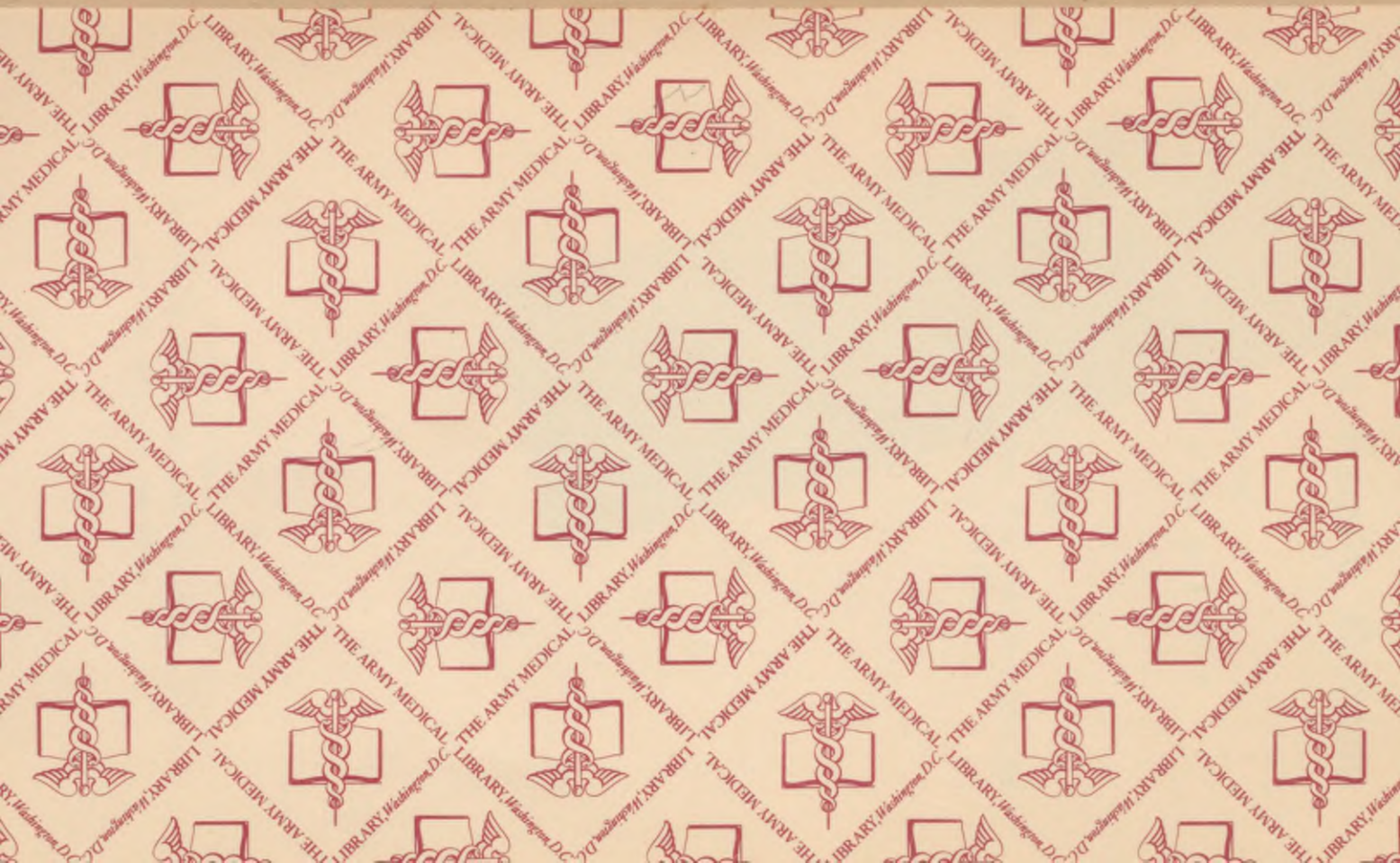
Tuberculosis, a Family Problem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Tuberculosis, a Family Problem

The Story of
The Home Hospital of the A. I. C. P.

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Tuberculosis, a Family Problem

The Story of

THE HOME HOSPITAL OF THE A. I. C. P.

WHEN Dr. Edward Livingston Trudeau was a young practising physician, he began, for some unknown reason, to fail rapidly in health. Acting on the advice of a friend he consulted Dr. Janeway, who was in those days noted for his skill in physical diagnosis. In his autobiography Dr. Trudeau described the interview as follows:

"He received me cordially and began the examination at once. When this was concluded he said nothing. So I ventured, 'Well, Dr. Janeway, you can find nothing the matter?' He looked grave and said, 'Yes, the upper two-thirds of the left lung is involved in an active tuberculous process.'

"I think I know something of the feelings of the man at the bar who is told he is to be hanged on a given date, for in those days pulmonary consumption was considered as absolutely fatal. I pulled myself together, put as good a face on the matter as I could, and escaped from the office after thanking the doctor for his examination. When I got outside, as I stood on Dr. Janeway's stoop, I felt stunned. It seemed to me that the world had grown suddenly dark. The sun was shining, it is true, and the street was filled with the rush and noise of traffic, but to me the world had lost every vestige of brightness. I had consumption, that most fatal of diseases Had I not seen it in all its horrors in my brother's case? It meant death and I had never faced death before! Was I ready to die? How could I tell my wife, whom I had just left in unconscious happiness with the little baby in our new home? And my rose-colored dreams of achievement and professional success in New York! They were all shattered now, and in their place only exile and the inevitable end remained."

Dr. Trudeau was a man of some private means and with a host of influential and helpful friends, who rushed to his aid, not only with advice and consolation for himself but also to look after his wife until a plan for his own care and treatment had been worked out. In what a different plight is the young wage earner who learns for the first time that he is stricken with "consumption." To the shattering of youthful hopes and ambitions and the prospect of an early grave or a period of chronic invalidism is added the anxiety for the fate of the wife and

children who now face destitution and the prospect of blighted lives. Thanks to the efforts of pioneers like Dr. Trudeau, who was spared to devote more than forty years of a useful life to the treatment of tuberculosis, the scourge has lost much of its terror. There remains still for those whose prognosis is hopeful the prospect of a long period of enforced idleness or of a restriction to light, easy work at reduced pay; the prospect of a home broken up with the father or mother in a hospital or sanatorium, the children in preventoria. In spite of the great advance in medical knowledge and in facilities for treatment, tuberculosis still hovers like a grim spectre over the homes of the poor.

In its work with families in which either the father or mother is afflicted with tuberculosis, the A. I. C. P. has always sought to stand in the breach and to hold the family together while the patient himself is fighting his battle with the disease. When tuberculosis invades the home the usual recourse is to place the patient, either the father or the mother in a sanatorium and to place the children in a preventorium, in a foster home or with friends or relatives. Separated from his loved ones, the patient becomes worried and discouraged, a factor which alone retards his progress; or he is likely to leave the sanatorium before a complete recovery has been effected. If there ever was a disease in which the family and not merely the patient is the unit of treatment, that disease is tuberculosis.

The Home Hospital Established

It was to meet this situation adequately that Mr. John A. Kingsbury, at that time General Director of the A. I. C. P., conceived the idea of the Home Hospital. It was accordingly established by the A. I. C. P. in March, 1912, for the care of tuberculosis families. The Home Hospital is a demonstration of the results which can be secured by housing the tuberculous patient and his family in a wholesome environment, by supplying the family with sufficient relief to provide for an adequate standard of living and by providing the necessary medical and nursing care not only to insure the recovery of the patient but to prevent tuberculosis from occurring among those members of the family who had not previously been afflicted.

One section of the East River Homes, a model apartment house on the corner of East 78th Street and John Jay Park, was taken over in March, 1912, to house such families and to provide headquarters for the medical and nursing service. This space was twice increased until in 1916 four sections were available, providing space for nearly eighty families comprising four hundred individuals. These buildings

are so constructed as to provide through ventilation from the street to the large courts around which they are built. The windows extending from ceiling to floor are provided with triple sash so that two-thirds of the space is unobstructed when the windows are open. Many of the windows are provided with iron balconies so that the patient's bed may be actually placed out of doors. The apartments are steam heated and are all supplied with running water and sanitary conveniences.

An Adequate Standard of Living

What a contrast these living conditions offer to the dark noisesome tenements from which the families came and where the disease finds its favorite lodging place! In the typical "old-law" tenements where most of these families are forced to live, the children usually sleep in a dark windowless room, the parents in an alcove room which borrows its light and air from the kitchen or living room. Inadequately heated, there is little incentive to depart from age-long traditions and keep the windows open in winter. For the first time in their lives many of the families had an opportunity to maintain proper standards of healthy living.

But besides providing a wholesome physical environment, the plan also calls for underwriting the deficit between what the family earns or receives from friends and relatives and the cost of maintaining a proper standard of living. Warmer bedding is needed if windows are to be kept open. Good nourishing food for adults and children is essential both for preventing the disease among those who have so far escaped and for helping the patient to build up a reserve so sadly needed in his fight with the disease. In our statement of costs we shall see how important a contribution the A. I. C. P. is making to this element in the treatment of tuberculosis.

Given a proper environment and the provision for physical needs, there is still needed daily painstaking educational work on the part of nurses to establish the right habits of living. Firmly established habits and traditions on the part of most of the families are diametrically opposed to the simple rules of living which are essential to the recovery of the patient and to prevent the infection of well members of the family. Each family on admission is given careful and oft-repeated instruction in precautions necessary to prevent the spread of tuberculosis within the family. The minutia of prophylaxis and sanitation are gone into carefully in almost daily visits to the family and particular emphasis of course, is placed on the value of fresh air and personal hygiene, both as preventive and curative measures. Where

the family's household furniture and toilet articles are inadequate or unsuitable for use in such a home, the necessary articles and furniture are provided.

A Sanatorium and Preventorium Combined

Apart from this general educational work for both patients and "contacts," a course of medical treatment and supervision modelled after that of the best sanatoria is carried out. All positive and suspected cases are examined every six weeks; healthy children every three weeks and healthy adults every three months. A daily morning and afternoon temperature and pulse record is kept of all positive and suspected cases. Sputum examinations are made and weight recorded every week for such cases.

After each examination the patient is advised of his condition and is given instructions accordingly. If the patient has active symptoms, with cough, sputum, elevation of pulse or temperature, he is ordered to remain in bed. He sleeps in a room with all windows open, is carefully fed, and isolated as far as possible from the well members of the family. The children are not allowed in the patient's bed chamber or in close contact with him.

With improvement, the patient spends the day on the roof, reclining in a steamer chair. Extra nourishment is given him in the mid-morning, the mid-afternoon and before retiring. Arrested cases are first allowed to do only very light work for a few hours each day, care being taken that the temperature, pulse, weight and physical signs remain satisfactory.

The patient himself keeps a note book in which he records his daily diet, amount of sleep, the occurrence of chills or night-sweats, whether he has slept with the windows open, and similar important data regarding both symptoms and daily hygiene. Similarly the weekly earnings, if any, are recorded and family expenditures as well. This is the family "log book," a device which has proved invaluable in guiding the educational work and treatment and studying the economic aspect of the family problem.

The Home Hospital is a preventorium for the care of children as well as for the treatment of tuberculous adults. Physical defects noted by the doctor are given immediate attention. Dental treatment and tonsillectomy are most frequently indicated. When the plant was at the maximum capacity both were provided within the Home Hospital itself, by a surgeon and a dentist engaged by the A. I. C. P., tonsil-

lectomies are now performed in other hospitals but dental work is done by our own dentists at the Association's dental clinic.

Good nutrition is an important ally in fighting tuberculosis. The dietary of the family is supervised by trained dietitians so as to insure that the extra nourishment needed by such families is provided. As previously indicated, supplementary feedings are given to patients in the mid-morning and mid-afternoon and before retiring. If the mother is a patient who is not physically able to prepare the family meals, the family is fed in the common dining room.

Special educational "nutrition" work is carried out for the children in the Home Hospital. Weights are recorded weekly and charted. The children are given instruction in the principles of food and hygiene and various devices are used to enlist the interest of both the children and parents.

The children are urged to lead an outdoor life as much as possible. Provisions are made for admitting the children to open air classes in neighboring public schools. Adjoining the building is a large playground, well drained and with playground apparatus so that the children, when not in school, can play out of doors most of the time. A strictly enforced rule of the institution requires all persons to sleep with windows open at night.

The Selection of Families

It is obvious that there must be a careful selection of families so as to insure the necessary cooperation if the enterprise is to succeed. Only families in which the prognosis of the patient is favorable are admitted. This, however, does not restrict us to the selection of incipient cases, though such do make up the bulk of the cases, but even moderately advanced and far advanced cases are admitted if there is a fair prospect of an improvement within a reasonable length of time which will restore the patient at least to partial earning capacity. Admission is also restricted to those families who the Association is convinced have sufficient intelligence and moral stamina to cooperate in the rather rigid regime of diet, personal hygiene and regulation of family life which the Home Hospital policy enjoins. Obviously, families are selected where poverty is as much a problem as tuberculosis, for the genius of the Home Hospital is that it treats both poverty and tuberculosis as social-medical problems which are inextricably bound together.

Undoubtedly the Home Hospital makes its greatest contribution in families in which the mother is the patient. The A. I. C. P. is re-

peatedly confronted with a situation where the mother of young children has been diagnosed as tuberculous, sometimes incipient, sometimes advanced, and where the physician advised that she go to a sanatorium for at least six months. The mother asks at once, "What is to become of my children while I am away?" Practically the only answer that can be made is, "We must commit your children to a foster home or preventorium until you are well enough to care for them again." In almost every case she refuses even to consider such a proposal and accepts the alternative of denying herself proper rest and medical care rather than part with her children. In situations like this the Home Hospital renders a most valuable service. The entire family can be admitted to the Home Hospital. If the mother is not physically able to care for her family, the house work is done by the "house mother" and both mother and children receive their meals in the common dining hall. Just what this service means to such a mother can be best illustrated by accounting briefly what happened to one mother typical of many known to the A. I. C. P. for several years.

Two months after Mrs. B. had lost her husband, she came to the A. I. C. P. for help. The $250.00 which her husband had left in insurance had been exhausted after paying the burial expenses and other bills incidental to her husband's illness. Mrs. B. had been trying to support herself and her four children, all under nine, by the six dollars a week she earned by sewing and by the two dollars a week she received from a lodger. She herself had not been well and had spent considerable time in hospitals, suffering from "weak lungs." The A. I. C. P. placed her on an allowance at once so that the lodger could be dismissed and she could give up her sewing and devote herself to her family. A complete physical examination at the Home Hospital revealed incipient tuberculosis and she was recommended for admission. After she had been in the Home Hospital for one year, she was discharged as arrested. The older girl (ten years old at discharge) had gained twenty pounds and the other children had made twice the expected gain. All were discharged free from physical defects. Mrs. B. is now in fine physical condition, with a healthy and happy group of growing children.

Facilities Curtailed in 1918

In 1918 we were obliged to curtail considerably the size of the Home Hospital. Prior to January of that year, we had a working arrangement with the Department of Public Charities for providing Home Hospital care to indigent tuberculous patients committed by the

Department of Public Charities, for whom the city paid the regular per diem allowance which the city usually makes for the care of such patients in private hospitals. While these appropriations no more than covered the cost of treating such patients, it did make possible an extension of the facilities of the institution until by 1916 it had a capacity for nearly eighty families. The arrangement was ended on January 1st, 1918, when the Department of Public Charities refused to approve further allowances to the Home Hospital. For a long time it appeared that, with the withdrawal of public support, this significant experiment in the treatment of the medical and social aspects of the tuberculosis problem would be brought to an untimely end.

Fortunately Mrs. Elizabeth Milbank Anderson, always a firm believer in the Home Hospital, came generously to its support. Mrs. Anderson purchased and deeded to the A. I. C. P. the Victoria Apartments at 315 East 158th Street to be used as the Home Hospital. While the size of the Home Hospital has been greatly curtailed, all the important features of the old Home Hospital have been preserved. Living quarters for twenty families are provided with a common dining hall, day camp on the roof, a clinic, a playground and administration rooms.

A Ten Year Summary

Previous reports have discussed in considerable detail the medical results achieved by Home Hospital care.* Recently a study has been made of the results of treating 469 patients of whom 306 were adults and 163 were children, covering practically ten years' experience in this field. For the detailed picture we must refer the reader to earlier reports; we shall try here only to prsent the results in a summary form.

A uniform method of classifying patients both on admission and discharge is now quite generally understood and accepted by all hospitals and sanatoria treating tuberculous patients. These terms are clearly defined in a previous report.† According to this terminology a patient on admission is either incipient, moderately advanced or far advanced; at discharge he is either arrested, apparently arrested, quiescent, improved, unimproved or dead. More recent sanatoria reports have thrown the first three groups into one, thus ignoring distinctions between arrested, apparently arrested and quiescent. That procedure has been followed in this study. The above terms apply, however, only to adults; because of the obscure nature of tuberculosis in children it

* Poverty and Tuberculosis—The Home Hospital Experience—Publication 84—New York A. I. C. P.

† The Home Hospital—The Medical Report of the Work, March, 1912, to October, 1916—Publication 117, New York A. I. C. P.

has been found impracticable to make similar classifications of children apparently suffering from tuberculosis.

As has been previously indicated, in the selection of cases preference is given to those whose prognosis is hopeful. This has resulted in a slightly greater proportion of cases which were incipient on admission than that found in most other sanatoria. Of those institutions whose records were available, the sanatorium conducted by the Metropolitan Life Insurance Company at Mt. McGregor, New York, alone exceeded that of the Home Hospital.* In the latter institution the proportion of incipient cases has steadily increased from the beginning in 1914, when 28.3% were incipient, to 1920, when 70.0% were incipient. Obviously this fact must be kept in mind in interpreting the results of various institutions. In Table I we find a comparison of the proportion of incipient, moderately advanced and far advanced patients in Home Hospital and other institutions.

TABLE I—CONDITION OF PATIENTS ON ADMISSION AT HOME HOSPITAL COMPARED WITH OTHER INSTITUTIONS.

	Trudeau		Loomis		King Edward VII		Mt. McGregor		Home Hosp.	
Condition on Admission	No.	%	No.	%	No.	%	No.	%	No.	%
Total	1,892	100	1,192	100	1,707	100	1,319	100	306	100
Incipient	534	28.2	153	12.8	460	26.9	738	56.0	157	51.3
Moderately Advanced	1,254	66.3	471	39.5	848	49.7	493	37.3	97	31.6
Advanced	104	5.5	568	47.6	399	23.4	88	6.7	47	15.3
Not stated	0		0		0		0		5	1.6

Medical Results

Statements of results secured must obviously be made with regard to the condition of the patient on admission. Those institutions admitting large numbers of advanced or moderately advanced cases are not likely to report as large a proportion of cases arrested or quiescent on discharge as those which admit a larger proportion of incipient cases. The results of the Home Hospital experience for the period covered as summarized in Table II bring this out quite forcibly.

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* The After-History of Nine Hundred and Fifty-three Tuberculous Patients Discharged from the Metropolitan Life Insurance Sanatorium from 1914 to 1920—Howk-Dublin-and Knudsen, Transactions of the Eighteenth Annual Meeting of National Tuberculosis Association.

TABLE II
CONDITION AT DISCHARGE

Condition on Admission	Total cases		Apparently arrested or quiescent		Unimproved or Improved		progressive		Dead		Not known	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total	306	100	195	63.7	30	9.8	48	15.6	29	9.4	4	1.3
Incipient	157	100	132	84.1	14	8.9	8	5.1	1	.6	2	1.3
Moderately advanced	97	100	57	58.7	13	13.4	19	19.6	6	6.2	2	2.0
Far advanced	47		5		2		21		19		0	
Not stated	5		1		1		0		3		0	

One can see at a glance that the chances of recovery or improvement are in direct proportion to the relative mildness of the condition on admission. Thus, 84.1% of those incipient on admission were apparently arrested or quiescent on discharge, while only 58.7% of those moderately advanced were discharged as quiescent and only about a tenth of those far advanced were discharged as quiescent or apparently arrested. On the other hand, only one of those incipient on admission (.6%) had died before discharge, while 6.2% of those moderately advanced and about 42% of those far advanced had died before discharged. The success of the Home Hospital experiment is therefore largely due to the fact that we were able to find fully half of the cases while they were still in the incipient stage.

Comparison With Other Sanatoria

How do these results compare with those of other institutions? It is not easy to answer this question. The degree to which the patient suffers from tubercular infection on admission and the degree of improvement noted at the time of discharge can only be determined with approximate accuracy and is largely influenced by the judgment of the particular doctor. For example, a patient whom one physician would call "incipient" another would call "moderately advanced" or a patient whom one doctor would call quiescent on discharge another would designate simply "improved." Indeed the only case in which there is no uncertainty is where the patient has died. But in the case of the incipient and the moderately advanced this will account for a very slight proportion of the cases. Again, many sanatoria discharge cases before they become moribund, so that the death rate is either exceedingly low or absolutely nil.

In spite of these difficulties, we have attempted to compare our results with those of certain well known institutions covering a considerable period of time. In the report of the Metropolitan Life Insurance Company, previously referred to, comparison was made of the results of the treatment offered at Mt. McGregor sanatorium maintained by the Metropolitan and those of Trudeau, Loomis and King

Edward VII. In the following table the results at Home Hospital have been added to the previous report:

TABLE III—COMPARISON OF RESULTS ACHIEVED ON DISCHARGE ACCORDING TO CONDITION AT HOME HOSPITAL AND FOUR SANATORIA.

ALL CASES

Condition on Discharge	Trudeau No.	%	Loomis No.	%	King Edward VII No.	%	Mt. McGregor No.	%	Home Hosp. No.	%
					TOTAL					
Total No. of cases.....	1,892	100	1,192	100	1,707	100	1,018	100	306	100
Quiescent	1,285	67.9	496	41.6	1,080	63.3	632	62.1	195	63.7
Improved	287	15.2	335	28.1	330	19.3	229	22.5	30	9.8
Unimproved	307	16.2	258	21.7	297	17.4	92	9.0	48	15.6
Dead	13	.7	103	8.6	0	0	65	6.4	29	9.4
Not stated	0	0	0	0	0	0	0	0	4	1.3
1. INCIPIENT ON ADMISSION										
Total No. of cases.....	534	100	153	100	460	100	592	100	157	100
Quiescent	408	76.4	114	74.5	427	92.8	478	80.7	132	84
Improved	73	13.7	32	20.9	16	3.5	88	14.9	14	8.9
Unimproved	52	9.7	7	4.6	17	3.7	19	3.2	8	5.0
Dead	1	0.2	0	0	0	0	7	1.2	1	.6
Not stated	0	0	0	0	0	0	0	0	2	1.2
2. MODERATELY ADVANCED ON ADMISSION										
Total No. of cases.....	1,254	100	471	100	848	100	366	100	97	100
Quiescent	847	67.5	257	54.5	555	65.4	152	41.5	57	58.7
Improved	185	14.8	112	23.8	160	18.9	133	36.4	13	13.4
Unimproved	212	16.9	80	17.0	133	15.7	48	13.1	19	19.5
Dead	10	0.8	22	4.7	0	0	33	9.0	6	6.1
Not stated	0	0	0	0	0	0	0	0	2	2
3. FAR ADVANCED ON ADMISSION										
Total No. of cases.....	104	100	568	100	399	100	60	100	47	100
Quiescent	30	28.8	125	22	98	24.6	2	3.3	5	10.6
Improved	29	27.9	191	33.6	154	38.6	8	13.3	2	4.2
Unimproved	43	41.3	171	30.1	147	36.8	25	41.7	21	44.8
Dead	2	2.0	81	14.3	0	0	25	41.7	19	40.4

In general the results secured at Home Hospital are quite comparable to those secured at Mt. McGregor, the sanatorium conducted by the Metropolitan Life Insurance Company. The fact that Mt. McGregor reports a slightly larger proportion of cases "improved" than Home Hospital is rather due to a different use of the term on the part of the physician than to a significant variation in results secured.

Results With Children

Particular attention has been given to children, for we have assumed that all have been in close contact with the patient and that all were likely to develop active tuberculosis unless preventive measures were taken. Those children who exhibited the following symptoms, (1) underweight for age, (2) constant or frequent coughs, (3) occasional or constant temperature of undiscoverable origin, (4) rales (near one or both nipples, connstant or inconstant), interscapular dullness and positive Von Pirquet (under four years), were considered patients and

received more intensive follow up. During the period covered 163 such children were admitted; of these 151 or 92.5% were discharged either in "good condition," "improved," "quiescent," or "negative"; 3 or 1.8% were fair or poor; 1 was progressive; 2 or 1.2% had died and for 6 or 3.6% no adequate diagnosis on discharge was recorded.

When the Home Hospital idea was first conceived the objection was made by some that without complete segregation of the tuberculous many new cases would develop with the institution itself. In our ten years' experience no new cases of tuberculosis, either of children or adults, has developed while a family was in the institution. This remarkable record we attribute to the educational work with families as to the importance of fresh air and sunlight and to simple precautions regarding sleeping arrangement and the use of common towels, glasses and dishes.

Condition of Patients After Discharge

But it is not enough to discharge a tuberculosis patient as "quiescent" or "improved." The effect of the treatment must be such as to provide a reasonable assurance against a relapse, which is likely to result either in diminished earning capacity or in early death. This objective from the first has been recognized as of prime importance in the Home Hospital. It has been our conviction that by dealing with the family as a unit and not simply with the patient, we should be able to establish a standard of living and habits of personal hygiene which would follow the family after its discharge from the institution. In order to test the permanent effect of Home Hospital treatment, we have followed up the after-history of all but the most recently discharged cases within the period under consideration.

The attempt to discover whether or not the patient had suffered a relapse subsequent to discharge was abandoned, because of the difficulty of getting reliable statements based on a doctor's diagnosis. We had, therefore, to content ourselves with finding answers to two questions: (1) How many of the discharged patients died subsequent to discharge? (2) How many of those alive at the time of the follow-up were able to work? Despite the many difficulties of conducting an inquiry of the 277 discharged patients only 15 or 5.5% either could not be located or refused information.

In table IV we have summarized the results of this follow-up. The average period of time elapsing since discharge was 3.2 years, with a range of from 6 months to 9 years. This fact must be kept

clearly in mind in evaluating these results, for it is in the first years after discharge that the mortality is highest.

TABLE IV—AFTER-HISTORY OF DISCHARGED ADULT TUBERCULOUS PATIENTS OF THE HOME HOSPITAL.

Condition on discharge	Total cases		Dead		Able to work		Not able to work	
	No.	%	No.	%	No.	%	No.	%
Total	262	100	71	27.1	157	59.9	34	12.8
Quiescent	186	100	26	14.0	148	79.6	12	6.4
Improved	26	*	13	*	5	*	8	*
Unimproved	46	*	30	*	2	*	14	*
Not stated	4	*	2	*	2	*		

* Percentage not calculated because of small numbers.

The fact that practically 60% of the patients in spite of their tremendous handicap are able to assume the full responsibility toward their families after discharge is abundant evidence of the lasting effect of Home Hospital treatment. Of those discharged as quiescent practically 80% were found on the follow-up to be alive and productive.

Obviously the results of the follow-up are dependent on the period of time elapsing since discharge. While our data are too meagre to permit a detailed study by years, we have, in Table V, compared the results for three year periods. A glance at this table will indicate that the chances of death are greatest in the early years after discharge and the chances of those surviving being able to carry on effectively are greatest in the later years.

TABLE V—AFTER-HISTORY OF DISCHARGED ADULT TUBERCULOUS PATIENTS OF THE HOME HOSPITAL BY PERIOD OF FOLLOW-UP.

Period of follow-up	Total		Able to work		Not able to work		Dead	
	No.	%	No.	%	No.	%	No.	%
Total	262	100	157	59.9	34	12.8	71	27.1
Less than 3 years	108	100	44	40.7	12	11.1	52	48.1
Three years less than 6	124	100	89	71.7	21	16.9	14	11.3
Six years less than 9	26	100	24		1		1	
Not stated	4		0				4	

The results of Home Hospital treatment in prolonging the life span and in restoring the earning capacity of the patient may now be compared with the results secured by leading sanatoria in America. In a recent study by the National Tuberculosis Association the results of the follow-up of 12,708 patients discharged from American Sanatoria are given.* The report of the Metropolitan Life Insurance Company previously cited gives the results of its follow-up.† After excluding cases which could not be reached the following comparison is made:

* Sanatorium Follow-Up Studies by Dorothy E. Wiesner—American Review of Tuberculosis, Vol. VI, No. 4, June, 1921.

† After-History of Nine Hundred and Fifty-three Tuberculosis Patients Discharged from the Metropolitan Life Insurance Company Sanatorium—Howk-Dublin-Knudsen Transactions of the Eighteenth Annual Meeting of the National Tuberculosis Association.

TABLE VI—COMPARISON OF THE CONDITION OF DISCHARGED PATIENTS FROM (A) 13 LEADING SANATORIA SURVEYED BY THE NATIONAL TUBERCULOSIS ASSOCIATION. (B) MT. MCGREGOR, (C) HOME HOSPITAL.

Study	Total cases		Dead		Able to work		Not able to work	
	No.	%	No.	%	No.	%	No.	%
N. T. B. Association.....	12,708	100	6,100	48	4,073	39	1,426	13
Mt. McGregor	896	100	87	9.7	719	80.2	90	10
Home Hospital	262	100	71	27.1	157	59.9	34	12.8

Thus the results secured by Home Hospital are not quite so good as Mt. McGregor but distinctly better than those of other sanatoria. A word of explanation is needed. The results of the study by the National Tuberculosis Association are largely determined by the great number of patients who were far advanced on admission. A recent tabulation by that organization for 1920 indicated that 50% of the patients were advanced cases on admission. On the other hand, it is difficult to explain why nearly three times the proportion of patients died after discharge from Home Hospital as from Mt. McGregor. The social and economic status of the different groups must, we fancy, go far toward explaining this difference. Discharged cases from Mt. McGregor were immediately returned to their positions with the Metropolitan Life Insurance Company, whereas no such security of tenure could be assured our discharged patients. Moreover, provision is made for the immediate re-admission of relapsed cases discovered through careful periodical medical examinations with a corresponding effect on the death rate.

The proportion of children found to have died or to be totally incapacitated on follow-up was much smaller than in the case of adults. While this is undoubtedly due in a large measure to the permanent effect of Home Hospital care it must also be attributed partly to the fact that among the general population death rates at these ages are at their lowest point, and total incapacity because of illness is very rare. These results are summarized in Table VII.

TABLE VII—CONDITION OF DISCHARGED PATIENTS (CHILDREN UNDER 16) ON FOLLOW-UP.

Total		Dead		Able to work		Not able to work	
No.	%	No.	%	No.	%	No.	%
148	100	3	2	139	94	6	4

It may be pointed out that again the greatest risk is soon after discharge, for all of the deaths occurred in the group followed up for three years only.

So far as the treatment of persons known to be suffering from tuberculosis is concerned, we may therefore conclude that the results secured both during the period of residence at Home Hospital

and after discharge to their own homes are quite as good as those of the best sanatoria. Equally important, however, is the fact that during our ten years' experience with this institution no new cases have developed during residence. It is clear, then, that we have succeeded, therefore, not only in curing tuberculosis but in preventing its spread within the family.

Cost of the Plan

Granted that the results secured have been good, the question of whether the Home Hospital plan is the most economical method of dealing with needy families where tuberculosis is a major problem still remains unanswered. Fortunately we have been able through our own experience to observe the cost of dealing with such situations according to two different plans: first, that of placing the patient in a sanatorium, either keeping the family together and doing as much educational work as possible in the home, or placing the children in an institution; second, that of placing the family in the Home Hospital and treating the entire family as a unit. To determine which plan involves the greatest expenditure of the Association's funds is relatively simple; to determine which plan is the most economical in the long run is a much more difficult problem. While the Association is not called upon to meet the cost of the care of patients admitted to other institutions, this cost must be met in some way either out of public or private funds. Our problem, therefore, is two-fold: (1) which plan actually involves a greater expenditure of our own funds? (2) which plan is the more economical if the total cost both to the families themselves and to the community either out of public or private funds is considered?

In analyzing the cost of a plan which combines the treatment of tuberculous patients and suspects with family rehabilitation, obviously all necessary family expenditure for medical and nursing care must be considered. The families themselves with what they are able to earn despite their handicap make a very substantial contribution to the expense of maintaining an adequate standard of living and of providing the necessary medical and nursing care. The deficit occasioned by the failure of family earnings completely to cover the cost of both service and living expenses are met by the Association. The families in the Home Hospital in addition to the intensive medical and nursing supervision already described receive excellent living quarters, warm clothing, good food and some of the amenities of life usually denied families in their station. This pro-

vides, however, for only 30 of the 700 tuberculosis families annually under the care of the A. I. C. P. For the great majority of such families the A. I. C. P. is not able, therefore, to render as intensive service as it is to those admitted to the Home Hospital; they receive such educational nursing care in the Home, social service and the relief necessary to meet an adequate standard of living as the A. I. C. P. is able to provide through its Tuberculosis Division. Sanatorium and hospital care for tuberculosis patients is provided by agencies other than the A. I. C. P.

It will readily be inferred that so far as A. I. C. P. funds are concerned the Home Hospital plan is by far the most costly, as the following table clearly indicates:

TABLE VIII.

	Cost per family per day		Cost per individual per day		Cost per "Ammain" per day	
	Home Hospital	Tuberculosis Division	Home Hospital	Tuberculosis Division	Home Hospital	Tuberculosis Division
Medical and nursing service	$1.903	$ .178	$ .366	$ .031	$ .676	$ .055
Total living costs	5.026	3.226	.967	.558	1.786	1.005
A. I. C. P. contribution	2.459	.718	.473	.124	.874	.224
Family earnings	2.403	2.241	.462	.388	.854	.698
Other sources	.168	.267	.031	.046	.058	.083
Total cost	6.929	3.404	1.333	.589	2.462	1.060

The "Ammain" is a value which reduces the expenditures of all families to the common denomination of the adult male. The "cost per ammain per day" represents in each instance the cost of maintaining a man at his period of "maximum economic demand." The costs of each plan are therefore placed on a comparable basis, since variations in size of family and the age and sex of the individuals are avoided. It is not surprising that the cost for medical and nursing service per ammain per day is fully twelve times as great in the Home Hospital, for the services are really in no way comparable. That the A. I. C. P.'s contribution to living expenses is four times as great for families in the Home Hospital as for similar families in their own homes may be attributed to the fact a large share of Home Hospital care consists in providing warmer clothing and bedding, additional furniture, specially prepared food and household assistance, which are seldom provided in the average tenement home.

But our contribution to the cost of maintaining tuberculosis families in their own homes and of providing nursing care is only a portion of the total cost which the families themselves and the community at large must bear. Sanatorium and preventorium care are provided in many cases but without expense to the Association.

We have made an attempt to secure reliable up-to-date estimates of such costs but with little success.

On the basis of such data as we were able to secure we may safely say that where the patient is a widow with three dependent children the cost of Home Hospital care would be about $4.76 a day, while to place her in a sanatorium and the children in institutions, usually the only alternative, would involve a daily cost of at least $4.21, a difference of only 13%. In the interest of more continuous and satisfactory treatment and for the social welfare of the family itself this cost is more than justified.

Conclusions

Ten years' experience has demonstrated the value of Home Hospital care as an effective, humane and economical plan for dealing with tuberculosis in needy families. Judged by medical results the Home Hospital is quite as effective in arresting and improving tuberculous patients during residence as any sanatorium in the country.

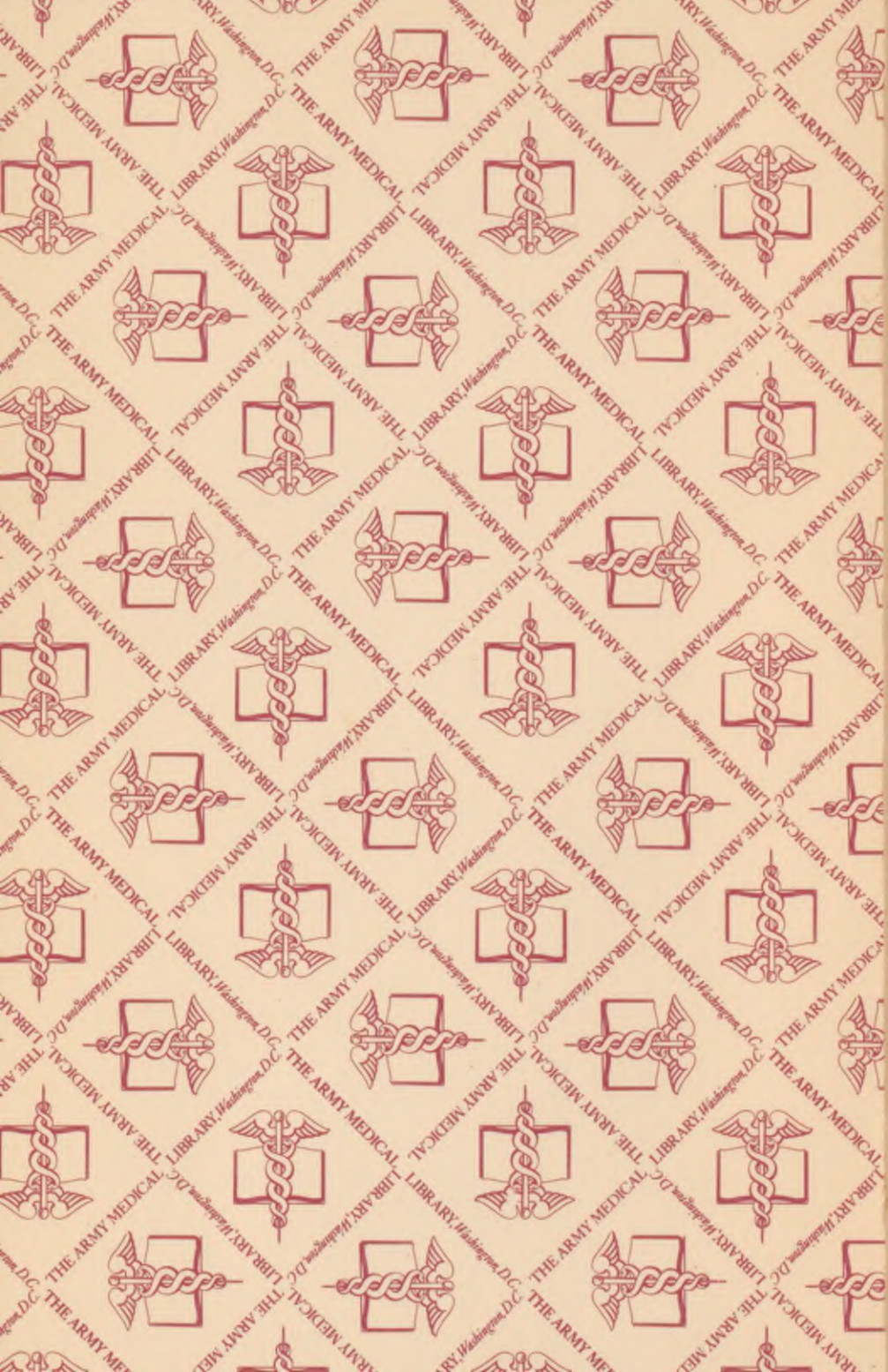
It is further one of the most effective measures yet devised for safeguarding the health of well members of the family both by building up their resistance and by preventing the spread of infection within the family.

Despite the social, educational and economic handicaps which first brought the families to our attention, patients discharged from Home Hospital apparently live longer and are economically more productive than those discharged from other sanatoria.

Home Hospital care is humane in that it keeps many families together for whom ordinarily there would be no alternative but the breaking up of the home and the commitment of one or both parents in a sanatorium and the children in institutions.

The plan is economical in that for the type most in need of its service the final cost to the community in dollars and cents is no more than other plans which are less effective and certainly less humane.

The Home Hospital is conducted by the New York Association for Improving the Condition of the Poor.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