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The Aims and Achievements of the Chilean Preventive Medicine Act[1]

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The Chilean Preventive Medicine Act represents a novel and vigorous approach to the problem of the eradication of social diseases. By concentrating action on the most potent causes of national morbidity, the Act aims at achieving, through the machinery of social insurance, a maximum conservation of man-power by the most economical means. The following article, describing the first few years' operation of the Act, should prove of special interest in view of the forthcoming Inter-American Conference on Social Security, which is due to be held in Santiago de Chile in September 1942.

THE GENERAL MEDICAL SITUATION BEFORE THE ADOPTION OF THE ACT

GOVERNMENT interest in the problems of collective social security is no new thing in Chile. From the days of the first Acts concerning workmen's compensation and maternity protection, adopted at the beginning of this century, to the present time, with its Preventive Medicine Act and its schemes for the reform of the workers' insurance system, it is possible to observe, whatever the political régime in force, a continuity in the efforts to protect the working classes through legislation securing for them the welfare to which they are entitled.

This legislation, slight in its inception but more closely adapted to actual needs in recent years, although in practical application it may not yet have reached the full scope of its development, may

[1] For an account of the structure and bases of the Act, cf. Eduardo CRUZ COKE L.: "The Chilean Preventive Medicine Act", in *International Labour Review*, Vol. XXXVIII, No. 2, Aug. 1938, pp. 161-189.

be roughly divided into three stages, reflecting the sociological conditions of the country and each influenced by a different aim, finding expression also in different forms of action.

Before 1924 the legislation bore the stamp of individual efforts, which although well-intentioned were lacking in technique, scattered, and very largely foreign to the national character. The State refrained from direct intervention and confined itself to legislative action. The Sunday Rest Act of 1907 and the Industrial Accidents Act of 1916 may be regarded as representative of this period.

From 1924 to 1933 the characteristic feature of legislative action was that the State suddenly ceased to be passive and made a direct attack on the problems of labour organisation, in an intense preoccupation with the economic aspects of social welfare. One of the principal reasons for this tendency lies in the greater political power of the middle class and the proletariat. Various insurance institutions were set up for industrial and commercial employees, Government employees, and manual workers, and many Acts were passed, for example, on organisation in trade unions, contracts of employment, industrial accidents, compulsory insurance against sickness, invalidity, etc. The Workers' Insurance Act, No. 4054, and the codification of social legislation in the Labour Code of 1931 are representative of this period. In all their provisions they display the influence of the experience gained in European countries—sometimes followed too closely—and an excessive eagerness to legislate without sufficiently preparing for the education of the masses in the new collective principles and without being able to count on the necessary technical machinery.

At this time much social progress was made, but as Julio Bustos said: "The diverse origin of the insurance funds, the improvised character of the legislation, and the variety of the methods of practical application have led to dispersed and unsystematic action"[1], and that is why they are still not fulfilling their proper social function.

From 1933 onwards a strong nationalist sentiment, which has found expression in a number of technical studies of Chilean social conditions and in the paramount attention given to the biological aspects of insurance, has marked the beginning of a new phase. During this phase the aim is to correct and simplify the legislation in the light of the country's own experience, and of the lessons taught by the experience of other countries but adjusted to the national psychology, to bring about the concentration of insurance institutions with substantial participation by the State, and to carry out a general health policy directed primarily at the pro-

[1] Julio Bustos: *La Seguridad Social* (Santiago de Chile, 1936).

tection of human capital. The characteristic of this phase in social legislation is to be found in the predominant part played by medical benefit in social insurance. There is no reason to be surprised at this phenomenon. The South American countries, which are very largely rural in character and whose economy is as a rule based on the exploitation of one or two agricultural or mining products, are compelled to place medical and health problems in the foreground because of the importance of demographic factors to their development. In Chile, these characteristics common to them all are combined with a higher cultural level—both political and social—among the working masses than that reached in the other countries of Latin America, and with rapid and growing industrialisation of the country. These factors are changing the bases of economic and sociological structure, and are making it ever more urgently necessary to devote attention to the factor of human capital.

The protection of the national man-power has thus become the watchword in every field of public welfare.

This fundamental conception, which has governed all medical work in Chile since 1933, is slowly being defined in greater detail as medicine becomes more and more of a State function and as the successes and failures of sickness insurance bring out more clearly what social security can accomplish in a Latin American country.

This process of the protection of human capital by preventive measures, anchored in the medical profession and enriched by the country's own experience, took legislative form in 1937 and 1938 in the Acts setting up the Maternity and Infant Welfare Service and the Preventive Medicine Act.

It is not proposed here to consider the work of the Maternity and Infant Welfare Service of the Insurance Fund, which in those large cities where the services exist has proved the only successful means of lowering Chile's high infant mortality rate. It will be sufficient to make a brief analysis of the Preventive Medicine Act.

The nation-wide enquiries carried out under the leadership of the Ministry of Health among the various social groups showed that the social pathology of Chile possessed a common denominator, composed of tuberculosis, venereal disease, and cardio-vascular disease, which together were responsible for 60 per cent. of all deaths occurring during working life, 56 per cent. of all hospital cases, and 38 per cent. of the latent morbidity in apparently healthy persons examined by the medical services of the insurance institutions. These diseases, and tuberculosis in particular, have

a direct economic effect in that they mean an annual loss of 170 million hours of work (on the assumption that the Chilean worker works on an average only 40 weeks a year). In other words, the loss is equivalent to the involuntary unemployment of one quarter of the able-bodied population.[1] These diseases are in brief Chile's public enemy No. 1.

In view of this extremely serious situation, we may briefly review the medical conditions of the principal social insurance institutions.

Up to 1938 the medical services of the State Railwaymen's Insurance Fund, which comprises all the salaried employees and workers employed on the national railways, the Insurance Fund for Chilean Carabineros (the militarised police force), and the Public Employees' and Journalists' Fund, which comprises all civilians in the service of the State or the institutions in which it takes part (semi-official undertakings) and the journalists employed by the various newspapers and reviews of the country, were small and limited in scope and were paid for in part by the members of the funds directly, though at rates lower than those customary in the locality. The Private Employees' Insurance Fund, Chile's second social insurance institution in order of importance, provided no kind of medical assistance for its members, and the same was true of the majority of its subsidiary institutions. As regards the Workers' Insurance Fund, the medical assistance it had provided for some years may be outlined as follows, according to Rojas Carvajal.[2]

In the first place, full and adequate assistance was given to women in childbirth and infants and to children of up to two years of age, while those of pre-school and school age were ignored altogether; assistance was provided in well-organised polyclinics for cases of ordinary sickness, and hospital treatment or medical service at home for serious cases; there was a marked shortage of beds for the anti-tuberculosis campaign, and the special hospitals were unable to look after the large number of serious cases applying to them; effective statistical supervision was lacking; cash benefit was paid at the rate of the full wage in the first week, half the wage in the second week, and one-quarter of the wage from the third week onwards up to a maximum of 26 or 52 weeks, etc. In a word, from the medical standpoint cures were the end in view and action was tardy, the result being high general morbidity and premature invalidity among the population and a costly medical service.

[1] Cf. Eduardo CRUZ COKE L.: *loc. cit.*; Manuel DE VIADO: *Medicina Dirigida y Morbilidad Chilena* (Santiago de Chile, 1938).

[2] A. ROJAS CARVAJAL: "La Ley de Medicina Preventiva en la Caja de Seguro Obrero", in *Revista Médica de Chile*, Dec. 1940.

Secondly, on the credit side, there were certain serious attempts at co-ordinated action against venereal disease, health education of the masses, the gradual penetration of rural areas, medical action by doctors working in teams, and a relatively low infant mortality rate due to the preventive action of the infant and maternity welfare services. From the economic standpoint, the granting of cash benefit on a partial and decreasing scale in a country where wages are low and hardly above subsistence level must be considered as useless in practice, representing solely a waste of money and possessing only symbolic value.[1]

Such was the general situation before the adoption of the Preventive Medicine Act.

The Basic Principles of the Act

The Preventive Medicine Act, which was the outcome of a series of investigations, is based on a sound knowledge of thoroughly studied social conditions. The possible solutions were sought in the light of the facts existing at a particular point in the evolution of the country, and the basis for action was the interlocking relationship between health and the national economy.

The medical problem in all health action by the State lies in the economic and social conditions in which the life of the people evolves. Housing, nutrition, wages, and the cultural and social standard, these define the limits within which the health policy operates. They will be wider or narrower according to the racial character, economic potentialities, traditions, general kind of life, and standard of living of the country, new or old.

The same yardstick cannot be used for measuring the need for health protection in a European country, with its established traditions and more or less stable economy, and in an American country which is still growing and undergoing economic expansion. In the latter countries every medical policy must not only be based on action for the individual, but must go further and extend to the family and community as a whole. It is not sufficient to give a sick man the attendance and medicines he needs for re-recovering health; above all he must be given the economic means to support himself and his family during such time as he is prevented from doing so by sickness. Hence the introduction of individual and family social security, which helps to recover useful lives for the community and prevents social equilibrium from being upset by the effects which sickness may have in a family deprived of the support of the breadwinner.

[1] Cf. Eduardo Cruz Coke L. and Manuel de Viado: *Lo que representa la Ley de Medicina Preventiva para la Medicina Social Chilena* (Santiago de Chile, 1941).

Any such "investments" made by the community will be recovered, as regards the individual, through his speedy cure and reabsorption in the cycle of production, and, as regards the family, through the indirect saving on general medical expenses, unemployment, the cost of maintaining hospitals, asylums, etc. For it is a proven fact that the majority of diseases are more serious among the poorer classes, owing to bad housing, malnutrition, and a low standard of living, all of which are precisely the factors that are most aggravated when the breadwinner's wage, however low, disappears altogether.

On the other hand, the community must not assume too heavy an economic burden. Consequently the principles indicated above must be limited in the medical field by three main factors:

(*a*) The fight against those diseases which are collective in character and constitute a social danger;

(*b*) With respect to these diseases, special action against those forms which are economically worth curing, effective treatment being possible;

(*c*) The constant effort to turn the medical machinery and capital used to the best possible account.

In brief, what is required is collective planned medicine, which does not aim at doing more than it can properly accomplish with the limited resources at its disposal.

Thus attention will be given to the tubercular patient who may transmit his disease, and not to the diabetic; to the primary and secondary forms of syphilis, which can be cured rapidly and cheaply, and not to the later consequences, which are ten times more costly to treat while the results are uncertain; to the medical action of official institutions within the strict rules of controlled medical work, and not of private medicine, since treating one patient is not the same thing as treating a million. The medical machine should be set to work in the initial stages of a disease and not in the final stages, since the whole reason for its existence is a new sense of social responsibility. This social responsibility aims at the permanent adaptation of man to his surroundings, and the creation of more democratic, freer, more humane, and juster standards of life.

These are in outline the principles which have inspired the Preventive Medicine Act. We may now consider what new contribution it has made to the general medical situation through the application of these principles.

The Act has introduced the following features into Chilean legislation for the first time:

(1) Periodical medical examinations carried out systematically and free of charge for the great majority of workers and salaried employees of the country, who according to the last census numbered about 1,500,000. These examinations make it possible to ascertain the real figures of national morbidity, to diagnose at an early stage latent or unsuspected cases of the diseases covered by the Act, and to note variations in morbidity produced by the factors of social class, occupation, rural or urban life, locality, etc.

(2) Obligation for all social insurance institutions to set up medical services or to enter into agreements among themselves in order that the necessary benefits may be provided for their members. Under this Act about 150,000 salaried employees whose insurance previously did not give them a right to medical benefit are now entitled to receive it, and the various medical services are provided free of charge.

(3) Introduction of the system of preventive rest as an essential and effective means of saving the sick worker from tuberculosis, treating him rapidly for syphilis, or prolonging his working life in the case of heart disease. Special medical boards take the decision with regard to such rest, which is granted only in cases likely to show improvement or recovery.

(4) Payment during such rest of an allowance equal to the patient's full wage, the only time limit to the allowance being determined by the medical prospects of recovery; the allowance may be granted to the patient himself or to the members of his family, as indicated by the results of the social enquiry. The continued payment of the worker's full wage enables his family to carry on while he is undergoing treatment in a sanatorium, with the result that there is no dislocation in the normal life of this section of the community.

(5) Guarantee that the worker will retain his right to his post, employment or work while taking preventive rest and for six months after recovery (Act No. 6422 of 5 October 1939). This principle, like the previous one, is economic in character and fundamental to the Act, the object being to prevent the economic dislocation, whether individual, family, or collective, that may be caused by sickness. Incapacity due to sickness, economic confusion in the home, loss of employment, etc., are averted, and at the same time employers suffer no loss since the expenditure on preventive rest, defrayed by the insurance funds, comes back to them in the shape of a healthy working force.

(6) Extension of the concepts of collective, normative, planned and controlled medicine, under which submission to the prescribed treatment is compulsory and medical boards are set up to deal with any questions arising in this connection.

Through the application of technical standards to joint action, a unified medical system is being built up, from which much additional and useful experience is being gained for adjusting medical structure to the particular demographic, economic, and social circumstances of Chile.

The Working of the Act

Based on these principles and financed by means of a levy of 2½ per cent. on the gross income of the funds for medical expenses and a contribution equal to 1 per cent. of wages, paid by employers and used solely for financing preventive rest allowances, the Act was duly put into operation. It was promulgated at the beginning of 1938 and the administrative and technical machinery was organised during the rest of the year, so that it may be said to have had only three years of practical operation. Yet experience has already shown that its general conception is just and appropriate to the national situation. A few figures of the number of persons examined and the morbidity observed will give a clear idea of the results attained.

The total number of persons examined, as shown by the principal insurance institutions of the country, is as follows:

Fund	Number
Workers	415,909
Private Employees	59,858
Public Employees and Journalists	54,079
Railwaymen	14,967
Carabineros	14,391
Total	559,204

This total, together with the figure for the examinations made by the 35 smaller institutions, shows that approximately 600,000 citizens have been examined, or 10 per cent. of the population as at the 1940 census.

The frequency of examination has turned out to be low owing to the special geographical conditions of Chile, with its lack of communications, of systematic propaganda concerning the benefits of the Act, and of specialists in numbers adequate to the country's needs.

Certain new steps have been taken which offer a good prospect of improvement in this respect. Mention may be made of the preparations to organise similar services in the Army, which will thus be able to examine every year all the persons called to the colours;

the creation by the Private Employees' Fund of flying squads, using motor transport specially designed in the United States, which in a year of working have shown their value for making examinations in semi-rural districts and are now being regarded by the other institutions as affording a solution for medical problems in so scattered a community as that of Chile; lastly, the recent co-ordination of the medical services of the Public Employees' and Journalists' Fund and the Private Employees' Fund, which will make unified medical action possible throughout the country so far as employees, the backbone of the middle class, are concerned.

The same funds give the total number of sick members as follows:

Fund	Number
Workers	67,251
Private Employees	17,954
Public Employees and Journalists	14,476
Railwaymen	5,660
Carabineros	3,753
Total	109,094

The general morbidity rate is 19.6 per 100 persons examined. But if the cases are distinguished according to the particular Fund and the particular disease, the rates will be found to vary, depending on the social composition of the group covered. As a rule, it may be said that in institutions where the majority of members are workers (Workers', Carabineros', Railwaymen's Funds) the most frequent disease is syphilis, while in the employees' funds first place is taken by cardio-vascular disease and tuberculosis, which in every case showed very high figures. This appears from the following averages, showing the cases of each disease as percentages of the total number examined in the different funds:

Fund	Tuberculosis	Cardio-vascular disease	Syphilis
	%	%	%
Carabineros	4	6	14
Railwaymen	3	1	16
Public Employees	11	23	2
Private Employees	13	21	5
Workers	6	4	8

These rates are functions of economic, cultural, occupational, and regional factors which have not been closely discerned until the present time.

The influence of economic factors appears in the wages and their relation to the cost of living in the social class concerned. Thus the tuberculosis percentage is higher among salaried employees than among workers because the remuneration of the members of the former group has to cover a higher level of requirements, so that this class is more affected by the rise in prices. It is particularly among private employees that this situation—which has been brought out by the studies based on the working of the Act[1]—has serious effects. Hence the recent legislative measures for the automatic adjustment of wages and family allowances.[2]

The cultural and occupational factors appear in the high percentages of venereal disease among the working classes, where family ties are weaker and health education is less advanced than among other classes, and in the prevalence of heart disease among State employees, whose life is sedentary and passive.

The work of the flying squads of the Private Employees' Fund has made it possible to ascertain the regional influences within each social group, by comparing the morbidity in three typical cities: the first situated in the temperate, industrialised zone of the centre, the second in the desert, mining zone of the northern coast, and the third in the rainy, agricultural zone of the south with its elements of German origin. It was found that syphilis predominated in the ports of the north, tuberculosis in the industrialised areas of the centre, and rheumatic diseases in the southern zone.

Thus epidemiological principles that were already known were confirmed. The assumptions on which the Preventive Medicine Act was based were found to be correct, and the way has been opened to a more penetrating study of the medical geography of the country.

Under the head of preventive rest, the Act has led to the allocation of about 50 million pesos for allowances to the members of the various insurance funds, such allowances having been paid to about 20,000 persons in all—a figure which is small because of that serious shortage of hospital beds for tubercular patients which has already been mentioned. Although the Act has helped the Private Employees', Railwaymen's and Carabineros' Insurance Funds to construct their own sanatoria—previously they possessed none—and the Workers' and Public Employees' Funds to extend theirs, the number of beds continues to be frankly insufficient as compared with the high sickness rate from tuberculosis.

[1] Cf. Manuel DE VIADO: *Salarios, cargos familiares y morbilidad en los empleados particulares* (Santiago de Chile, 1941); A. MALLET: *Asignaciones familiares* (Santiago de Chile, 1941).

[2] Cf. Salvador ALLENDE G.: *La realidad médico-social chilena* (Santiago de Chile, 1939).

In view of the impossiblity of additional construction in the present situation, created by the world war and the lack of the necessary materials, various indirect measures have been proposed and adopted: a health protection loan to carry out an active policy of health improvement and construction proposed by the present Minister of Health[1]; the construction of cheap sanatoria of wood; the introduction of a special tuberculosis tax; the increased and more efficient use of existing accommodation; more active therapeutic measures; three-month test cures, etc.[2] Some of these measures have been put into practice in the ordinary day-to-day application of the Act, and the results of the experiments have been found satisfactory.

Thus it has been shown that in social phthisiology the fundamental criterion is that of recovery and public utility, and that diagnosis must be as early as possible. In other words, tuberculosis at the incipient or slight stage can be cured at a cost of 9,000 pesos for benefit and eight months' rest, whereas a moderately advanced lesion needs fourteen months and about 16,000 pesos, and in advanced cases these figures have to be doubled and even then the results obtained are nil or unsatisfactory.

In consequence of the work done by the Chair of Phthisiology in the University of Chile, of greater uniformity of diagnosis, more careful study of Chilean conditions, and the adoption of standardised clinical forms and cards, the average number of days of treatment in hospitals and sanatoria has gradually declined and the proportion of recoveries has increased, having now reached 60—70 per cent. of the total number of cases treated in accordance with the new ideas. Much has been accomplished in this field, both from the medical and from the social point of view, but the problems of all kinds arising out of the system of preventive rest are still in process of evolution and call for more time and study before a concrete opinion can be definitely expressed.

In addition to the above-mentioned achievements, the Preventive Medicine Act has had certain other results. It has meant that controlled treatment can be given to a large proportion of the victims of syphilis; the morbific factors of invalidity have become more exactly known; sufferers from heart disease have been able to benefit by the maritime climate they need; the principle of epidemiological action against tubercular and syphilitic "contacts" has been established; the Abreu X-ray system has

[1] Cf. Salvador ALLENDE G.: "Social Medicine in Chile", in *International Labour Review*, Vol. XLV, No. 1, Jan. 1942, pp. 37 *et seq.*

[2] Cf. H. ORREGO, R. CASTAÑÓN, A. RODRIGUEZ, J. VIDAL O., etc.: various articles in *Revista del Aparato Respiratorio y la Tuberculosis* (Santiago de Chile), 1937-1941 volumes.

been introduced as a basis for large-scale radiological work; benefits have been extended to cover bucco-dental pathology, dental services being provided at a low cost; industrial medicine has been organised and is undertaking the study of occupational diseases with fresh impetus; and the medical tenet that the joint efforts of the State, the doctor, and the citizen are the sole means of establishing true social medicine has been fortified. But an analysis of these movements and results would go beyond the scope of this article.

The Medico-Social Significance of the Act

The Preventive Medicine Act gives up-to-date expression to and carries on a sociological tradition; it is based on and completes the soundest principles of universal social security. As such, it represents in the social policy of Chile of to-day a definite step in the transition from the absolute predominance of the ill-conceived system of economic security formerly prevalent to the new era of biological security.

For the theoretical principles, borrowed from abroad, that led to tardy medical action, devised for an abstract human being, it substitutes national studies and observations, undertaken for the purpose of creating a form of medicine that will be appropriate to the concrete Chilean and to the economic circumstances of present-day Chile.

Its aim is to replace the mere compensation of losses as they occur by their prevention and removal, in so far as collective human effort is able to do so.

It shows that, for the common weal, for social development, there must be an indissoluble link between State action, which is primarily economic, and medical action, which is primarily technical, both being guided into the most effective and practicable channels. It makes use of existing institutions and also introduces the system of compulsory, periodical and systematic medical examination of the whole population, combined with that of preventive rest on full pay, in order to create a medical economy that will yield the highest degree of efficiency for preventing the waste of the most important form of national capital, the Chilean workers' labour power. Here, dispersed individual action can no longer suffice. Hence medical action is fitted into the framework of common standards of technical action aiming at the benefit of the largest number.

This means that emphasis is shifted more and more from the particular clinical case to social pathology as a whole, from etiopathogenic virtuosity to early diagnosis, from early diagnosis to early treatment.

In these first years of operation of the Act not all its objectives have been reached, but the accuracy of its underlying assumptions has been proved. Every day the corrections made in what has already been achieved and the lessons learned from the new problems met with make it possible to replace the passive and static medicine of yesterday by the active and dynamic medicine of tomorrow. Thus, notwithstanding its mistakes, the Act is a revolutionary experiment in a new form of medicine whose ineluctable categorical imperatives will help to give the nascent social medicine of Chile its true character.

In any case, while its future is still being shaped, the Preventive Medicine Act has already succeeded in its first object: to treat an American problem in a Chilean way.