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METHODS OF INCREASING HEALTH SERVICES COVERAGE IN RURAL AREAS

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I. INTRODUCTION

The XVII Pan American Sanitary Conference held in October 1966 at Washington, D.C. selected the topic "Methods of Increasing Health Services Coverage in Rural Areas" for the Technical Discussions of the XVII Directing Council of the Pan American Health Organization.

The fact that this topic was chosen reflects the concern of the Governments of the Hemisphere to improve the health of the rural inhabitants, as part of the economic and social development effort begun by the various countries during the 1960's. The population of the agricultural sector is of tremendous importance in this development process, since it constitutes approximately 50 per cent of the total population of Latin America. Improvement of the living conditions of the rural population, at present numbering over 110 million persons, is today one of the most urgent and vital problems facing the Continent. In fact when the Chiefs of State of 20 American countries met at Punta del Este, Uruguay, from 12 to 14 April 1967, they indicated as one of the targets of the health sector the intensification, within the general framework of planning, of the preparation and execution of national plans to strengthen infrastructures in the health field.

Generally speaking, the rural population in Latin America lives in unsatisfactory conditions, enjoying few of the advantages and benefits provided by modern civilization. Mortality rates are much higher than those recorded in the large towns. Extensive areas are without even the most rudimentary health services; sanitary arrangements are either non-existent or quite inadequate. The same inadequacies are also found in such fields as housing, education and other aspects of development.

Apart from this, socially and economically the rural population does not contribute as it should to the general development process owing to the fact that it lives largely at subsistence level.

The problems of a low level of agricultural production, aggravated by deficient property structures, poor land-use and rapid natural growth of population, constitute serious obstacles to smooth national development.

The consequences for the rural population are unsatisfactory economic, social and cultural levels, reflected in low productivity figures, poor sanitary conditions, illiteracy and other factors of underdevelopment.

Furthermore, the peasant population does not enjoy full employment or adequate income. All these things, combined with unsatisfactory housing and living conditions generally produce acute social and human problems and are the cause of large-scale migration into the towns, creating what has been called "the ruralization of the urban environment.".

Both the Charter of Punta del Este and the Study Group which brought together the Ministers of Health of the Americas in 1963 gave expression to the need to improve and extend health services to all parts of the Continent, so that health can play its proper part in the economic and social development of the Americas.

II. DEFINITIONS

There is no general agreement on a clear and explicit definition of what constitutes the rural area. Any satisfactory definition would have to take into account the criteria - demographic, social and administrative - used in the various existing definitions. The word "rural" indicates the place where a person lives, whereas the term "agrarian" indicates his occupation. Because the rural population works predominately on the land, these terms are sometimes regarded as synonymous. The rural community is commonly identified by the link between the people and agricultural work as a means of livelihood.

As has been pointed out by many writers on the subject, it is not easy to embrace within a single definition a type of social life which has shown such a diversity of facets at various periods and in various countries as has the rural community. Many studies by geographers, legislators, jurists, historians, sociologists and others have suggested definitions each of which tends to bring out one particular aspect of special interest to the researcher and the branch of science he represents.

George Hillery, quoted by Chiva, states that he has examined 94 definitions of the rural community in an attempt to find common ground among them. (1)

Chiva himself describes the rural community as a small social unit living in a given area and obtaining its means of livelihood from the use of the land in a more or less closed economy. (1)

When the practice of taking censuses every ten years became the general rule, the need was felt to define rural localities in geographical terms; but the dividing-lines suggested vary for each country, and they are not satisfactory from the scientific point of view.

Among the definitions of rural areas used by the American countries in the various censuses taken round about 1960, nine are expressed in terms of numbers of inhabitants: Canada, Honduras and Venezuela consider any place having not more than 999 inhabitants as a rural district, Venezuela using the term "intermediate" for places with between 1,000 and 2,499 inhabitants. Colombia and Panama regard places with less than 1,500 inhabitants as rural. Argentina and Guatemala consider places with under 2,000 inhabitants as rural areas, but Guatemala makes an exception in the case of townships of 1,500 to 2,000 inhabitants which have water service. The United States and Mexico regard places of under 2,500 inhabitants as rural

townships. The definitions of urban districts given by the rest of the countries suggest a less precise notion of what they consider rural. Some of them regard only the capital of the country and the chief towns of provinces, departments and districts as urban areas. Others consider all places possessing certain facilities such as sanitary services, electric light, etc. as urban townships.

As has been said, the United States of America defines as a rural unit for census purposes any township of less than 2,500 inhabitants, though Prof. Wilson G. Smillie says that for the purposes of public health administration, a suitable rural unit of population is from 25,000 to 50,000 or more people. (2)

The Ministry of Health and Social Welfare of Venezuela exceptionally extends the definition of townships regarded as rural to 5,000 inhabitants for the purposes of the program of rural aqueducts. (3)

On the other hand, Juan Hepp defines a rural area for the purposes of a Chilean health care program as "one in which the population density is between 10 and 20 inhabitants per km^2 and the built-up area constitutes 50 per cent of the total population of the area"; and he goes on to say "likewise regarded as rural and hence included in the program are all populated areas having up to 20,000 inhabitants, where the rural parts are uninhabited and the distance from neighbouring localities of any size is over an hour's journey by the ordinary, regular means of public transport." (4)

Even though the definition as expressed in numerical terms which will be used in the present paper is very useful for statistical purposes, it is recognized that care must be taken in using it, since no arbitrary classification based on numbers of population can be entirely satisfactory.

For the purposes of the present paper the term "methods" will be taken as signifying the various means of organization and administration of services enabling the targets of promotion, protection and restoration of health to be achieved.

The term "coverage" will be taken to mean the numbers or percentage of the population enjoying the health service facilities.

The expression "health infrastructure" is adequately defined by Carlos Luis Gonzáles: "The term rural health infrastructure is used to designate the minor organic units furnishing certain basic health services to meet the more urgent health needs of the rural population within the limits imposed by the resources available locally." (5)

The definition "basic health services" has been given to a peripheral and intermediate network of health services or units properly co-ordinated with a central administration, equipped to carry out effectively a series of functions vital to the health of the area and providing for the competent

professional and auxiliary staff needed to carry out these functions. Such services are designed to provide curative and preventive medical treatment and health promotion facilities. Mother and child care is perhaps the type of health service most universally in demand, especially in rural areas, and in many of the developing countries this is the pivot of the present services. The basic services described consist of hospitals, health centers and rural posts.

The term "rural hospital" is used for hospitals of 20 to 50 beds providing general medical treatment (physician services, surgery, pediatry and maternity care) for towns of 10,000 to 25,000 inhabitants. (6)

Health centers, with or without beds, are designed mainly for health services of a preventive type, mother-child prenatal and postnatal care, communicable disease control, sanitation and health education, and first-aid and simple medical treatment under medical supervision in places of not less than 10,000 inhabitants. When centers of this kind have beds thay are mainly used for confinement cases and occasionally for transient patients waiting to be transferred to a hospital. (6)

The rural post or station, also known as rural dispensary or country clinic, is the simplest health care unit, having no beds and no resident professional staff. These posts are as a rule staffed by auxiliary workers and their purpose is to provide preventive treatment and first aid, and in a few instances to provide simple medical care. They generally cater for townships of less than 1,000 inhabitants. (6)

The Second Meeting of the WHO Expert Committee on Public Health Administration defined the "rural health unit" as an organization providing or making accessible, under the direct supervision of at least one physician, the basic health services for a community. The Committee defined the basic health services of the rural health units as maternal and child health; communicable-disease control; environmental sanitation; maintenance of records for statistical purposes; and health education, public-health nursing and medical care. (7)

III. DESCRIPTION

Rural communities are spread over vast regions where as a rule the population is engaged in agricultural work. Dwellings are usually made of wood or adobe or other light materials; they have an earthen floor, and very frequently there is no water inside the dwelling. Arrangements for removing excreta and garbage are as a rule rudimentary and primitive. In many cases the entire dwelling consists of a single room which is used for all the normal activities of the family; and as has already been said, this type of community lives at subsistence level.

Transport and communications difficulties, due to the inadequacy of the roads, which in some instances are completely impassible during rainy

weather, aggravate the living conditions of such communities and often leave them completely isolated.

This was the type of situation in small rural communities that led the Social Progress Trust Fund of the Inter-American Development Bank to state in its second annual report that "the backwardness of the agrarian sector continues to represent the principal obstacle to Latin American growth and is the major cause of social and political tensions and of many of the region's economic problems. (8)

The distribution of urban and rural population in the Americas varies from country to country and is rapidly changing. In some countries a high proportion live in large towns and other urban areas, but in many instances the contrary is true. The population of rural areas in 24 countries of the Americas in 1965 was over 114 million inhabitants, or 47.6 per cent of the total population of those countries. As can be seen in Table 1, the estimated rural population in 1970 is approximately 117 million inhabitants, or 42.6 per cent of the total population, and it is calculated that by 1980 it will be 118 million, if the present growth trends are maintained. This would represent 37.2 per cent of the estimated total population in that year.

Although it is a fact that proportionately the rural population is diminishing in the Americas, in absolute figures it is certain to go on increasing, and in the next 20 years it will consistently be over 100 million persons.

Table 2 shown the number of built-up areas by population bracket, the number of inhabitants in each bracket, and the percentage of each in relation to total population, for 17 countries. It is interesting to note that a high percentage of the population lives in unclassified localities, in other words scattered groups of under 500 inhabitants not coming within the strict definition of townships.

Because of the variations in the numerical limits set for defining rural areas, which fluctuate between 1,000 and 2,500 inhabitants, the percentage figures representing the rural population vary in the Latin American countries from 18.1 per cent in Uruguay to 83.4 per cent in Haiti (Table 1). If we compare these figures with information taken from 1950 censuses and with projections for 1970 and 1980, we find that the ratio of rural population to total population is diminishing, although in absolute figures the rural population is actually increasing. What is happening is that the urban population is growing more rapidly. In fact, the growth rate for the urban population in Latin America between 1950 and 1960 was 4 per cent, as against 1.4 per cent for the rural population during the same period. This difference is attributable to urbanization, a notion which has been defined as the process by which an increasing proportion of the population lives in urban areas.

TABLE 1

TOTAL POPULATION AND ESTIMATED RURAL POPULATION IN 24 COUNTRIES IN 1965 AND PROYECTION 1970 AND 1980

Countries	Estimated Total population			Rural population						Intercensal urban growth rate.
	1965	1970	1980	1965		1970		1980		
				Number	%	Number	%	Number	%	
Argentina	22.352.000	24.784.000	28.998.000	6.683.000	29,9	7.017.000	28,3	6.155.000	21,2	2,5
Barbados	244.000	270.000	285.000	143.000	58,6	161.000	59,6	159.000	55,8	1,5
Bolivia	3.697.000	4.658.000	6.000.000	2.397.000	64,8	3.211.000	68,9	4.208.000	70,1	2,2
Brazil (a)	81.301.000	93.752.000	123.566.000	39.189.000	48,2	38.634.000	41,2	29.148.000	23,6	5,5
Chile	8.567.000	9.753.000	12.378.000	2.534.000	29,6	2.395.000	24,6	1.432.000	11,6	4,1
Colombia	18.068.000	20.514.000	27.691.000	8.478.000	46,9	7.871.000	38,4	5.717.000	20,6	5,7
Costa Rica	1.433.000	1.718.000	2.419.000	927.000	64,7	1.093.000	63,6	1.468.000	60,7	4,3
Cuba	7.631.000	8.307.000	10.034.000	3.065.000	40,2	3.119.000	37,5	3.336.000	33,2	2,6
Dominican Rep.	3.624.000	4.277.000	6.174.000	2.390.000	65,9	2.615.000	61,1	3.160.000	51,2	6,1
Ecuador (a)	5.150.000	5.739.000	7.901.000	3.327.000	64,6	3.429.000	59,7	4.191.000	53,0	4,8
El Salvador	2.928.000	3.346.000	4.585.000	1.820.000	62,2	2.041.000	61,0	2.775.000	60,5	3,3
Guatemala	4.438.000	5.033.000	6.878.000	2.913.000	65,6	3.060.000	60,8	3.575.000	52,0	5,3
Guyana	646.000	757.000	1.045.000	454.000	70,3	531.000	70,1	734.000	70,2	3,3
Haiti	4.396.000	5.255.000	6.912.000	3.666.000	83,4	4.344.000	82,7	5.493.000	79,5	4,5
Honduras	2.284.000	2.592.000	3.656.000	1.677.000	73,4	1.695.000	65,4	1.702.000	46,6	8,1 (c)
Jamaica (b)	1.788.000	2.003.000	2.403.000	1.204.000	67,3	1.293.000	64,6	1.352.000	56,3	4,0 (c)
Mexico	42.689.000	49.282.000	70.581.000	20.142.000	47,2	20.656.000	41,9	24.436.000	34,6	4,9
Nicaragua	1.655.000	1.979.000	2.791.000	969.000	58,5	1.136.000	57,4	1.520.000	54,5	4,2
Panama	1.246.000	1.458.000	2.023.000	703.000	56,4	784.000	53,8	985.000	48,7	4,4
Paraguay	2.030.000	2.233.000	2.981.000	1.337.000	65,9	1.435.000	64,3	1.926.000	64,6	2,8
Peru (a)	11.650.000	13.174.000	17.459.000	6.241.000	53,6	6.722.000	51,0	8.296.000	47,4	3,6
Trinidad & Tobago	975.000	1.120.000	1.450.000	(a) 824.000	84,5	963.000	86,0	1.280.000	88,3	0,8
Uruguay	2.715.000	2.802.000	3.126.000	491.000	18,1	286.000	10,2	119.000	3,8	2,5 (d)
Venezuela (a)	8.722.000	10.399.000	14.827.000	2.778.000	31,9	2.618.000	25,2	1.496.000	10,1	5,5

(a) Total midyear population estimates exclude Indian jungle population at a constant 150,000 for Brazil; 80,000 for Ecuador; 101,000 for Peru; 30,000 for Venezuela.

(b) Total midyear population as estimated by PASB.

(c) Source: Health Conditions in the Americas 1961-1964.

(d) Intercensal growth rate for Montevideo.

TABLE No. 2

Number of Localities by Number of Inhabitants in 18 countries, Censuses taken around 1960

Country	Total localities and Population		10,000 inhabitants or over			2,000 to 9,999 inhabitants			1,000 to 1,999 inhabitants			500 to 999 inhabitants			Under 500 inhabitants			Unclassified	
	No. of localities	Population	No.	Population	Percent.	No.	Population	Percent.	No.	Population	Percent.	No.	Population	Percent.	No.	Population	Percent.	Population	Percentage
Barbados 1/	11	232.333	8	206.941	89,1	3	25.392	10,9	-	-	-	-	-	-	-	-	-	-	-
Brazil	6.537	70.967.185	405	22.933.650	32,3	1.394	9.775.732	8,1	1.143	1.620.324	2,3	1.442	1.039.599	1,5	2.153	598.328	0,8	39.011.552	55,0
Colombia	3.218	17.484.508	108	7.129.254	40,9	456	1.870.749	10,6	357	550.208	3,3	638	453.212	2,6	1.619	380.492	2,2	7.083.593	40,5
Costa Rica	69	1.336.274	9	369.931	23,2	25	114.539	8,6	17	25.635	1,9	10	7.797	0,6	8	2.581	0,2	875.731	65,5
Chile	38.388	7.374.712	64	4.146.009	56,2	136	576.377	7,8	181	274.197	3,4	525	350.785	4,8	37.482	2.052.344	27,8	-	-
Ecuador	20.812	4.476.007	21	1.364.706	30,4	88	342.792	7,6	178	230.988	5,1	815	548.833	12,2	19.718	1.988.688	44,4	-	-
El Salvador	261	2.510.984	15	559.700	22,3	63	231.989	9,3	76	104.769	4,2	73	54.860	2,2	35	12.581	0,5	1.544.085	61,5
Guatemala	12.530	4.284.478	14	806.220	18,8	168	959.648	22,3	454	263.797	6,1	1.151	792.255	18,6	10.803	1.466.558	34,2	-	-
Haiti	122	3.097.220	5	194.830	6,3	27	111.401	3,7	37	58.532	1,6	36	26.223	0,9	17	6.032	0,2	2.705.212	87,3
Honduras	279	1.884.765	7	273.517	14,5	32	173.090	6,6	61	89.262	4,7	75	54.762	2,9	104	30.971	1,7	1.311.223	69,6
Jamaica	23	1.613.880	4	433.195	26,8	19	86.975	5,4	-	-	-	-	-	-	-	-	-	1.093.710	67,8
Mexico	89.612	34.923.129	256	12.379.227	35,4	1.205	5.365.891	15,3	3.342	4.995.664	14,3	6.156	4.253.855	12,2	76.653	7.968.492	22,8	-	-
Nicaragua	135	1.535.588	8	391.222	25,5	34	152.739	9,9	32	48.393	3,2	34	25.648	1,7	27	9.227	0,6	908.296	59,1
Panama	8.595	1.075.541	5	380.370	35,3	21	78.505	7,3	44	56.897	5,3	124	83.360	7,8	8.401	476.417	44,3	-	-
Paraguay	3.050	1.827.732	7	353.729	19,3	85	301.321	16,4	276	375.328	20,5	651	423.342	23,1	2.881	375.012	20,5	-	-
Dominican Republic	95	3.013.525	16	700.469	23,3	44	171.466	5,7	25	35.789	1,2	10	8.257	0,3	-	-	-	2.095.544	69,5
Uruguay	1.267	2.585.580	28	1.819.603	70,3	46	177.949	6,9	40	57.949	2,2	63	44.686	1,7	1.072	131.817	5,0	352.303	13,6
Venezuela	24.177	7.523.999	73	3.221.586	52,9	193	803.750	10,8	217	287.902	3,8	567	389.878	5,2	23.127	1.958.247	26,0	97.256	1,3
TOTALS	209.241	167.747.440	1.053	57.614.219	34,3	4.039	17.[illegible].363	10,2	6.512	9.067.574	5,4	12.320	8.557.350	5,1	185.300	17.458.283	10,4	57.078.505	34,0

1/ Data available only by parishes.

The main reasons which according to various writers explain the drift of the population from the country into the towns are industrialization, generally found in or near urban areas; the higher wages obtainable in towns; the attractions of town life; mechanization or improved efficiency in agriculture, which means less need for manual labor; and the constant demand on the part of the rural population for higher standards of living, including improved housing, more entertainment, better educational opportunities, and better health services.

Serious concern is felt in the various countries about the rate at which this migration of the rural population into the towns is taking place at the present time. Some countries have already launched programs to improve living conditions in the rural areas with a view to halting the drift.

These programs are trying, for example, to develop such traditional activities of the rural population as agriculture and artisan industry. Some countries are making plans to provide the rural areas with essential public services such as rural aqueducts, electricity, highways and other means of communication. Similarly, programs have been started for the control of endemic diseases, and encouragement has been given to administrative decentralization with a view to establishing the proper degree of local responsibility. In a number of countries a start has been made with the construction of dwellings, grouped together and provided with the minimum public services for community development. Irrigation, flood control and agricultural engineering projects have been started with a view to improved rural development.

These activities, combined with changes in land use and tenure and the system of controlled credits to help the peasant to achieve economic stability, are designed to bring about a more healthy, pleasant and satisfactory atmosphere in which the peasant can live and the rural area can develop.

IV. HEALTH PROBLEMS

Because of the unsatisfactory reporting of cases of disease and the fact that no confidence can be placed in vital and health statistics, it is impossible to obtain an accurate knowledge of the health problems of rural areas. The general mortality rates and the child mortality rates for the rural areas are not properly known. It may also be pointed out that a high proportion of deaths occurring in rural areas are not medically certified, which makes it very difficult to use specific morbidity and mortality rates for studying the scope of the health problem in rural areas.

Nevertheless, if we analyze the figures for deaths due to various causes in urban and rural areas, we find a great discrepancy between these two population groups. Although there are no mortality rates clearly distinguishing rural areas from urban areas within the political and administrative structures of the various countries, it can nevertheless be seen that there is a marked difference between preponderantly rural provinces or regions and others within the same country having urban characteristics.

In Chile, for example, predominately urban provinces such as Santiago, with an urban population of 90 per cent, Valparaiso with 88.8 per cent and Magallanes with 83.2 per cent have child mortality rates of 80.4, 88.4 and 62.3 respectively per thousand live births. On the other hand, other largely rural provinces such as Curicó, with a population 31 per cent urban, Ñuble with 33.6 per cent, Bío-Bío with 37.1 per cent and Chiloé with 21.1 per cent, have child mortality rates varying between 145.3 and 169.9 per thousand live births. (9)

A study carried out in the State of Lara, Venezuela, showed that the overall mortality rate for children under 10 years of age was 28 per thousand for that age group in rural areas, as against 12 per thousand, or less than half, in towns in the same state. In 1962 expectation of life at birth in Venezuela was 67.4 years in urban zones and 60.6 years in rural zones. (10)

In an analysis of child mortality in Chile for the year 1960, Hugo Behm says that "the provinces having the highest mortality rates in the country are as a rule those engaged mainly in agriculture, having a preponderance of rural inhabitants, transport difficulties, etc." (11)

As has already been said, in most of the Latin American countries rural areas are less well catered for than urban areas in all matters relating to health; the country folk and their families sometimes have to travel long distances in trucks, on horseback or on foot to receive treatment in a medical center. What is even worse, owing to the low social and economic standards of the rural population, the morbidity and mortality rates are even higher, and at the same time there is the problem of the unwillingness of doctors and other health workers to live in the rural areas. Some indication of this situation may be seen in the fact that over 50 per cent of confinements among the rural population in one country take place without professional attendance of any kind, and that for over 40 per cent of deaths occurring, no medical certificate is issued.

There is no overall estimate of the prevalence of malnutrition in specifically quantitative terms. There is nevertheless sufficient evidence to show that respiratory and gastro-intestinal infections combine with malnutrition to produce much more serious illnesses than each of these would produce independently.

In spite of the fact that in many of the countries of the Continent the nutritional problems are well known, there is insufficient information to enable a distinction to be made between urban and rural areas. It is a known fact that the problems of malnutrition are more severe among rural populations, although there are not always statistical data available to support this statement.

Nutrition

Among the chief nutritional problems identified in Latin America mention may be made of protein-calorie deficiency diseases, endemic goiter, and anemia.

Protein-calorie malnutrition is widespread among the lower socio-economic strata in Latin America. It is particularly common among children of pre-school age both in rural and in urban areas. Table 3 indicates the extent of protein-calorie deficiency disease in rural areas in six selected countries. As may be seen, third degree malnutrition varies between 0.4 per cent and 15 per cent in children of pre-school age in these areas.

The three degrees of malnutrition referred to in the table correspond to the classification given by Federico Gómez, who defines first degree malnutrition as where the body weight of the child is 75 to 90 per cent of the theoretical average for the age, second degree malnutrition where the weight is 60 to 75 per cent, and third degree where it is below 60 per cent of the theoretical average. * (12)

The effects of protein-calorie malnutrition on body-build are well known, and a number of studies have been carried out on weight and height in rural areas. In Barbados, the average weight and height of children of 4 to 7 years of age was found to be approximately 25 per cent less than those of children of the same age groups in London, and 5.6 per cent of the children were under 70 per cent of the standard weight. (14) In Jamaica 20 per cent of children were under 70 per cent of the weight regarded as standard. (15) In Peru, children of 3 to 6 years of age in rural areas of Puno were found to be inferior in weight and height to children of the same age in Lima. (16) In Haiti, where malnutrition is the primary cause of hospitalization in the case of children of between 1 and 4 years of age in towns, in rural areas it is the primary cause of hospitalization of children in all age groups. (17)

In a survey of mortality of children under one year of age and of pre-school age in Venezuela it was found that pre-school mortality due to protein-calorie malnutrition was four times greater in rural areas than in towns. (18)

In a study carried out in four villages in Guatemala, the causes of death were investigated in 222 cases of children, and it was found in retrospective studies that 43 could be said to have died of malnutrition, although only one had been so certified. Of these 43 deaths through malnutrition, 38 were in the 1-4 years age group; these represented 35 per cent of all deaths for the particular age group. (19) In rural areas in Guatemala it was also found that death from measles and diarrhea among children suffering from malnutrition was much higher than among properly nourished children.

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* "Standard weight" is that found in children in the various age groups regarded as healthy in the particular locality. When standard weights have not been established for the locality, as a rule a curve based on the weight and height of children in Iowa City in the United States is used, as recommended by the WHO Expert Committee on Medical Assessment of Nutritional Status. (13)

TABLE 3

Malnutrition in Children of Pre-school age in Rural Areas in Six Countries

COUNTRY	LOCALITY	Number of cases studied	STANDARD	Degree of malnutrition (%)		
				1st	2nd	3rd
Guatemala	Sta. Maria Cauque	179	14.0	41.0	40.0	5.0
Bolivia	Pillapi	-	73.5	16.2	10.0	0.7
Haiti	Fond Parisien	366	20.0	46.0	23.0	11.0
Haiti	Whole country rural	1.190	39.0	37.0	21.0	3.0
Peru	Puno	3.313	81.0	14.1	4.4	0.5
Peru	Camicachi	179	54.7	28.5	15.6	1.2
Colombia	Caldas	4.207	14.3	33.7	36.8	15.2
Colombia	Rioloro	52	42.4	26.9	26.9	3.8
Colombia	Zuluaga	120	33.3	54.9	10.8	1.0
Trinidad	San Fernando	829	41.6	47.7	10.3	0.4

Source: Data taken from works quoted - Nos. 15, 16, 31, 32, 33, 34, 35

No difference has been found as between urban and rural areas in regard to the incidence of endemic goiter, its distribution being rather by geographic area. In the State of Mérida, Venezuela, for example, the prevalence of this disease varies between nil and 53 per cent according to the particular part of the state, the average found in rural areas being 13 per cent and that in urban areas 12 per cent. (20)

As regards anemia, there is insufficient information available to justify a distinction between rural and urban areas. In a number of studies carried out in Latin America, the incidence of anemia in rural areas varies between 4 and 15 per cent of the population, taking the lower limit as 10 gr. of hemoglobin per 10cc (ml.) - a higher percentage than is commonly found in cities.

Communicable diseases

Such communicable diseases as malaria, tuberculosis, tetanus, leprosy, Chagas's disease, parasitological diseases, etc. are prevalent in most of the rural areas throughout the Continent.

Impressive progress has been made in the continent-wide campaign for the eradication of malaria, and more than one-third of the original malaria region of the Americas, with a population of over 95 million inhabitants, is today in the consolidation or maintenance phase, in other words, the transmission of the disease has been halted. The epidemiological protection and vigilance needed to prevent re-infection presents serious problems, nevertheless, since malaria is essentially a disease of the rural environment and there is not always a sufficiently large health service network to maintain proper supervision.

At the XXXVIII Meeting of the Executive Board of WHO in January, 1967 Dr. M. G. Candau, the Director General of WHO stated that "Malaria eradication could not be achieved without a health service. It was an illusion that the problem could be solved merely by giving supplies when there was no supporting health service." (21)

The same can be said of smallpox, a disease which has been eradicated in a number of countries but not yet everywhere in the Americas. This year, actually, an extensive program will be inaugurated for the eradication of smallpox throughout the Americas, but obviously permanent services will be required to provide coverage for most of the population if the level of immunity achieved is to be maintained.

Tuberculosis and leprosy are still problems to be reckoned with, in spite of the tremendous progress made over the last two decades in chemotherapy and antibiotics. For both these diseases an improvement is needed in the quality and quantity of data on their incidence and the speeding up of prevention and rehabilitation measures. All this presupposes permanent health services.

Information concerning the prevalence of tuberculosis in rural areas as compared with urban areas makes it clear that the percentage of tuberculin positivity is lower in rural communities. In a study carried out by Baldó et al. in Venezuela, positivity was 67 per cent in rural areas and 87 per cent in urban areas. With regard to morbidity, the same study states that new cases of tuberculosis discovered in three states between 1961 and 1963 represented 3.27 per cent of the persons examined in rural areas, and 1.58 per cent in urban areas. The author ascribes the difference mainly to the larger proportion of persons with symptoms who ask to be examined in rural areas. In regard to deaths from tuberculosis the survey in question indicates that in 1962 the figures were practically identical, the slightly higher percentage for rural areas quite possibly being attributable to the lack of medical services. (22)

Investigations carried out by Dr. Villas-Boas in Brazil (23) and by Alvarado in Honduras (24), likewise confirm that there is no marked difference in the morbidity and mortality rates for this disease as between rural and urban areas, apart from what might be expected because of the difference in the quantity and quality of the medical services in the two areas.

Enteric and parasitological diseases likewise constitute grave problems in rural areas. The high mortality rates recorded for diarrheal diseases are largely traceable to the high figures for deaths from this cause in rural zones or small townships. The water supply programs will undoubtedly reduce morbidity and mortality from these causes, but this may not be achieved over the short term in rural areas. To attain any marked decrease in the number of deaths due to diarrheal diseases, which mainly affect children under five years of age, programs will be needed not only for water supply but for health education, improvement of nutritional status and better and more timely medical care.

Infestation by ancylostomiasis is decidedly more frequent in the rural environment. In a survey carried out in Puerto Rico, the number of eggs per gram of excrement in two rural communities was 5,120 and 7,050 respectively, whereas in two urban communities where the economic level was very low, the number was 610. (25)

The same is true of schistosomiasis. Table 4 shows the percentage of children in whom schistosoma and ancylostoma were found in five states of Brazil, in a survey covering a number of urban and semi-urban as well as rural areas. The percentage of children infected with both types of parasite was higher in rural areas, particularly in the case of schistosoma.(26)

Chagas's disease would appear to be much more prevalent in rural areas, particularly because of the poor quality of the housing in these areas. In a study carried out in Venezuela, the vector was found in 9.4 per cent of cases in "ranchos" shanties, whereas in what were called "regular houses" the infestation rate was 0.4 per cent. (27)

TABLE 4

Prevalence of Schistosomiasis and Ancylostomiasis in school children in urban and Rural Areas in Five States of Brazil, 1950

State	Locality			Prevalence %	
				Schistosoma	Ancylostoma
Pernambuco	Recife	-	semi-urban	5.4	40.0
	São Lorenço	-	rural	60.8	58.6
	Nazare	-	rural	55.3	40.6
	Ipojuca	-	rural	10.9	61.2
Alagoas	Maceio	-	semi-urban	11.2	43.0
	São Luis	-	rural	29.9	61.9
	Pilar	-	rural	25.3	50.9
Sergipe	Aracaju	-	semi-urban	22.6	57.0
	Salgado	-	rural	56.6	78.6
	Itaparangu	-	rural	78.1	78.5
Bahia	Salvador	-	urban	7.0	31.4
	Açu da Torre	-	rural	61.7	53.0
	Santa Amoro	-	rural	23.1	46.8
	Cachoeira	-	rural	21.8	39.8
Minas Gerais	Belo Horizonte	-	semi-urban	7.8	20.2
	Lagoa Santa	-	rural	13.8	43.1

Source: Data obtained from the publication "Distribuçao de Esquistosomose Mansonica no Brasil", Ministry of Education and Health, Rio de Janeiro, 1950

Table 5 shows the results of a survey likewise carried out in Venezuela to investigate the existence of the Chagas's disease vector in the Federal District, a definitely urban area, and in the States of Aragua and Carabobo, in both of which a considerable proportion of the population is rural. The vector was found more frequently and there was higher percentage of infection in these two states. (28) Similar observations have been made in various studies carried out in Argentina. In a study carried out with complement fixation tests, 5 per cent positivity was found in Buenos Aires, whereas among army recruits stationed in the town of Cordoba but coming from different parts of the country, many of them from rural areas, positivity was 28 per cent. In a survey of three groups of municipalities in Venezuela, one group described as "predominantly rural" on the grounds that over 50 per cent of the population was rural, a second group described as "semi-rural" with a population between 5 and 50 per cent rural, and a third group "predominantly urban" with less than 5 per cent of its population rural, it was found that the relative rates for death from tetanus were 3 per cent in the first group, 1.4 in the second group, and 0.5 in the urban group. (3)

Mother and child health

The shortage and poor quality of mother and child services help to aggravate the situation and to increase mortality among mothers and morbidity and mortality among children, especially during the first year of life.

As has already been mentioned, over 50 per cent and in many instances up to 90 per cent of childbirths among the rural population take place without any professional attendance whatever. Most of the confinements are in the hands of an empirical midwife without training of any kind.

Mention has been made of the considerable difference between the infant mortality rates in urban and rural areas, even though in many countries this is not reflected in the official statistics owing to the fact that registers are not properly kept in rural communities.

Supply of drinking water

The Charter of Punta del Este set as a target for the decade the supplying of drinking water to 50 per cent of the rural population of Latin America. By 1965 only 14 per cent had water, in other words only 29 per cent of the target figure had been attained, in spite of the fact that between 1961 and the end of 1966 a total of $168,360,000 had been earmarked from national resources and international loans for rural water supply projects.

Table 6 shows the numbers and percentages of rural populations having water laid on in their homes in 1965. It will be seen that most of the Latin American countries are still a very long way from reaching the target laid down in the Charter of Punta del Este. The figures quoted refer only

TABLE 5

Study of Chagas's Disease Vectors in Two States and in the Federal District, Venezuela, 1966

State	No. of municipalities	Municipalities having vectors	Vectors with Chagas's disease (%)
Federal District	22	10	0
Aragua	25	25	76
Carabobo	29	25	59

Source: "Campaña contra la Enfermedad de Chagas", Mimeograph report of the Ministry of Health and Social Welfare, Caracas, 1967.

TABLE NO. 6

Total Population and population Supplied with Drinking water in Urban and Rural Areas in 23 Countries, 1965

(Millions)

Country	TOTAL POPULATION		URBAN POPULATION			RURAL POPULATION		
	Population	Population served (%)	Population	Population served	Population served (%)	Population	Population served	Population served (%)
Argentina	22.35	13.11	15.66	12.22	78.0	6.68	0.89	13.3
Barbados	0.24	0.19	0.10	0.09	90.0	0.14	0.10	71.4
Bolivia	3.69	0.64	1.30	0.51	39.2	2.39	0.13	5.4
Brazil	81.30	23.60	42.11	18.13	43.0	39.18	5.47	13.9
Chile	8.56	4.55	6.03	4.20	69.6	2.53	0.35	13.8
Colombia	18.06	8.35	9.59	6.80	70.9	8.47	1.55	18.2
Costa Rica	1.43	0.93	0.50	0.50	100.0	0.92	0.42	45.6
Cuba	7.63	3.35	4.56	3.23	70.8	3.06	0.12	3.9
Domin. Rep.	3.62	0.79	1.23	0.46	37.3	2.39	0.33	13.8
Ecuador	5.15	1.52	1.82	1.18	64.8	3.32	0.34	10.2
El Salvador	2.92	1.31	1.10	0.72	65.4	1.82	0.59	32.4
Guatemala	4.43	1.33	1.52	0.83	54.6	2.91	0.50	17.1
Haiti	4.39	0.35	0.73	0.24	32.8	3.66	0.11	3.0
Honduras	2.28	0.50	0.60	0.36	60.0	1.67	0.14	8.3
Jamaica	1.78	1.44	0.58	0.58	100.0	1.20	0.85	70.5
Mexico	42.68	19.18	22.54	15.65	69.4	20.14	3.53	17.5
Nicaragua	1.65	0.34	0.68	0.32	47.0	0.96	0.02	2.0
Panama	1.24	0.52	0.54	0.42	77.7	0.70	0.10	14.2
Paraguay	2.03	0.28	0.69	0.17	24.6	1.33	0.11	8.2
Peru	11.65	3.18	5.40	2.90	53.7	6.24	0.28	4.5
Trin/Tobago	0.97	0.88	0.15	0.15	100%	0.82	0.73	89.0
Uruguay	2.71	1.54	2.22	1.38	62.1	0.49	0.16	32.6
Venezuela	8.72	6.65	5.94	4.60	77.4	2.77	2.05	74.0

to water-main supplies in dwellings, in places with less than 2,000 inhabitants. There are of course also other sources such as wells or village pumps, which are not included in the table.

Even more serious than the situation in regard to drinking water is that of excreta disposal; here little has been done up to the present except quite sporadically.

V. RESOURCES FOR HEALTH CARE

Naturally, health services in rural areas cannot be self-contained and autonomous so that the tendency is to organize them as part of a regional health service system in which the urban, suburban and rural areas are suitably combined into self-sufficient regions. Thus, rural health care is based on a network of institutions in the various towns of the area, these in turn having subsidiary services for suburban areas and rural medical care centers. Ideally, all this constitutes a system of two-way intercommunication spread over the whole of each country and designed to cover the entire population of the national territory.

Most of the Latin American countries are still a long way from attaining this ideal coverage, and there are large numbers of rural communities without even the most rudimentary health services.

The maps in Annex* I show the distribution of population in 25 countries of the Americas, and illustrate how widely scattered the population is today in many of them. By placing the transparent sheet over the map we can plot the whereabouts of the health services, which are classified into establishments with beds, establishments without beds but with a doctor in attendance, and establishments without beds and without a doctor. It is quite exceptional for the last-named type of establishment, mostly staffed by auxiliaries, to have a qualified nurse or a matron or trained midwife.

It will be seen from the maps that the majority of services are situated in or close to urban areas and that for a large proportion of the rural population there is no health service whatever available.

Table 7 indicates the number of hospital beds and rates per 1,000 inhabitants in capitals and large cities, and also in the remainder of the territory, in 24 countries for the period round 1965. The difference in the number of beds is remarkable, especially considering that rural areas are limped together in the second column with small urban townships.

*Because of delay in printing, the maps intended for Annex I will be distributed at the opening of the meeting in Port-of-Spain, Trinidad.

TABLE Nº 7

Hospital Beds with Rates per 1.000 Population in Capitals and Large Cities and the Remainder of Latin American Countries Around 1965

Country	Year	Hospital beds					
		Total		Capitals and large cities a)		Remainder of country	
		Number	Rate	Number	Rate	Number	Rate
Argentina	1964	141,802	6.4	(a,b) 60,398	8.3	81,404	5.5
Barbados	1964	1,393	5.8	...	...	...	...
Bolivia	1964	9,098	2.5	b) 2,670	5.6	6,428	2.0
Brazil	1964	228,566	2.9	(a,c) 69,826	7.1	c)167,104	2.6
Chile	1965	35,956	4.2	(b,d) 16,334	5.9	d) 19,956	3.6
Colombia	1965	47,647	2.6	(a,bd) 21,620	3.7	d) 24,887	2.2
Costa Rica	1965	6,246	4.4	(b) 3,903	7.5	2,343	2.6
Cuba	1965	42,162	5.5	...	...	...	...
Dominican Republic	1966	10,620	2.8	(a) 5,151	9.0	5,469	1.7
Ecuador	1964	11,199	2.3	(b) 3,880	3.7	7,319	1.9
El Salvador	1965	6,398	2.2	(b) 3,362	6.2	3,036	1.3
Guatemala	1965	11,128	2.5	(b,d) 6,221	7.6	d) 4,832	1.4
Guyana	1964	3,424	5.4	...		...	...
Haiti	1965	3,035	0.7	...		...	...
Honduras	1965	3,674	1.6	(b) 2,025	5.9	1,649	0.9
Jamaica	1964	6,907	4.0	(a) 4,662	11.6	2,245	1.7
Mexico	1966	86,151	2.0	...	...	...	...
Nicaragua	1965	3,822	2.3	(b) 1,667	4.9	2,155	1.6
Panama	1964	4,304	3.6	(e) 2,519	7.0	1,785	2.1
Paraguay	1964	4,297	2.2	(a) 2,330	7.0	1,967	1.2
Peru	1965	28,395	2.4	(b) 12,135	4.7	16,260	1.8
Trinidad & Tobago	1962	4,712	5.3	...	...	...	...
Uruguay	1963	16,935	6.4	(b) 9,244	7.6	7,691	5.4
Venezuela	1965	28,348	3.3	(a) 9,238	6.3	19,110	2.6

a) Capital and/or cities of 500.000 inhabitants or more.
b) Departments, provinces, and/or states which contain capital and/or cities of 500.000 inhabitants or more.
c) 1962.
d) 1964.
e) Health district.

The tendency for doctors and other professional workers to concentrate in the larger towns is well known. The PAHO Boletín for April 1967 refers to the distribution of doctors and by way of illustration gives a graph showing that in one of the counties of State of New York, U.S.A., the town has one doctor per 481 inhabitants, whereas the rural zones have one per 4,249 inhabitants. The article points out that in the developing countries the contrast between the towns and the rural areas is far more marked. (29)

Table 8 shows the uneven distribution of doctors as between the large cities and the rest of the territory in 17 countries of the Continent. Whereas the number of doctors in the capital and other cities varies between 5.8 and 28.8 per 10,000 inhabitants, in the other parts of the same countries, including both rural areas and smaller urban townships, the rates are 0.8 to 8.0 per 10,000 inhabitants.

This marked concentration of professional personnel in urban areas is not peculiar to one single branch of science, but is found everywhere, not only in fields of activities connected with health but in other development sectors as well.

For the professional worker, a rural zone means physical isolation and mental stagnation. Many countries have attempted to devise a system by which newly-qualified doctors, or doctors before they can qualify, must spend at least one, and sometimes two or even three years, in a rural area. Other countries have tried to interest young graduates in accepting posts in rural areas by offering them fellowships, housing facilities, opportunities for post-graduate work, special vacations and similar inducements.

VI. SCHEMES USED TO PROVIDE HEALTH SERVICES FOR RURAL AREAS

There has been much insistence on the urgency and the fundamental necessity for establishing a system of basic health services giving ample coverage, even if only a skeleton service is provided. The conviction has grown throughout the American Continent that much more use should be made of auxiliaries, especially in peripheral services, and it is recognized that such auxiliaries should be properly trained and regularly supervised. This is of course without prejudice to the notion of providing adequate incentives to attract medical practitioners, nurses and other workers to the rural health services.

A health service in the Latin American rural environment generally consists of an auxiliary worker, with periodic visits by a doctor. The frequency of such visits depends on the means of transport available and the time required to reach the place where the service is located. Regularity in carrying out this routine is in many places dependent on the weather. Floods, landslides or other phenomena of the kind frequently prevent the schedule of visits from being kept because the roads are blocked. Furthermore, since as a rule these services are in the hands of one single doctor, his absence for whatever motive upsets the schedule of visits.

TABLE 8

Number of Doctors and Rate per 10,000 Inhabitants in the Capital and Larger Cities and in the Remainder of the Country.

Country		Year	Capitals and large cities		Remainder of the Country	
			Number	Rate per 10,000	Number	Rate per 10,000
Argentina	(a)	1962	20.353	28.8	11.478	8.0
Bolivia	(b)	1963	456	9.7	576	1.8
Brazil	(c)	1962	13.154	13.9	16.686	2.6
Colombia	(a)	1962	3.784	7.4	3.669	3.8
Costa Rica	(b)	1962	408	9.3	167	2.0
Cuba	(d)	1965	3.595	22.8	3.220	5.3
Chile	(b)	1964	2.957	10.6	18.853	3.4
Ecuador	(b)	1965	786	7.2	916	2.3
El Salvador	(b)	1963	352	7.0	229	1.0
Honduras	(b)	1965	188	5.8	153	0.8
Mexico	(c)	1965	10.832	14.9	10.333	3.1
Panama	(d)	1964	302	7.1	121	1.6
Paraguay	(d)	1964	800	24.2	261	1.6
Peru	(d)	1964	3.420	17.1	1.815	2.0
Dominican Republic	(b)	1963	1.471	28.5	614	2.2
Uruguay	(b)	1964	2.400	19.5	651	4.5
Venezuela	(d)	1964	3.027	17.6	3.557	5.3

(a) Federal District and departments or provinces with towns of over 500,000 inhabitants.

(b) Department o province including the capital of the country.

(c) Federal District and towns of over 500,000 inhabitants.

(d) Metropolitan area of the capital of the country.

In some countries, especially in Central America, a system of mobile medical units, which are virtually motorized travelling clinics, has grown up. They include a doctor, a nurse, sometimes a health education specialist, and occasionally a small laboratory for carrying out certain types of examinations. Where these operate there is no fixed dispensary or rural post. This type of mobile service can only make its rounds when the roads are not subject to flooding, since as we have said, climatic conditions may cut off a road or make navigation impossible and thus prevent the tour from taking place. In any case, this type of mechanized mobile service calls for efficient maintenance services and reserve transport units, and since the staff has to return to its regular base or continue on its round, the work it can do is frequently restricted to the very simplest type of curative treatment. Apart from that, the system is difficult to administer, and the cost is very high; and it is often difficult to obtain technical personnel to maintain these services, because the work is very fatiguing and the routine is monotonous.

The type of treatment given by doctors attached to these services and making the rounds, either with a mobile medical unit or to visit dispensaries or rural posts, is essentially curative. Its effect is ephemeral by its very nature and the little time available, which makes it impossible for them to undertake preventive or promotional measures. The majority of patients are chronic cases, whom the doctor visits regularly each time he makes his round.

A scheme for bringing health care to rural communities has been started in one country on the basis of permanent auxiliary personnel; it involves delegating specific tasks to these auxiliary workers, who have been previously trained and are properly supervised. They are given an all-purpose training, not only in health promotion and protection, but in health recuperation as well. All treatment, especially curative treatment, is regulated by means of a handbook, which specifies clearly how far the auxiliary may go and at what point he must refer the patient to a service which has a medical officer. The success of this personnel in the curative sphere has a prestige value and makes for the acceptance by the peasant of other types of treatment involving health promotion and protection. The basic tasks of the auxiliaries are to keep to registers of births and deaths, to administer inoculations, to take and send off laboratory samples, to give guidance to the local population in regard to essential environmental sanitation, to advise pregnant women on prenatal matters and mothers on child care, to give first aid in cases of accident, to treat types of disease specified in the handbook,and to collaborate in campaigns being carried out in the area. This auxiliary personnel forms part of the regional health services, and hence receives periodic supervision, especially by properly qualified nurses. The handbook in question has the double purpose of laying down working rules and acting as a constant refresher. In this way a rudimentary but comprehensive service is offered at the most remote local level.

Another country uses a similar system but with a program of work and training at a much more modest level, using rural schoolteachers. This program is applied in rural areas where the population is widely scattered and

distances are so great that there is little possibility of supervision, let alone of local health services, owing to the enormous cost that would be involved. The schoolteacher are given training during their vacations. Both the training and the minimum degree of supervision are the responsibility of the health services for the region. Here too, the duties are laid down specifically in a handbook, which is both a set of rules and an educational manual, and does not go beyond first-aid curative treatment and very simple remedies for sicknesses easily diagnosed and not involving any risk. The schoolteachers carry out these services without remuneration, and the fact is noted on their reports and stands them in good stead in their future careers as teachers.

Use has also been made of voluntary auxiliary staff, with or without training. Obviously, compliance with administrative rules when this type of personnel is used is a matter of goodwill and the desire to serve.

In one country, regions remote from urban centers and having a scattered rural population, have been provided with first-aid posts staffed by members of the police force. The policemen receive several months' training in the capital of the country, and they perform a very valuable function in these zones, especially in mountainous regions difficult of access. So far, about 80 posts of this kind have been set up, and it is proposed to increase them further. The same country has rural posts manned by auxiliaries or midwives, in more accessible rural areas. Each post has two to four beds for use in confinements.

In a number of countries where malaria or smallpox eradication campaigns have been organized, especially the former, an attempt is being made to take advantage of the services and facilities used for these campaigns to increase the health infrastructure in the rural areas, the health services in turn undertaking the task of epidemiological supervision in the advanced phases of the eradication campaigns.

Generally speaking, all countries, some more energetically than others, are tackling the fundamental problems of the rural areas in a joint effort towards community development, defined as a series of processes by which the efforts of the population itself are combined with those of the government authorities to improve the economic, social and cultural conditions of communities with a view to integrating them into the life of the country and thus enabling them to contribute fully to national progress. (30)

These programs generally cover activities in agriculture, small-scale industry, agricultural credit, general promotion, community organization, arts and crafts, education, co-operative development, housing, health, etc.

Overall social and economic development programs of this type are being given special emphasis in areas where there are Indian populations which have been bypassed by development efforts in the particular countries. The health aspects of this type of program aim essentially at creating an adequate health infrastructure, setting up unpretentious medical and health

posts, creating proper transport facilities and strengthening the present capacity of such units as exist. The skeleton action programs include mother and child welfare, control of communicable diseases, basic sanitation, feeding and rudimentary medical care.

In most of the countries the rural areas are poorly served. Such services as exist are based on the systems of extension of the theoretical type of service described by the Second Meeting of the WHO Expert Committee on the Public Health Administration. (7) There is an urgent need to increase the present coverage, since vast areas have not even minimum health services, and in addition there is an almost complete absence of sanitation and in many instances utter isolation.

There is a call for study of the ways and means best suited to each particular country so as to enable them gradually to provide proper cover for the rural areas in the way of minimum health services, which must then be integrated with other development programs in the area, thus contributing to the social and economic progress of the population.

SUMMARY

The present paper discusses the inadequate general conditions of the rural population in Latin America, created by economic and social problems which have become chronic and have led to wholesale migration into the cities, creating what has come to be known as the ruralization of the urban environment.

Keen interest has been expressed by Governments in numerous meetings and documents, particularly in the Charter of Punta del Este and in the Declaration by the Chiefs of State in April 1967, stressing the need for improving and extending health services throughout the Continent to cover the rural population and enable it to play its proper part in the economic and social development of all the various countries.

There is some discussion of the various ways proposed for defining rural areas, particularly those used in the analysis of health problems. The difficulty of defining rural areas is recognized, and for the purposes of the present paper the definition accepted is that based on number of inhabitants, as utilized in most countries.

One fact which emphasizes the importance of the rural population in Latin America is that in 1965 approximately 114 million inhabitants, or 47.6 per cent of the total population in that year, were living in rural areas. Even if the present trend continues, in other words if the drift to the cities goes on at the same rate, by 1970, even though the total ratio of rural to urban population will fall to 42.6 per cent, the total rural population figure will rise to 117 million. If we take the projection of these estimates to 1980, we find that the rural population will further increase to 118 million persons.

The rural proportion of the population in Latin America varies according to the country from under 18 per cent in Uruguay to 83 per cent in Haiti.

The health problems in these areas are generally speaking the same as those found in urban zones; however, inadequate reporting of diseases and a general lack of vital and health statistics make it impossible to obtain any exact knowledge concerning the health problems of the rural environment. But if the general mortality or child mortality rates in predominantly rural zones in some of the countries of the Americas are compared with those of other largely urban zones in the same countries, there is a marked difference: child mortality is two to three times higher in the rural areas.

From the scanty data available it is clear that protein-calorie malnutrition is more serious in rural areas than in the cities. Data are furnished on a number of partial studies on this subject.

Communicable diseases such as malaria, tuberculosis, tetanus, leprosy, Chagas's disease and parasitological diseases are prevalent throughout most

of the rural areas of the Continent; this is confirmed by a number of studies carried out in various countries.

Considerable efforts have been made since the beginning of the 1961-1970 decade to reach the target set by the Charter of Punta del Este, namely the provision of drinking water to 50 per cent of the rural population; but in spite of all efforts, the majority of the countries are a long way from achieving the target.

Mention is made of the serious deficiency found in most of the countries in the matter of rural health services. Neither the number of hospital beds nor the network of health centers and rural posts can pretend to cover even approximately the needs of the rural population, and there are vast zones where no service whatever exists. The same is true of human resources - there is a marked tendency for both doctors and other professional health workers to concentrate in the towns, because of the physical isolation and the mental stagnation which living in the rural area implies.

Countries have resorted to a variety of schemes in an attempt to provide health services for the rural population. In the main these services start out from one basic fact common to all of them - that the rural environment is difficult of access and therefore isolated. The difficulty of finding medical practitioners and other professional workers willing to work in these areas has everywhere tended to point in one particular direction, namely to the use of a special type of ad hoc personnel - the auxiliary health worker. Some countries make use of properly trained auxiliaries; in others primary school teachers are used; others again make use of members of the police force; and finally there are some which recruit volunteers and auxiliary workers without any training whatsoever. The auxiliaries are given some sort of instruction which varies from country to country, and their duties are likewise variable.

Unfortunately, in most of the countries this type of personnel is not adequately supervised, and what is even more important, there is no overall regional decentralization providing a two-way system of services and technical staff from the more populated centers to the rural zones and vice versa.

Reference is made to the various procedures by which doctors make the rounds of the rural zones, in mobile units where there is no permanent infrastructure or otherwise where there is a post or skeleton service. The types of consultation thus provided is of little interest to the medical practitioner, since it merely perpetuates the present situation where as a rule only the same chronic cases are dealt with, and it is unsatisfactory.

A number of countries have started special health programs in rural areas as part of their national economic and social development plans. Health is one facet of an overall campaign to remedy the isolation, poverty and backwardness of the rural areas. In these programs health is regarded as a basic aspect of economic progress and one of the fundamental factors in community development.

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