference: the Council accepted its President's proposal.