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REPORT

ON

NEW HAVEN HEALTH CENTER DEMONSTRATION

JULY 1920 - JUNE 1923

BY

PHILIP S. PLATT, M.A., C.P.H.

DIRECTOR



THE DEPARTMENT OF HEALTH
THE VISITING NURSE ASSOCIATION
THE NEW HAVEN MEDICAL ASSOCIATION
THE NEW HAVEN CHAPTER, AMERICAN RED CROSS

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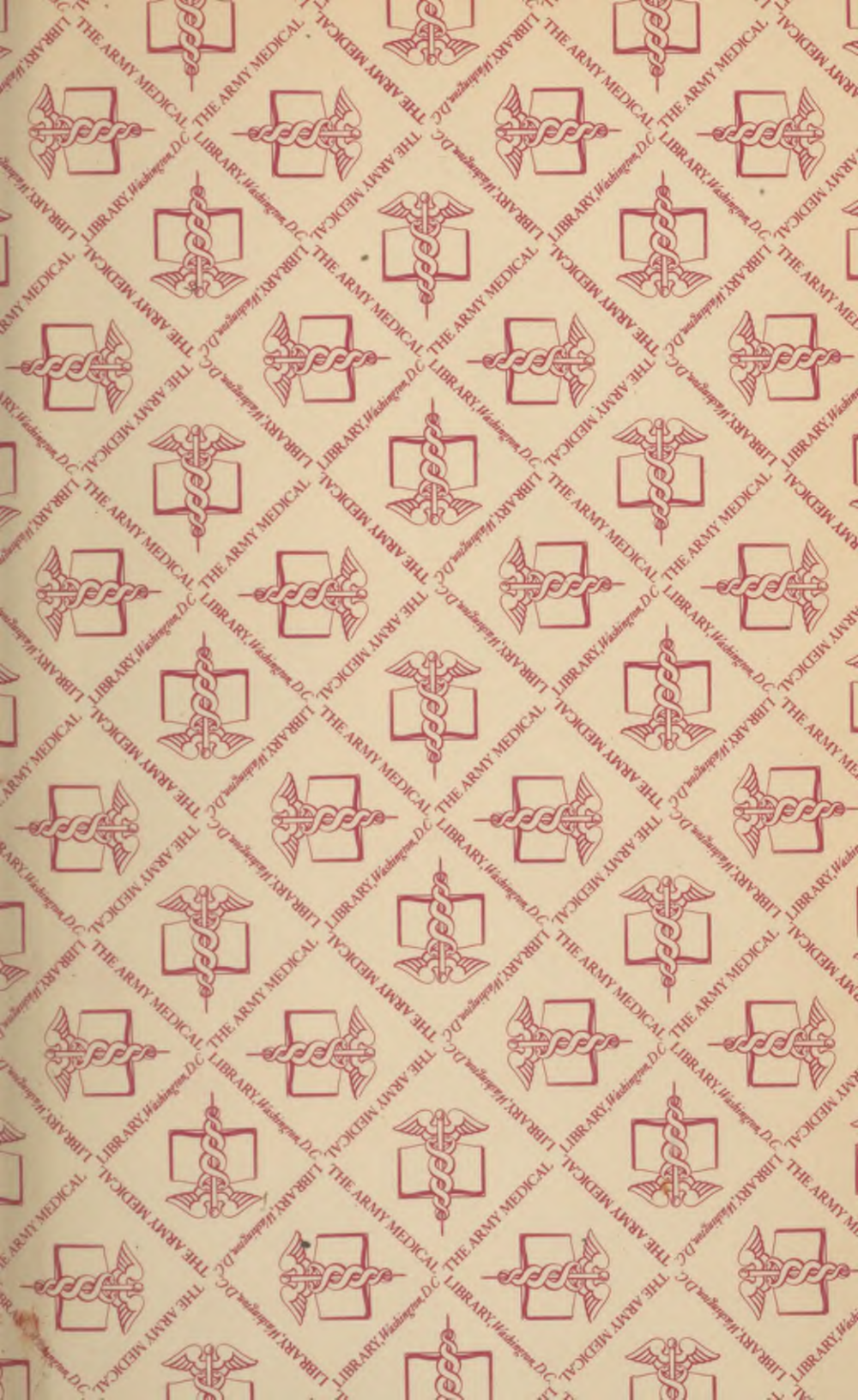
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THE HEALTH CENTER HEADQUARTERS ON A SCHICK TEST AFTERNOON

REPORT

ON

NEW HAVEN HEALTH CENTER DEMONSTRATION

JULY 1920—JUNE 1923

BY

PHILIP S. PLATT, M.A., C.P.H.
DIRECTOR



THE DEPARTMENT OF HEALTH
THE VISITING NURSE ASSOCIATION
THE NEW HAVEN MEDICAL ASSOCIATION
THE NEW HAVEN CHAPTER, AMERICAN RED CROSS

1300

HEALTH CENTER PERSONNEL

<i>Director</i>	<i>Secretaries</i>
Philip S. Platt, M.A., C.P.H. April, 1920—July, 1923	Agnes M. Thompson July, 1920—January, 1923
<i>Medical Directors</i>	Marjorie Booth January, 1923—June, 1923
Ettore Ciampolini, M.D., C.P.H. June, 1920—January, 1922	<i>Well Baby Conference Physicians</i> Alice P. Ford, M.D. July, 1920—June, 1923
Harry E. Hitchcock, M.D., C.P.H. February, 1922—June, 1923	Julia Teele, M.D. July, 1920—June, 1923
<i>Assistant Medical Examiner</i>	<i>Substitute Medical Examiners</i>
Hortensia F. Robinson, M.D. August, 1920—June, 1923	Margaret Tyler, M.D. Irene Boardman, M.D.

Department of Health

<p><i>Director of School Nurses</i> Margaret J. Barrett, R.N. July, 1920—June, 1923</p> <p style="text-align: center;"><i>School Nurses</i></p> <p>Mary Barrett, R.N. July, 1920—June, 1923</p> <p>Helen K. Degnan, R.N. July, 1920—June, 1923</p> <p style="text-align: center;"><i>Dental Hygienist</i></p> <p>Anna M. White July, 1920—June, 1923</p>	<p style="text-align: center;"><i>Contagious Disease Nurses</i></p> <p>Mary E. Blake, R.N. July, 1920—January, 1923</p> <p>Mary E. McLaughlin, R.N. July, 1920—January, 1923</p> <p>Katherine O'Rourke February-June, 1923</p> <p style="text-align: center;"><i>Sanitary Inspector</i></p> <p>John J. O'Donnell July, 1920—June, 1923</p>
--	--

Visiting Nurse Association

<p style="text-align: center;"><i>Directors of Nurses</i></p> <p>Harriet Leck, R.N. July-August, 1920</p> <p>Florence S. Wright, R.N.¹ August, 1920—January, 1921</p> <p>Elizabeth Ross, R.N. April, 1921—June, 1923</p> <p style="text-align: center;"><i>Field Supervisor</i></p> <p>Dorothy Roessner, R.N. July, 1920—June, 1923</p> <p style="text-align: center;"><i>Assistant Field Supervisor</i></p> <p>Elizabeth Monseau, R.N. December, 1921—June, 1923</p> <p style="text-align: center;"><i>Field Nurses</i></p> <p>Elizabeth Monseau, R.N. July, 1920—December, 1921</p> <p>Alice Lacourciere, R.N.² July, 1920—March, 1921</p> <p>Elizabeth O'Keefe, R.N.³ July, 1920—December, 1921</p>	<p>Sadie B. Shelton, R.N. July, 1920—June, 1923</p> <p>Marie LeBlanc, R.N. July, 1920—June, 1923</p> <p>Dorothy Deming, R.N.⁴ August, 1920—September, 1921³</p> <p>Ida Stephanofsky, R.N. February 1921—May, 1922</p> <p>Winifred LaFontaine, R.N. December, 1921—June, 1923</p> <p>E. May Fraser, R.N. January, 1922—May, 1923²</p> <p>Emily Porter Bliss, R.N. April, 1922—November, 1922</p> <p>Charlotte Harrington, R.N. June, 1922—June, 1923</p> <p style="text-align: center;"><i>Special Health Center Headquarters Nurse</i></p> <p>Harriet Farrall, R.N. September 1921—June 1923</p>
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Substitute Headquarters Nurses

Cora Conklin, R.N.
Alice Lawton, R.N.

¹ Died, January, 1921.

² Married.

³ Left the Association.

⁴ Accepted position as Associate Director, Visiting Nurse Service of the Henry Street Settlement.

T 18 July '51

INTRODUCTORY STATEMENT

C.-E. A. WINSLOW, Dr.P.H.

Professor of Public Health, Yale School of Medicine and Chairman
of the Board of Control of the Health Center

The desk of the sanitarian is laden with the reports of public and private health agencies "thick as autumnal leaves that strow the brooks in Vallombrosa". Yet it is probable that a perfectly fair and entirely frank account of a difficult cooperative public health endeavor has never yet been made public. The difficulties in writing contemporaneous history are in themselves sufficiently great. When the situation is complicated, as is usually the case, by a natural desire to justify the past and obtain appropriations for the future, it is natural that the picture presented should often be a somewhat distorted one.

The New Haven Health Center demonstration period is definitely over. Its main objects have, we believe, been attained and its work goes forward under other auspices, but its independent organization is a thing of the past. In the pages which follow, Mr. Philip S. Platt, who was from the first its able and devoted Director, has recounted the history of the demonstration with an impersonal frankness which has rarely been attained. He maintains alternately the positions of plaintiff, defendant and judge with balance and discretion. Above all he tells the truth about the difficulties which he met, whether they were surmounted or not. Much was learned by those who participated in these three years of health endeavor and all the chief lessons are here presented, not in a formal, official fashion but from the personal standpoint of the man most directly in contact with them all.

I am inclined to believe that the candor and the objectivity of Mr. Platt's report make it a somewhat unique document in the history of public health and I feel sure that the problems so frankly discussed will be of interest to public health workers the country over and that through this presentation the Health Center demonstration will be fruitful in a field far wider than the city of New Haven.

ACKNOWLEDGMENT

In the course of the three years of the Health Center demonstration the Director has received both personally and for the work he directed unceasing loyalty and self-sacrificing service. His appreciation of the staff which carried on the work must be apparent in the following report, but he desires here to make special mention of his gratitude. In particular he wishes to express his appreciation of the indefatigable and self-effacing work of the two Medical Directors, Dr. Ciampolini and Dr. Hitchcock, of the invaluable services of his secretaries, Miss Agnes Thompson and Miss Marjorie Booth; of the headquarters nurse, Miss Harriet Farrall, and of the sanitary inspector, Mr. J. J. O'Donnell, all of whom gave unsparingly of themselves regardless of time or convenience.

To the members of the Board of Control for the confidence and support they gave him he is indeed grateful, but most especially he would acknowledge his indebtedness to the Chairman and Vice-Chairman, Professor C.-E. A. Winslow and Mrs. E. G. Buckland, who were so largely responsible for bringing the Health Center to successful fruition.

PREFACE

This report is intended to be a critical account of the work of the New Haven Health Center as carried on for three years in the Italian section of the city. It attempts to give an intimate picture of the tasks that confronted the Health Center and in order that these may be better understood it presents a rather complete description of the district in which the work was carried on, the population inhabiting it and the part taken by it in the local health movement. How the Health Center came to be proposed, its organization and the voluntary nature of the relationship of the cooperating agencies to the Health Center is clearly brought out. The character, scope and value of the work undertaken by the different groups of workers is frankly discussed and, as far as possible, the reasons for success or failure are given. The reasons why reliance cannot be placed on mortality statistics and especially why a sound comparison of the mortality in the Health Center with the remainder of the city cannot be made, are pointed out. The cost of the Health Center is considered from many angles and its immediate future is indicated. A final evaluation of the work is not attempted, for that would be impossible, but certain definite accomplishments of the Health Center are recounted.

Limited funds and the patience of the reader have prescribed the size of this report, with the result that much desirable discussion and large numbers of tables have been discarded.

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INTRODUCTION

The Suggestion of a Health Center

The suggestion that an intensive coordinated public health program be carried out in some section of the city of New Haven by the joint cooperative efforts of the chief public and private health agencies came from Professor C.-E. A. Winslow, of the Department of Public Health of the Yale School of Medicine, in the spring of 1919. The official health work of the city, while of good quality, was admitted by those who knew to be far from adequate for a city of the size of New Haven. The public, however, was not concerned, for the public did not know. There was consequently a need of arousing interest in the vital necessity of more adequate health work, and among the ways to accomplish this the practical demonstration of the nature and the value of a comprehensive health program had been found to be particularly effective. When to this objective was added the great benefits which it was certain would come to the people of the section selected for the demonstration, the value which it was reasonable to expect would come to the organizations participating in such a cooperative task, and the favorable opportunity afforded by such an organization to demonstrate the effectiveness of various new methods of public health administration, the Health Center idea was indeed an attractive one.

This idea was first presented to the Board of Health which expressed its interest and desire to cooperate. The suggestion that the Visiting Nurse Association, the New Haven Chapter of the American Red Cross and the New Haven Medical Association be asked to join in the cooperative plan was approved and the proposal was made by the Health Officer, the late Dr. F. W. Wright, that a committee be formed of two members of each of these organizations, if they should agree to cooperate. The New Haven Chapter of the American Red Cross, whose part in the post-war health program of the national organization was still to be determined, was then approached and its enthusiastic interest and promise of financial support obtained. The Visiting Nurse Association, after some hesitation, voted to participate in the cooperative effort and appointed its

two representatives on the committee. Likewise, the New Haven Medical Association took favorable action. The interest of the Mayor and other important citizens was secured. The suggestion was made that the old fifth ward, with an estimated population of 5,000 Italians, be selected for the demonstration and a provisional budget of \$15,000, covering the cost of direction and operation as well as the value of the services of the workers to be detailed, was drawn up. Matters stood thus during the summer of 1919 until in the fall active steps were taken to select the best district for the demonstration and to secure a director to conduct the work.

In December, the New Haven County Chapter of the American Red Cross recommended that the local situation be studied by a qualified public health investigator and a report prepared recommending a definite program for a selected district on a specified budget. The writer of this report accepted the invitation extended to him and prepared such a report as requested during December 9-23. This was submitted to the New Haven Chapter December 23 and approved by it. The writer was invited by the Health Center Committee to accept the directorship of the proposed Health Center, but he was not in a position to do so at the time and declined. At a later date, however, he accepted the offer of the Committee and assumed his duties April 1, 1920.

The budget proposed in the survey was fixed at \$30,000, one-half representing the value of personnel to be detailed from the existent staffs of the Department of Health and the Visiting Nurse Association and one-half representing the necessary additional outlay in cash to meet the expenses of directing and operating the work from a local headquarters. It was planned that the two above mentioned organizations and the Red Cross should contribute equal shares of the \$30,000, the Visiting Nurse Association contribution consisting entirely of its detailed personnel, the Red Cross donation consisting of \$10,000 in cash, the Department of Health share being \$4,300 in service and \$5,700 in cash.

In March, 1920, the Committee appeared before the Board of Finance of the city at the request of the Mayor and explained the proposed plan for an intensive health-promoting program to be carried out cooperatively in wards 5, 6 and 7 by the Department of Health and the three principal private health agencies of the city. A contribution of Health Department staff and city funds equivalent to \$10,000 was requested for the first year. After due consideration

the appropriation was subsequently made for the July-December period at the rate of \$10,000 a year, actually \$2,850 in cash, payable against approved bills, by the Controller's office of the city, and \$2,150 in the value of the services of the Department of Health's personnel detailed to work in the Health Center. The Visiting Nurse Association's contribution of \$10,000 a year, which was more than covered by the services of the staff detailed to the district, was subsequently forthcoming. The Red Cross contribution was made immediately in cash to the Health Center's bank account, expendable upon order of the Treasurer or the Director. The discussion of the subsequent financial support of the Health Center will be found on page 37. No financial responsibility was assumed by the New Haven Medical Association.

Organization of the Board of Control

The Committee, previously referred to, consisting of two members from the Boards of Managers of each of the four cooperating agencies, the Health Officer, the Superintendent of the Visiting Nurse Association and three members at large, proceeded to draw up by-laws, the approval of the by-laws by the city Board of Finance being a condition of the city's financial cooperation. When presented to the Board of Finance for approval, the Board indicated its desire that the Board of Control be enlarged to include 21 members, 11 of which to be appointed by the Mayor, these 11 members being 4 Aldermen, 2 Board of Finance members and 5 citizens at large. The desirability of having representatives from the legislative and appropriative bodies of the city government, in view of the possibility of eventual absorption of the Health Center by the Board of Health, was pointed out by the Mayor, with the result that the change met with the approval of the other agencies. To the Executive Committee of the Board of Control, composed of the Chairman of the Board, the Health Officer, the Superintendent of the Visiting Nurse Association, were added one Alderman and one Board of Finance member.

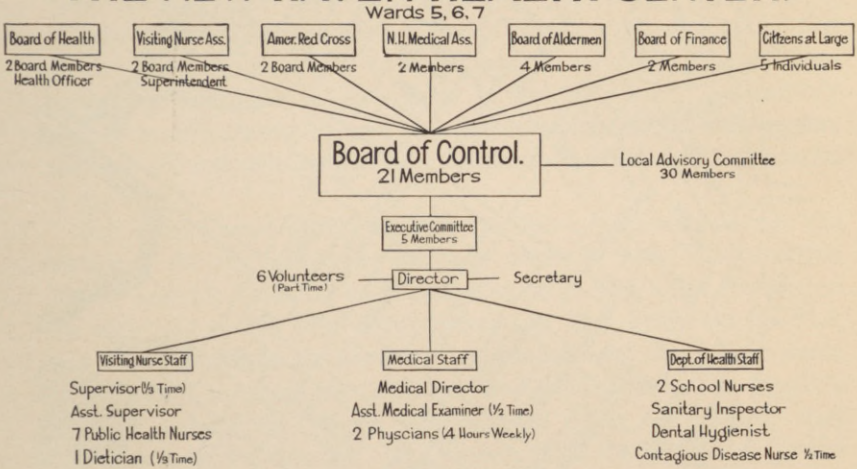
Formulation of Fundamental Policies

The first step taken after securing a Director was the consideration of the fundamental policies which were to establish the character of the Health Center and govern its actions. These were determined to be the correlation of all existing health agencies, public and private,

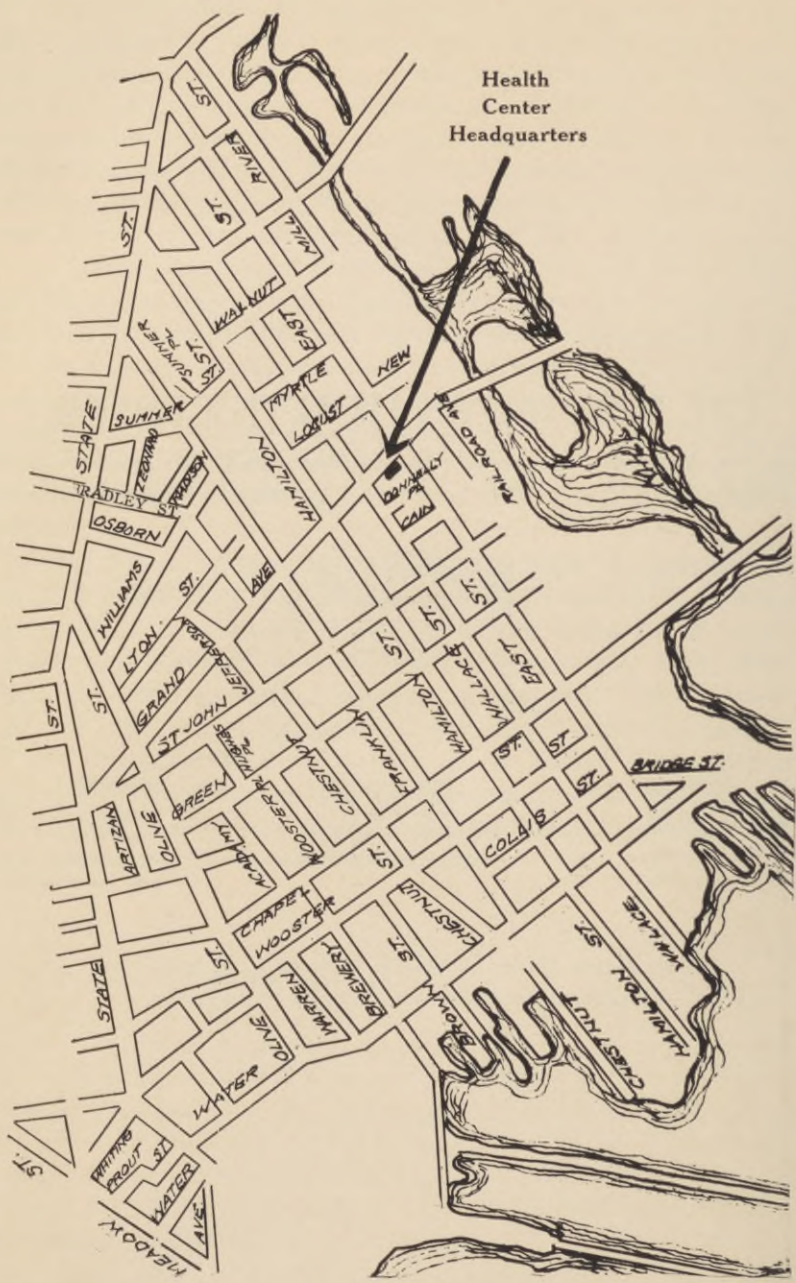
at work in the district, the supplementing of these agencies by the creation, as far as possible, of additional machinery to build up a complete modern system of disease protection and health preservation and the development among the people of the district of a united and enthusiastic interest in a community health campaign. It was decided that the policy of the Health Center should not include the treatment of disease, since the existing resources of medical treatment in the city were considered sufficient to make the development of an additional treatment center unwarranted, even if it had been possible of accomplishment. The Health Center therefore decided that the rôle of its medical work should be that of the Listening Post for the detection of disease in its incipient stages and a "Triage" station to refer for proper relief—to private physicians, dentists, dispensaries or hospitals—those found to require medical treatment. It was named the "Keep Well House" by one of the physicians of the district and as such its policy was to advise, encourage and inform.

It was determined to work in the closest possible cooperation with the local physicians and become an important feeder to the private practitioner. In a similar manner its certain unfolding of much social misery indicated the development of the strongest liason with the social relief agencies of the city, which would take its most effective expression in the stationing of a district social case worker of the Organized Charities Society in the Health Center headquarters. Toward its own staff its policy was to make the work of the Health Center so interesting and valuable that each worker should feel it a privilege to be associated with it.

THE NEW HAVEN HEALTH CENTER.



ORGANIZATION CHART OF HEALTH CENTER AS OF MAY, 1921
FOR SUBSEQUENT CHANGES IN STAFF SEE PAGE 27



Health
Center
Headquarters

HEALTH CENTER DISTRICT
WARDS 10, 11 AND 12

II. THE DISTRICT AND ITS INHABITANTS

Selection of District

The question of the selection of a district to be used for the Health Center demonstration was approached independently of any previous plans and studied from a number of different angles which were considered to be essential. Only one section of the city was found which met the requirements. These requirements were:

Easily definable boundaries in the political or census enumeration districts, a homogeneity of economic and social status of the population, sufficient size to give value to mortality rates, a relatively high mortality among infants and from communicable diseases and comparative nearness to the three hospitals and the two dispensaries in the city.

The district most nearly meeting the above requirements was the section of the city composing the three wards 5, 6 and 7, now wards 10, 11 and 12, bounded by Meadow, George and State Streets on the west and north; Mill River Street and East Street on the east, and Water Street on the south. The population of these three wards as estimated by the Health Officer and published in the Monthly Bulletin was 20,000. Upon this accepted figure the nursing staff and budget were estimated. By October, 1920, the Bureau of Census was able to furnish us with 1920 population figures for the three wards and it was learned from these figures that the population of the district was 26,840.

It was always the aim of the Director to obtain all possible information regarding the Health Center district, and in the course of three years a great deal of information was collected. Unfortunately it will be impossible, within the limits set for this report, to present all this information in detail. While much of the information was not obtainable until the second and third years of the demonstration, it would seem to be of interest to the reader to present this data in the beginning of this report so that a complete picture may be in his mind when he commences the discussion of the actual work of the Health Center.

Physical Aspects

The Health Center district, composed of wards 5, 6 and 7 (now 10, 11 and 12) lies, on its nearest boundary, two short blocks from the New Haven Green. Its form is that of a right triangle, with the harbor as the base, a little less than a mile in length; the small Mill River, a little more than a mile, as its perpendicular, and State Street as its hypotenuse. There are about 190 acres of uninhabited water front bounding the harbor and Mill River devoted to industry, railroad, shipping and the Waterside Park. The remaining area, inhabited by the 26,840 inhabitants with its many factories is consequently about 360 acres, giving a density of 746 people per acre. The district is fortunate in possessing a large water-side park occupying about 18 acres, a small square containing a little less than 5 acres and a still smaller square of about 3 acres. In two of these, playground equipment is maintained and supervised during the summer by the Department of Parks, while in the larger park ample provision is made for baseball grounds. Swimming, however, is prevented as far as possible by the Department of Health owing to the polluted condition of the harbor. The district possesses 8 schools, 9 churches, 3 settlement houses, a boys' club, 2 day nurseries, a convent, a Y. W. C. A. headquarters, 1 hotel, 2 fire stations, a police station and a public bath. In July, 1921, it still supported 72 saloons, 46 barns containing 317 horses, 27 restaurants, 51 barber shops and 75 food peddlers (in the summer); 10 midwives of the 21 in the city are residents in the district, and 12 doctors.

Population

The sources from which the data regarding the Health Center population has been obtained are the (1) U. S. Census, January 1, 1920; (2) a house to house canvass by the generalized sanitary inspector in January and September, 1921; (3) the more elaborate sanitary survey of the inspector from January to May, 1922; (4) a re-census by the inspector during January-June, 1923, checking his census of the preceding year; (5) the school census of the Department of Education for the school year 1922-23; and (6) the voters' list from the office of the City Clerk. The population found by the U. S. Census in January, 1920, was, as previously stated, 26,840; it was found to be 26,426 a year later; in June, 1922, it was 24,569, while in March, 1923, it was 26,621. The reasons for these fluctuations will be found discussed in the section on Mortality.

Nativity

The data obtained from the U. S. census, which may be found in the Appendix and gives the data for color, nationality, nativity, sex, age, school attendance and citizenship, illiteracy, number of dwellings and number of families and country of birth of foreign-born white population. The most significant facts regarding race and nativity are that, of the total population of 26,840 in January, 1920, 16,182, or 60%, were native white, while 10,519, or 39%, were foreign-born white; 132 negroes and 9 others complete the total. Of the 16,182 native white, however, 12,748, or 79%, were native white of foreign parentage. Another 7% were native white of mixed parentage, leaving only 2,195, or 14%, of native white of native parentage.

Of the 10,517 foreign-born whites, 6,945, or 66%, were born in Italy; 935, or 8.9%, were born in Ireland; 750, or 7.1%, were born in Poland; and 594, or 5.7%, were born in Russia. The parents of the remaining 12% were distributed among 25 countries.

Age

The age distribution, as summarized in the table on page 83, shows a striking difference between the age distribution in the Health Center as compared with the remainder of the city and makes necessary a correction for age in a comparison of mortality rates. As will be noted from the table, 40% of the population is under 14 years of age in the Health Center, as compared with 28% in the remainder of the city. Of the age period 15-44, the percentages are 44 and 50%, respectively, and for 45 years of age and over, they are 16% and 22%, respectively. The Health Center itself contains 17% of the population of the entire city.

Citizenship

Of the 7,304 males 21 years of age and over, 5,213 were foreign-born; and of these, only 1,509 were naturalized. The figures for the females are approximately the same.

Illiteracy

Illiteracy plays a conspicuous rôle, but almost entirely (97%) among the foreign-born. 3,163, or 16%, of the 19,043 individuals over ten years of age were recorded in the Government census as illiterate.

Dwellings and Families

The census shows 2,036 dwellings and 5,150 families.

Voters

According to the records in the office of the Town Clerk, there were 3,593 registered voters for the municipal elections in November, 1920, representing 13% of the total population. Of this number of registered voters, 3,149, or 88%, cast their votes.

Nationality of School Children

An interesting picture of the racial stock of school children may be obtained from the census made yearly by the Department of Education, in which the birthplace of the parent of each child is recorded. It is interesting to observe that of the children 82.8% were of Italian parentage, 1.9% of Irish, 6.3% of American, 3.5% of Polish, 2.5% Russian, 1.2% of Lithuanian, .3% of German and 1.4% of all others. Attention should be called to the striking changes which have taken place in the racial stock of the school children in the past fourteen years. The number of children of parents born in Italy has increased from 61.7% in 1908 to 82.8% in 1922, while the number of children of parents born in Ireland has decreased from 20% to 1.9%. A marked increase in children of German stock and of Polish and Lithuanian stock is also to be recorded. Whether the tendency of the last two nationalities to increase in this district will continue to a marked degree will be watched with interest. It is such figures as these which justify the statement that four-fifths of the Health Center population are of Italian stock.

Social Conditions of the Population

Population

The Health Center is indebted to the unusually valuable work of its generalized sanitary inspector for much of its knowledge regarding the social conditions of its population. The house to house canvass made by the inspector, upon which were recorded in addition to the sanitary conditions of the house and yard many data of social significance, offered a wealth of information which proved of particular value in giving an intimate picture of living conditions in the district. The data recorded on the family card were analyzed for the Health Center by the statistical service of the Library Bureau of New York. It is a distinct regret that space does not permit the

publication of the complete tables. There is one point to be observed regarding these figures which it is difficult to explain with entire satisfaction. The total population recorded in this house to house census in the spring of 1922 is 2,271 less than the U. S. census of January 1, 1920; 1,529 less than the inspector's census of 1921; 2,052 less than his census of 1923. The fact that this 1922 census came at the close of the serious period of unemployment and that he found 100 less families than were found by the U. S. census of 1920, and 494 unrented or unused apartments, seems to indicate that in 1922 a real decrease in the population of the district existed. While this decrease may affect the mortality figures during this period, and points to the necessity of great caution in the use of mortality rates, it could hardly affect the character of the social data obtaining in the census.

Country of Birth of Father

The census shows that, of the 5,052 families living in the district in the spring of 1922, the father was living in 4,493 instances. The fathers of these families were born abroad in 85% of the cases, only 15% being born in America; 61% were born in Italy, the other 24% having been born in 29 foreign countries.

Number of Children

Children born in 5,052 families were 13,520, an average of 2.68 children per family. The largest number of children per family was found in the Italian group (the father born in Italy) and was 3.25. Hungarian families possessed 2.96 children; Polish, 2.81; Russian, 2.77; Canadian, 2.55; Lithuanian, 2.47; Irish, 1.90; United States, 1.58; England, 1.18; Germany, 1.17; all other countries, 1.75.

Size of Family

Families consisting of two individuals were the most numerous, there being 894 such families. 756 families consisted of 3 individuals; 848 of 4; 682 of 5, and so on in regularly decreasing numbers. There were 114 families of 10 individuals, 55 of 11, 22 of 12, 10 of 13, 3 of 14 and 1 of 15.

Size of Apartment

Fifteen families were living in more than ten rooms. Twenty-seven per cent of the families were living in five rooms or more; 37% in four rooms; 29% in three rooms and 5% in two rooms.

Thirty-four families, or .7%, were living in one-room apartments. Only 15 families were living in more than ten rooms.

Monthly Rental

The average monthly rental paid by 4,987 tenants in 1922 was \$17.20. Seven per cent paid less than \$10; 32% paid from \$10 to \$14; 30% paid from \$15 to \$19. In other words, a total of 62% paid less than \$20; 13% paid from \$20 to \$24; 9%, from \$25 to \$29, and 7% paid over \$30.

Residence of Father in U. S. A.

Of the 4,240 families whose fathers were born abroad, only 2% had been in this country less than five years; 9% between 5 and 9 years; 24% from 10 to 14 years; 40% from 15 to 24 years, and 24% over 25 years. In spite of these evidences of long residence in the United States, our query regarding citizenship revealed the fact that, of 4,381 foreign-born adult married men, only 1,712, or 38%, are citizens.

Dependent Families

A partial measure of the social liabilities of a community may be found in the number of dependent families which are aided by organized relief agencies of a city. Through the courtesy of the Organized Charities Association, it is possible to state that of the 210 families under its care on June 30, 1923, 87 lived in the Health Center district, 61 in the old wards 2, 3 and 4, containing 20,000 more individuals, and 62 among the remaining 88,000 of the city's population.

Organized Social Work in the Community

Three social settlement houses, a United Workers Boys' Club, two day nurseries, and a free kindergarten represent the organized social forces at work exclusively in the community, if the all-important public schools and the churches, Italian societies, and small athletic clubs are disregarded.

Among a restricted, chosen number, these settlement houses exert a powerful influence for good. For twenty-three years the Lowell House in Ward 7 has taught character building and good citizenship through self-governing clubs and vocational classes; health and friendship through the inspiring life of service of Dr. Julia Teele,

and recreation and good sportsmanship from the playground, vacation camp and the athletic teams. It has an annual enrollment in groups and classes of about 1,000.

The Neighborhood House, in Ward 5, has served a purely Italian section for some twelve years. On lines similar to those of Lowell House, it has steadily grown in influence of late years, until during the present year it has had an enrollment of 1200 children, 600 of whom are active members of some class or team.

The United Workers Boys' Club has the unique distinction of being the oldest boys' club in the country, dating from 1873. It has had its present excellent headquarters in the Health Center district since 1915, and with a constant enrollment of about 350 members, has created an enviable reputation for the cleanness, honesty and excellence of its many athletic teams. It is a real boys' club, with unusually fine leadership, and its honor is jealously guarded by the boys who are fortunate enough to be members. The gymnasium, printing shop, reading rooms and club rooms in its attractive house create an atmosphere which is an uplifting force in lives of many hundreds of boys each year.

The Mothers' Day Nursery Society conducts the Leila Day Nursery in the district, which provides excellent care and supervision to about 50 babies and pre-school children of working mothers whose husbands are either dead or incapacitated.

A free kindergarten for 40 children too young to be admitted to the public school kindergartens is conducted in the district by the Elm City Free Kindergarten Society.

The district is also the headquarters of six organizations whose work extends throughout the city, namely, the Y. W. C. A., the Salvation Army, the Yale Hope Mission, St. Joseph's Boarding Home, the Queen's Daughters, and a Seamen's Bethel with its summer hospital for babies.

For all these social forces the district is the richer. They fill important gaps which the schools, splendid as they are, do not meet. It is only regrettable that their influence is limited to a small proportion of the 5,300 school children.

Community Responsibility

A sense of community responsibility is one of the indices of a socially minded, self-respecting American community. Where it is

undeveloped or lacking the difficulty of securing the participation of the community in any type of social welfare work is especially great.

There are indications that the Health Center community possesses such a sense of responsibility, but its manifestation, with a few exceptions, seems to be limited to membership in mutual benefit societies. There are no less than seventy-seven Italian societies, with their branches, in New Haven. Six are purely social in character, fifty-seven are purely mutual assistance associations, while fourteen combined both characteristics. Most Italians are members of two or three of these societies, many of which commemorate the patron saint of a town or village in Italy and restrict their membership to fellow-townsmen. Probably eighty-five per cent of the Italian adults in New Haven belong to one of these societies from which certain material benefits in time of emergencies, such as serious illness and death, are forthcoming. While the interests of these societies are largely confined to the material benefit and social enjoyment of their members, rather than to the welfare of the community as a whole, a noteworthy exception is to be found in the Figli d'Italia prize, offered yearly to Yale University for Merit in the Italian Language. The only social welfare activity directed by the Italians in the district is a Day Nursery and Orphanage which for years has cared for from 90 to 300 children. It recently raised funds for a new building. Since 1921 the nursery has been a member of the Community Chest and financed by it. It is directed by the Italian Sisters of the Sacred Heart. Although contributing by far the largest proportion of social problems, the Italian population of the Health Center and of the city has never undertaken to accept or share responsibility for meeting these problems, if a temporary arrangement for caring for Christmas dinners last year be excepted. There has been some thought, on the part of the Italian doctors of New Haven, of establishing an Italian hospital, but this project, considered by many to be unwise, has not materialized. In the business field, there has existed for fifteen years a Grand Avenue Business Men's Association, composed of 490 merchants, which was largely instrumental in securing the asphalt paving and the "White Way" illumination of Grand Avenue, and other improvements. It has been interested in playground development and the Better Homes movement. Since its reorganization last year, the subjects which have concerned it particularly are those dealing with the routing of street cars and the elimination of the grade crossing of the railroad

tracks between East Street and Mill River. The action of the Association in heartily endorsing the Health Center and urging its continuance as a part of the Department of Health was taken voluntarily.

Only 10 of the 610 members of the directing boards of the organizations composing the Council of Social Agencies reside in the Health Center district, and these are connected with only 6 organizations including the Health Center. The participation of the district representing one-sixth of the city's population in the Community Chest drives has been small, and considerably less than was estimated as reasonable to expect, both as regards the number of contributors and the amount of the contributions.

Individual Responsibility

It is upon the sense of individual responsibility that health or social work must ultimately depend for success or failure in democratic community life. Autocratic methods are neither practical nor desirable. A sense of individual responsibility must precede the development of community responsibility.

The experienced health or social worker knows humanity too well to expect it to be more than human. No day would be typical without its record of forgotten promises and shirked responsibilities. These are the daily problems of the worker with individuals. But in more than usual degree this lack of responsibility was found to be characteristic of the district.

The causes for this lie deep in the profound problems of heredity and environment, transplanted racial stocks, conflicting social standards, the traditions of undemocratic paternal government, and a host of forces that would require a volume for adequate consideration. It concerns us here to point out only those manifestations of this absence of responsibility which were particularly noticeable to us.

One of the striking examples arises, curiously enough, out of the very graciousness and courtesy of the Italian temperament and to the Italian, of course, this characteristic does not signify a lack of responsibility. It is the failure to do what has been promised. The Italian woman believes that it is an act of courteous gratitude to promise to do what the nurse so urgently requests, and so she pleasantly agrees, though not desiring or intending to do it. To the

nurse, doctor or social worker, however, this habitual disappointing is most discouraging. During the first two months of the Health Center, when appointments had to be made in advance for a definite hour, 40% failed to keep their appointments. Attendance at the well baby, pre-school and pre-natal conferences were always far below the number of those who had agreed to attend. When our volunteer social workers visited several hundred individuals who had been examined at the Health Center, had been urged to follow certain advice, and their promise to do so obtained, they found that less than half had done as they had agreed to do. This same experience has held throughout all phases of the Health Center's relation to its population.

Another example of irresponsibility of a different type is found in the very small amount of remuneration that the nurses of the V.N.A. were able to obtain for their services. The policy of the V.N.A. has always been to ask remuneration for actual cost of the *nursing* visits, explaining that if the patient could not afford to pay the full amount, 85 cents, he should pay whatever was possible, however small. In spite of this, and special efforts on the part of the nurses, but \$909.96 was collected during the three years from the 15,106 nursing visits that were made. For the 4,401 additional nursing visits made to Metropolitan Life Insurance cases, the V.N.A. received \$2,640.95 from the Metropolitan, but the amount received directly from the patients was 10% of the actual cost of the service. The percentage of free patients as reported month by month averaged around 90%. The part-pay patients represented a mere fraction of the remainder. It would go perhaps without saying that no remuneration was expected for the 53,641 advisory and social service visits which were made in addition.

The knowledge which the nurses obtained of the families during these years of contact enabled them to know fairly accurately how much a family could afford to pay for the nursing visit. Except in times of unemployment, the families who could not pay something were few.

It is important to point out that this large increase in free service is a very likely if not inevitable accompaniment of an intensive health program. The psychological effect of the repeated advisory visits in the houses and of the constant follow-up in cases where special results were desired, when remuneration is not requested, is to make the family take the nurse for granted so that sometimes the family

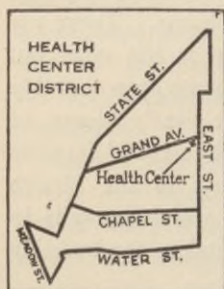
even feels offended when the proposal to pay is made. The free character of the medical consultation service, with its free vaccinations, inoculations and emergency dressings, and the free services of the municipal school nurses and inspector all helped undoubtedly to break down the feeling of obligation for the bedside nursing rendered by the district nurses.

Undoubtedly, one of the factors that works for stability, responsibility and good citizenship is ownership of one's home. There are sections of the district where resident ownership is the rule, but for the most part the inhabitants rent their apartments on a monthly basis and are ready to move without notice. The yearly census of our sanitary inspector, the changes of address of the nurses' families under care, and the file of all individuals coming to the Health Center attest the considerable degree of moving which prevails in the district. The effect is unquestionably detrimental to the building up of a sense of social responsibility.

One of the inborn characteristics of the Italian race, and one of its valuable contributions to our too serious American civilization, is its love of color and display and demonstration, so largely repressed in our drab American cities. An occasion for the expression of this emotional feeling comes with the celebration of the fête days of the patron saints of the leading Italian societies. The streets are bannered, festooned, pavillioned. Music and fireworks turn night into day. No one sleeps, least of all the little children. Eating is thoroughly disorganized. The children suffer, but the community is happy and life seems to be the more supportable. One would not presume to criticize these joyous occasions were it not for the price the children pay and, secondarily, the economic expense to those who can ill afford it. The fact of its expense would seem to betray a certain sense of irresponsibility concerning the graver questions of health. Marriages, christenings and funerals are also the occasions for distressing extravagances from which it sometimes takes years to recover, but these are the important events of life and not to be experienced in any but the better-than-can-be-afforded manner.

III. ORGANIZATION

Selection of Headquarters



The selection of the location for the headquarters was an important task to which careful consideration was given, the final choice coming after accepting the impossibility of obtaining several more desirable locations. Public buildings were considered, but the police and two fire stations were manifestly impossible. Quarters in one of the three settlement houses or the United Workers' Boy Club would have been particularly desirable from many points of view,

but the cramped conditions in all these social centers were such as to eliminate the possibility, attractive as it was to all concerned. The best location that could be secured at a reasonable rental was that occupied by two stores on the ground floor of a four-story brick building on the main thoroughfare of the district. As may be seen from the diagram adjoining, the location was not as central as would have been desired, although the eastern end of the district was a heavily congested one. It was to be expected that the most distant portion of the district, Ward Five, should use the Health Center headquarters far less than the nearer wards, which was the case.

Description of Headquarters

The two adjacent stores which the Health Center planned to make into a single office, had a history well known to the district. The local champion Italian prize fighter had run a saloon for years in one store; in the other a poor Italian couple of advanced years carried on a meagre fruit store, living the while in the rear behind a scant partition.

The lessor of the property repainted, repapered, removed the partition between the two stores for twenty-five feet in the middle section, and installed toilet and wash stand. The Health Center installed wooden partitions to give privacy to the two medical offices, the laboratory and the Director's office, installed two single-pipe

furnaces, electrical fixtures and additional toilet and washing facilities, at a cost of \$1,300, all of which was considered in the light of capital investment.

The Health Center was saved a heavy expenditure for office equipment through the generosity of the local chapter of the Red Cross which, following the post-war deflation, possessed a considerable amount of unneeded office furniture. This was placed at the disposal of the Health Center, thereby saving it an expenditure of several thousand dollars. The total cost of office equipment during the three years was but \$581.

While it was desired to make the Health Center as attractive as possible it was intended that the homely character of the floors, walls and ceilings should be retained rather than create the traditional institutional or dispensary atmosphere. Consequently, individuals felt more at home in the "Keep Well House" than in the usual dispensary.

Attractive window displays of posters, models and lantern slides in the four large street windows first welcomed or attracted the passerby. Within the doors one observed attractive posters placed upon the white walls. Upon a large table near the door stood light blue wooden racks upon which thirty or forty different types of health literature were placed to which the visitor might help himself. A light blue wooden corner bench, placed between the window and the desk of the headquarters nurse, offered a pleasing invitation to rest. Blue burlap curtains hung in the broad passageway which had been made between the two stores. Upon decorative wooden screens, displays of posters were placed, while on the further walls large panels showing the organization, purpose and activities of the Health Center supplied a ready answer to questions in the minds of many individuals. In the doctor's office were hung the three large blueprint maps of the three wards of the district, showing on a scale of one inch to fifty feet the position and street number of every house and factory. An exhibit of baby clothes filled one corner; in another the attractoscope with its various collections of lantern slides stood ready for use at any time. In the large conference room adjoining the medical offices, the well baby conferences were held weekly, as well as the pre-natal conferences, nutrition classes, meetings of the Board of Control and the local Advisory Committee, parties and other group assemblies. The plan of the Health Center headquarters, showing the location of the medical offices, the labora-

tory, the conference room, the offices of the Director, the Secretary, the sanitary inspector and the headquarters nurse is given in the accompanying diagram. Experience proved that the size of the headquarters and the arrangement of the offices was wisely chosen, although the medical offices were not as quiet as would have been desired, owing to the street noises. A certain amount of unoccupied space was purposely left for the possible development of a dental clinic and for the office of a district worker of the Organized Charities if this arrangement should prove possible of accomplishment. The headquarters of the nurses of the Visiting Nurse Association detailed to the Health Center district was in a room directly over the Health Center, although this was not occupied until July, 1921.

The Board of Control

The Board of Control of the Health Center met monthly under the chairmanship of Professor C.-E. A. Winslow, with an average attendance of eight members and four members of the staff. All the members, with the exception of one Alderman, attended from time to time. The Director acted as secretary. The Board members were kept in close touch with the work of the Health Center through full minutes of the meetings, the monthly reports published in the Department of Health Bulletin, copies of all special reports, Health Center literature, special newspaper articles and through personal interviews with the Director.

Much thought and time were expended by the Board, and especially by the Chairman and the Executive Committee, in framing the basic policies, and in deciding all matters of first importance, but a very free hand was given to the Director to develop his own and the Health Center's activities as he saw fit. It approved each month the expenditures made on the basis of a monthly and yearly budget. Its guidance and advice to the Director were invaluable. It took definite action in the form of resolutions on a number of important issues such as the enforcement of the sanitary code regarding the forcible hospitalization of contagious disease cases, under certain conditions; the forbidding of bathing in the harbor; the introduction of a bill for the prevent of blindness of the new-born. Its meetings, at which reports were submitted by representatives of the five branches of the work, were often of unusual interest, lasting

from one to two hours. The Chairman and Directors were its representatives on the Council of Social Agencies.

But it was the Executive Committee, composed of the Chairman, the executives of the Health Department and the Visiting Nurse Association, two inactive members of the city administration and the Director, that entered most intimately into the Health Center's problems and really determined the policies submitted to the Board for its consideration. At first it met weekly, then monthly and later only on special call. As the Board, so the Executive Committee, lived through the leadership, unselfish devotion and vision of its Chairman.

Organization of Staff

The Health Center staff was organized with 13 full time and 9 part time paid workers. At the end of the three years it had 16 full time and 7 part time paid workers. The composition of the staff at the beginning and at the end of the three-year period is best shown by two lists in parallel columns.

Composition of Staff

July, 1920	June, 1923
<i>Headquarters Work</i>	
1 Director (full time)	1 Director (half time) ¹
1 Medical Director and Examiner (f.t.)	1 Medical Director and Examiner (f.t.)
2 Pediatricians (2 hours weekly) ²	2 Pediatricians (2 hours weekly)
1 Asst. Medical Examiner (half time)	1 Asst. Medical Examiner (half time)
1 Secretary-stenographer (f.t.)	1 Secretary-stenographer (f.t.)
	1 Headquarters nurse, V.N.A. (f.t.)
<i>Field Work of Visiting Nurse Association</i>	
1 Director (1-4 time) ³	1 Director (1-4 time) ³
3 Specialized Supervisors (1-6 time)	2 Supervisors (f.t.)
6 Specialized public health nurses (f.t.)	7 Generalized public health nurses (f.t.)
1 Dietician (1-3 time)	1 Dietician (1-3 time)
2 Station matrons (f.t.) ⁴	1 Visiting Housekeeper (1-3 time)
<i>Field Work of Department of Health</i>	
1 Generalized Sanitary Inspector (f.t.)	1 Generalized Sanitary Inspector (f.t.)
2 School nurses (f.t.)	2 School nurses (f.t.)
1 Dental Hygienist (f.t.)	1 Dental Hygienist (f.t.)
1 Communicable Disease nurse (1-3 time)	1 Communicable Disease Nurse (f.t.)
	H.C. Physician as Associate Epidemiologist

¹ On half time January to June, 1923.

² Women physicians holding well baby conferences at Lowell House and Neighborhood House.

³ The Associate Superintendent of the Visiting Nurse Association.

⁴ The Visiting Nurse Association replaced its station matrons in October, 1920, by visiting housekeepers.

The Duties of the Director

As the executive officer of the Health Center, the Director might be regarded as directly responsible for all the work performed by the staff of twenty-one workers, but as pointed out elsewhere this was not the case, as the Director had no authority over the 12 nurses of the Visiting Nurse Association or the 5 workers of the Department of Health. He was fully responsible for the work done by only the two medical examiners and his secretary, and partly responsible, by special consent, for the work of the sanitary inspector and the headquarters nurse. For the general health educational activities and the manifold relationships with a large number of individuals and organizations within and without the district, he was of course fully responsible.

Necessarily, the nature of his work was very diversified and in spite of the large amount of work done by volunteers and his exceptionally able secretary, very detailed. There was always the routine administrative business of any organization—correspondence, preparation of reports, attendance at meetings, direction of clerical work, purchase of supplies, payment of bills, preparation of financial statements, preparation of budgets and supervision of account books. There was the planning and carrying out of every detail of the important educational and publicity work, consisting of the preparation of twenty-three different health leaflets of one kind or another, the poster and window exhibits at the Health Center (with the assistance of the headquarters nurse), newspaper publicity and articles on the Health Center, health talks, motion picture programs, and special entertainments. A very large amount of time was spent in the collection and analysis of statistics affecting many aspects of the community, as the appendix of this report gives but a mere suggestion. The organization and maintenance of the Local Advisory Council and the efforts to organize block workers devolved upon the Director. Supervision of the field workers was not attempted, but there was a daily contact with many of them. The demand made on the Director's time by visitors and special patients was not inconsiderable. A far more important side of the Director's duties was that devoted to establishing and maintaining friendly and cooperative relationships with many organizations and individuals. When certain important issues arose, such as the city's appropriation for the Health Center for the ensuing year, the Director devoted his

entire energies for weeks to the end in view. His assistance was sometimes requested in connection with wider problems that concerned the Department of Health and the health of the city and to such requests he gave his best time and efforts. Besides these representative activities there always existed the more important functions of every executive, namely, the planning of sound programs, the maintenance of real and effective cooperation and the expression of an ideal which would draw the loyalty and devotion of one's fellow-workers.

It would have been desirable if many of these responsibilities could have been transferred to others, but this was found to be impossible, although the immense amount of detailed work done by the secretary and the headquarters nurse was of the greatest value.

Relationship of the Director to the Cooperating Agencies and Their Health Center Personnel

The Director, being responsible solely to the Board of Control, had no official relationship to the organizations composing it. While constant contact was maintained both in and out of Executive Committee and Board meetings with the administrative heads of the organizations, the Director's only approach to their Managing Boards was through correspondence or when invited to appear in person. On matters affecting budgets, staff increases and special reports on the Health Center work, the Director was invited to appear before the Board of Health. At the annual meetings of the Red Cross he was asked to appear and to present his annual reports.

A relationship of peculiar difficulty, and calling for great patience and delicacy, was that which existed between the Director and the five members of the Department of Health and the twelve members of the Visiting Nurse Association staff detailed to work in the Health Center district. He had no authority over this staff of 17 individuals, carrying on 90% of the work in the Health Center district. The reasons for this were, on the one hand, that the Health Officer is forbidden to transfer authority over his employes to another, and on the other that the Visiting Nurse Association entered into the Health Center plan on the understanding that its nurses would remain entirely under its own direction. Of course this situation was clearly recognized from the start and it was assumed, and on

the whole wisely, that in the desire to attain the best results the Health Officer, the Supervisor of Nurses of the Visiting Nurse Association and the Director would be in harmonious agreement. It was the practice of the Director to give no orders to any of these nurses. Activities which he wished to have undertaken were always discussed with the supervisors and unless approved by them were laid aside. Even the occasional requests which might be made to a nurse individually were made with the understanding that they were to be carried out only if they were in accord with the supervisor's wishes. There were two apparent exceptions to the relationship described above. With the uniformed staff nurse detailed by the V.N.A. to assist the medical staff at the headquarters and to act as hostess, and with the Sanitary Inspector of the Department of Health, the Director was permitted within limits to exercise authority over their activities.

This peculiar relationship to the staff necessarily meant the lack of authority to put certain policies regarding the nursing, nutritional and medical work into effect. While in very close contact with the Visiting Nurse work in the district, through daily personal contact; weekly round table conferences and frequent special discussions and reports, it was inevitable that there should be instances where the Director could not be in entire sympathy with its policies. It was recognized that the larger policies of the organization had to take precedence over those of the Health Center.

The Duties of the Secretary

For thirteen months, until relieved by the appointment of a headquarters nurse, the Secretary performed a most inordinate amount and variety of work. Only a most capable, tireless and unselfish person could have accomplished so well what in retrospect seems an impossible task. In addition to performing the usual duties of a secretary-stenographer to the Director and the Medical Director, she received as hostess every individual coming to the Health Center, making the necessary records, and referring patients to the doctors; she kept and constantly analyzed all Health Center records, including those of communicable disease; she kept the accounts in ledger and journal books; she answered all telephone calls, often assisted the doctors at examinations and copied the monthly birth and death certificates at the City Hall. Although relieved very greatly by the

headquarters nurse she still continued to be as busy as before, so varied, multitudinous and exacting were the duties to be performed. Without her ability the Health Center would have suffered sorely. She resigned in January, 1923, to enter fields of larger opportunity.

Her place was taken by one whose gracious personality and way with children added greatly to the atmosphere at the Health Center and contributed in particular to the success of the Schick Test Contest.

The Medical Staff

One of the outstanding features of the Health Center has been its medical staff. There may have been a danger at times, on the part of the medical staff itself, of considering it the exclusive end of the Health Center. Designed to offer free of charge to individuals in the community the opportunity for a thorough physical examination with sound, sympathetic advice, but without treatment, it naturally was this new feature that could most readily be talked about and brought to the attention of the community. The "Health Center" came to mean, in the minds of most individuals, the local headquarters on Grand Avenue where the doctors could be seen without charge at any time during the day.

The medical staff as originally conceived and as maintained throughout the three years consisted of a full-time salaried physician with the nominal title of Medical Director, and a half-time salaried woman physician. In addition to these the Health Center remunerated the two woman physicians who previously had been giving their services in connection with the two well baby conferences that the V.N.A. had long been maintaining in the district. The Health Center considered itself fortunate in securing physicians not only of good medical training but of exceptional public health training and experience. The conception of preventive medicine in its modern aspect was always uppermost in the minds of these physicians, however remote and often incomprehensible it was to the majority of their patients.

In view of the Italian character of the population it was thought advisable that the Health Center physician speak the Italian language. The Health Center thought itself fortunate in securing such a physician who had recently completed a course in the Harvard-Technology School of Public Health. Undoubtedly the Health Center gained the interest and confidence of many patients through

this nationality and language asset, but the experience of the last seventeen months following a change in physicians has not indicated that the lack of the native language has made any appreciable difference in our usefulness to non-English speaking patients. Interpreters are either brought or can be obtained with little effort.

The woman physician who was chosen to supplement the medical staff in the afternoon, by conducting the pre-natal and well baby conferences at the Health Center, and by giving examinations and consultations to women who preferred a physician of their own sex, was a pediatrician of excellent training whose cheerful, sympathetic nature gained her a host of friends.

The character and scope of work done by the medical staff will be discussed later. It remains to point out here that during the three years, 12,821 visits have been made by 7,215 different individuals to seek the advice of the Health Center physicians at headquarters, while in addition 5,905 school children, obliged to come to receive permission to return to school after absence, and 1,896 visits of infants and pre-school children to the weekly conferences, a total of 20,622 personal contacts between the physicians and the people of the district. This contact, whether for a brief minute or an hour and a half, whether single or repeated, was characterized on the part of the physician by a desire to teach the individual how to preserve health and prevent sickness and to help him sympathetically out of his difficulties, whatever they were. The figures indicate, so far as our records show, the extent of this type of contact, hitherto non-existent in the district. Its value will be discussed elsewhere in this report.

Relationship of Cooperating Agencies to the Health Center

The nature of the affiliation of the Board of Health, Visiting Nurse Association, the Red Cross and the Medical Association in the Health Center project was a purely voluntary one, terminable at any time by vote of the respective organizations. This was an essential condition to their participation.

The Community's Part in Forming Health Center Plans

It is obvious that the knowledge of the district which has been acquired during three years was not possessed in April, May and June of 1920 when the general character that the Health Center should take was being determined. The most important question

to decide was the part the community should have in forming and carrying out the plans of the Health Center. It was natural and proper to seek the advice of the leading doctors, lawyers, priests, business men, politicians and social workers. The idea of a Health Center was listened to with interest and heartily endorsed, but the advice was given without exception that it was impossible to expect the community to take any part in either forming plans or assuming in any practical manner an attitude of responsibility for its future through local committees or councils. The reasons given were that the task was too technical, that the few who might understand and sponsor for the Health Center were too busy with other affairs, that they had confidence in those who were really responsible for the Health Center, and that the people were not accustomed to accept or use responsibility of such a nature. The idea of the block worker was explained and considered impractical. In the face of such advice it appeared that the only course was to go ahead without direct community responsibility, to become a reality to the people and eventually develop, if possible, a sense of community participation.

Cooperation from Physicians

But the desirability of the closest possible cooperation with the local physicians was so great that an effort was again made, before the medical plans of the Health Center were finally decided, to organize a local medical advisory council. Again, the Director was advised by the leading physicians of the district that such a committee would be unwise. It was said that the local physicians would not serve or, if perchance they did, they would only cause dissension. Accepting this advice, the matter was dropped, but the majority of the local physicians were visited personally by the Director or Medical Director, and the plan of the Health Center explained. Once more it became evident that the physicians would have to see the Health Center in operation before they could comprehend what their own relation to it would be. From this time on, particular efforts were made to keep the physicians in touch with the Health Center and its work. In addition to the referring of patients to their private physicians, letters were sent to them describing the Health Center plans and asking for their cooperation. Health Center literature, as printed, was sent to them. They received the monthly Bulletin of the Department of Health, in which appeared the Health Center's monthly report of services with brief statements of special interest.

Special letters were addressed to them regarding pneumonia and ricketts, and their advice sought regarding a suggested change in our medical treatment policy. They were informed regarding the supplies of vaccines kept at the Health Center for their convenience. The willingness of the Health Center to perform vaccinations, give preventive treatment of diphtheria and tetanus antitoxin, typhoid inoculations and blood and urine tests, if requested by the physician, was pointed out.

The response was not encouraging. Our letters brought two replies. Only rarely was our note referring a patient to a physician acknowledged. A few local physicians visited the Health Center, but the majority of those in the district did not. On the other hand we never heard of any criticisms of the Health Center that did not come to us frankly and openly.

The most frequent contact with the local physicians came through the communicable disease work which the Health Center physician undertook, as Associate Epidemiologist, for the Department of Health. This work required occasional calls to and from the attending physicians, and while the relationship called for a high degree of both tact and firmness on the part of the Epidemiologist, we are certain that the physicians found the utmost consideration and desire for helpful cooperation.

It was a source of gratification, when the New Haven Medical Association appointed, at the end of two years, a special committee to investigate and report upon the Health Center, to receive a hearty and sympathetic endorsement of the work, and to have the Health Center spoken of as "unique in many ways", "a milestone on the road to Preventive Medicine".

Formation of a Local Advisory Council

Early in 1921, it was decided that it was time to bring the community, through its representative citizens, into a closer relationship to the Health Center's work and its future problems. It was obvious from the nature of the Health Center's organization that any local committee or council that might be formed would be only advisory in character. The method of forming the Council was given much consideration. Again we were advised against the idea of holding community meetings for the purpose of electing representatives in a democratic fashion. In the end the method of appointment was decided upon. Advice was sought from a number of leading citi-

zens; a selection was made from many suggested names and 30 representative citizens were finally asked by the Health Center to serve upon an Advisory Council.

The Council elected officers, familiarized itself with the Health Center work and entered into a lively discussion of the Health Center's value to the community and ways and means of securing its fullest use by the district. Several monthly meetings followed, but the attendance was disappointing.

In the spring of 1922 it became the feeling of a few of the most interested Council members that the Council should be reorganized, that those members who had manifested no interest should be replaced by others who gave promise of real interest and willingness to work. This was accomplished and the reorganized Council met and agreed to give its active support to a proposal to make the Health Center a permanent part of the Department of Health, financed by the city. It presented its resolution to this effect to the Board of Health for its approval before appearing before the Board of Finance. It discussed methods of securing a tangible expression of the community's confidence, good will and desire for permanency of the Health Center and devised a card which provided for an anonymous expression of opinion for or against the Health Center. Through the cooperation of the Department of Education these cards were taken home by the school children for the parents to register their yes or no vote. Practically all the cards were brought back to school and upon analysis it was found that 93% expressed confidence in the Health Center and voted for its continuance under the Department of Health.

When the final public hearing on the city budget for 1923 was held by the Board of Finance, eleven members of the Advisory Council appeared and seven spoke with excellent effectiveness, of the value of the Health Center to the community, of the community's desire for its continuance and of the necessity for adequate appropriations.

During the spring and summer of 1922 the Council held 5 meetings.

Its contribution, then, was a real one, though it is doubtful if its full potentialities were ever realized.

Organization of Block Workers

It was always our desire to develop a group of local volunteer block workers whose interest in their neighbors' welfare as well as in the unique service that the Health Center offered would be such

that they would become effective aides in interpreting it to their neighbors and their neighbors' problems to it. In spite of many efforts—special meetings, personal visits, concrete programs—it cannot be said that any considerable success was obtained.

The reasons were partly that the Director could not personally give sufficient time or find a volunteer who could carry the full responsibility for organizing and maintaining such a group and partly that the block worker type in the district is rare and even when found is generally too busy to accept further responsibilities. The Health Center of course had its loyal, devoted friends who served it well, but for one reason or another they could not be considered as block workers.

The Use of Volunteers

Appreciating both the value of volunteer workers and the necessity of their aid if many important projects were to be realized, the Health Center invited such assistance to the fullest degree. Assistance came in unstinting measure from the Volunteer Bureau of the Red Cross, from the Department of Public Health of Yale University, from the Junior League and from many unofficial sources.

Any summary of the volunteer work done for the Health Center would be incomplete, but some idea of this invaluable service may be gathered from the following partial summary:

The inspection of some 15,000 death certificates of the city of New Haven to determine the 2,205 deaths belonging to the Health Center district and the abstracting of the data from almost all these 2,205 death certificates was performed by students in the Department of Public Health of Yale University, while much of the abstracting of 3,500 birth certificates has been done by volunteers from the Red Cross.

The admirable and invaluable analysis of the deaths in the Health Center district for the year 1915-20, tabulated according to age, sex, nationality, cause of death, for each ward for each year, with special analyses of the more important causes of death, was the contribution of Professor Dorothy F. Holland, then a graduate student in the Department of Public Health of Yale University. Reference to this painstaking study will be made in the section on Analysis of Mortality.

A tedious tabulation of the results of the Sanitary Inspector's Census of 1921, involving the enumeration by age of 26,427 individuals, was the work of Mrs. F. B. Wheeler, a Red Cross volunteer.

The copying of data from several thousand discharged case histories of the V.N.A. was performed for the Health Center through the faithful service of Miss May Skinner.

The follow-up in their homes of a thousand patients who had visited the Health Center and been advised was carried out by four volunteer social workers.

A special study of pregnant women, with reference to the Health Center pre-natal clinic, in a certain section of the district was carried out by Miss Helen Ford, a graduate student in the Department of Public Health of Yale University.

Repeatedly, at times when the activities of the Health Center warranted it, volunteers have assisted in managing the crowds, in washing arms in a Schick test contest, in decorating the Health Center for Christmas parties, in distributing Health Center literature at health exhibits, and in making health posters. Without the help of the volunteer service it has received, the Health Center work would have been sorely crippled.

The Contribution of the New Haven County Chapter of the American Red Cross

The nature of the Red Cross participation in the Health Center was of such a nature that its importance might easily be overlooked and yet it may be clearly stated that the Red Cross was responsible for giving the Health Center idea a concrete, practical expression in its preliminary survey as well as making its realization possible through its generous financial support. The Red Cross contributed a total of \$25,400, without which the Health Center could neither have started nor continued from year to year.

But there were other contributions of a very real nature and the greatest of these and indeed chiefly responsible for all others was its vice-chairman, Mrs. Edward G. Buckland, subsequently president of the Board of Health and vice-chairman of the Health Center's Board of Control. Her unselfish devotion, clear vision and dynamic power were spent lavishly upon the Health Center as well as upon

its allied Department of Health, and both benefited immensely, individually and interdependently.

As mentioned elsewhere, the Health Center received almost its entire office equipment from the unneeded furniture of the Red Cross, thus saving the expenditure of several thousand dollars.

During the first three months of organization, before the opening of the Health Center headquarters, the Red Cross provided offices at its headquarters and many other courtesies for the Director. As mentioned above the service rendered by volunteers of this organization have been of inestimable value.

The Contribution of the New Haven Medical Association

The participation of the Medical Association in the Health Center was limited to the lending of its influence and advice. Through its representatives on the Board of Control, the Health Center received much valuable guidance on many questions affecting its medical policies and its relations with the medical profession. After two years of operation the Association appointed a special committee to investigate the work of the Health Center. This was done without the Director's knowledge, and a sympathetic and hearty endorsement of its work was reported and accepted by the Association.

IV. GENERALIZED SANITARY INSPECTION

One of the unique contributions of the Health Center has been the work of its generalized sanitary inspector. Its variety, thoroughness and extent have given him an unrivaled knowledge of the district which has been constantly turned to the benefit of the Health Center and the welfare of the community.

Diversified Character of Work

Among the several methods of public health administration that the Health Center desired to test out for the city was that of generalized inspection performed in a sufficiently small area to permit the establishment of a constant many-sided contact between the inspector and his district. The Health Center was particularly fortunate in the selection of the inspector detailed to the district by the Health Officer and in the wide latitude given to him and the Director to work out the details of his job. It was desired that all types of inspection should be performed by the one inspector instead of by five inspectors¹ as in the other parts of the city, but exception was made of the somewhat specialized work of the milk and meat inspectors, while the special inspector whose duty it was to inspect and score restaurants and barber shops throughout the city was not interfered with. All other types of inspection were made by the Health Center inspector. These included inspection of apartments, houses, yards, barns, cinemas, push-cart peddlers, ice cream vendors, fruit and vegetable stands, grocery stores, harbor bathing, smoke nuisances, and the investigation of all complaints. But these represent only a part of the inspector's duties. Among special activities of particular value were his yearly house-to-house inspections. These were made in the belief that they would uncover many conditions and reveal much knowledge that would be of interest and value. In the course of the first of these inspections, the 1920 U. S. census was checked within 400, the number of adults, children and lodgers being enumerated. During the second of these inspections a census of unemployment in the district was made, which revealed significant information of considerable value to the Mayor, the Chamber of Commerce, and Mr. Hoover's Committee on Unemployment. A

¹ These five specialized inspectors dealt respectively with, tenements, insanitary conditions, milk inspection, meat inspection and special inspections (restaurants, barber shops and barns).

third inspection, the results of which have been partially given in the discussion of the social conditions in the district, also provided much information regarding the sanitary conditions of each apartment and yard. A fourth inspection and census of the district was made in the spring of the present year.

Special Health Activities

Among some of the special activities of the sanitary inspector have been a canvass of push-cart peddlers, in connection with the Medical Director's investigation of possible sources of typhoid in the Health Center district; the names of 240 pre-school children who were shortly to enter school for the first time were secured and they were instructed to come to the Health Center for vaccination and examination; the stable men in the district were invited to a meeting at the Health Center at which the sanitary inspector gave instruction regarding the prevention of fly-breeding conditions. His efforts during the coal shortage to secure coal in small quantities at reasonable prices for the poor of the district were successful and brought him due credit.

But perhaps the most fundamental duty of the sanitary inspector was that of health and sanitary education, and every opportunity for development of this side of his work was seized. Many thousand copies of the various health literature and posters printed by the Health Center were distributed in the homes or exhibited in stores by the sanitary inspector. At various times lantern slides and health films were exhibited, at his suggestion, in moving picture theaters in the district.

The constant personal contact which was established between the Health Center nurses of the Visiting Nurse Association and the sanitary inspector was valuable and most significant. Hardly a day passed that the nurses and the inspector did not discuss conditions together and assist each other. The sanitary inspector attended the Friday morning round table of the staff of the Health Center, and also reported monthly at the Board of Control meetings. He was always of assistance in the meetings of the Local Advisory Council and in the organization and conduct of our various popular meetings, entertainments, parties and contests. Mr. O'Donnell's work has been a most successful demonstration of the value of generalized sanitary inspection, conducted in a modern educational spirit, and is one of the distinct contributions which the Health Center has been able to make to the Board of Health.

V. COMMUNICABLE DISEASE CONTROL

In November, 1920, at the suggestion of the Health Center, the Board of Health appointed the Medical Director of the Health Center associate epidemiologist of the Department of Health, in charge of communicable disease control in the district. This heavy responsibility was accepted only because it was felt that in no way could the Health Center serve the Department of Health more effectively and at the same time strengthen its own position in the district. The overworked City Epidemiologist was thus relieved of immediate responsibility for one-sixth of the population of the city, representing about the same proportion of the communicable disease. The services of the communicable disease nurse for three afternoons a week had been provided from the beginning of the demonstration. But in the fall of 1922 the need of a full-time communicable disease nurse became so pressing that the Board of Health and the Board of Finance granted our request for one. Consequently, on February 1, 1923, an additional nurse was appointed by the Board of Health and detailed to the Health Center district. This made possible a marked improvement in the communicable disease work with considerable relief of the personal work of the epidemiologist. Among the nurse's special activities were the collection of specimens of urine and feces from recovered typhoid patients and their family contacts, extending back over two years, more frequent visiting to the homes of cases of communicable disease and the follow-up of positive Schick test children to secure toxin-antitoxin treatment.

Difficulties




The problem of communicable disease control was attacked with enthusiasm. In addition to the routine duties of placarding, notification and recording, tireless efforts were expended in attempting to educate the family to an importance of isolation or hospitalization, of protective immunization and concurrent disinfection. It was found that their ignorance of these matters was only equalled by their indifference. It was not the policy of the Department to enforce isolation or hospitalization at this time. The laxity of the attending physicians in reporting was very obvious, diphtheria rarely being

reported until after a positive culture had been obtained, typhoid rarely until the second or third week of onset, measles and whooping cough were frequently not reported at all. Protective immunization of contact cases against diphtheria and typhoid was occasionally not even urged, and though urged, frequently not given. In these cases as far as possible the Health Center epidemiologist either tactfully persuaded the attending physician to do so or obtained the physician's consent to do so himself. Furthermore, the epidemiologists of the Health Center felt the lack of legal enforcement of the Sanitary Code in the conduct of their work. The indifference with which so many deliberately disobeyed the official warnings of the epidemiologists was bred of a knowledge that infraction was unlikely to bring enforcement or penalty. The Health Center had to accept this situation and make the best of it. This sense of helplessness together with a feeling of personal responsibility for their individual acts made the epidemiologists cautious and resigned.

Typhoid

The most trying and most baffling problem was the persistence of typhoid fever, sixty-one cases occurring during 1921 and 1922, representing 35% of the cases in the city. No end of effort was expended in the study of its epidemiology and the attempt to eliminate this civic disgrace. The most careful studies made by Dr. Ciampolini and Dr. Hitchcock excluded the likelihood of drinking water, foods or milk as common sources of infection and pointed to the swimming in the sewage-polluted harbor, together with personal contact with sick cases and typhoid carriers as the probable sources of infection. Exhaustive reports were prepared and submitted to the Department of Health in 1921 and 1922. In view of the gross negligence in the care of the majority of cases and the frequent absence of protective inoculation, the remarkably few secondary infections in the same family can only be explained by the high degree of naturally or gradually acquired immunity which probably exists among the population. The Health Center was responsible for the adoption by the Board of Health of the practice of releasing typhoid patients only after two negative specimens of urine and feces. It assisted the Department of Health in warning against swimming in the polluted harbor waters by the erection of signs at strategic points. It went far toward securing complete immunization

The New Haven Health Center

Health Examination Certificate

This is to Certify that

*has had a thorough physical examination at the New Haven Health Center.
He has been urged to follow certain specific suggestions given by the Health
Center and to be re-examined every six months from this date.*

Signed _____

MEDICAL DIRECTOR
NEW HAVEN HEALTH CENTER

Date _____

HEALTH EXAMINATION CERTIFICATE USED IN HEALTH CENTER

PERSONAL NOTES

1. Your general condition at the present time is found to be :

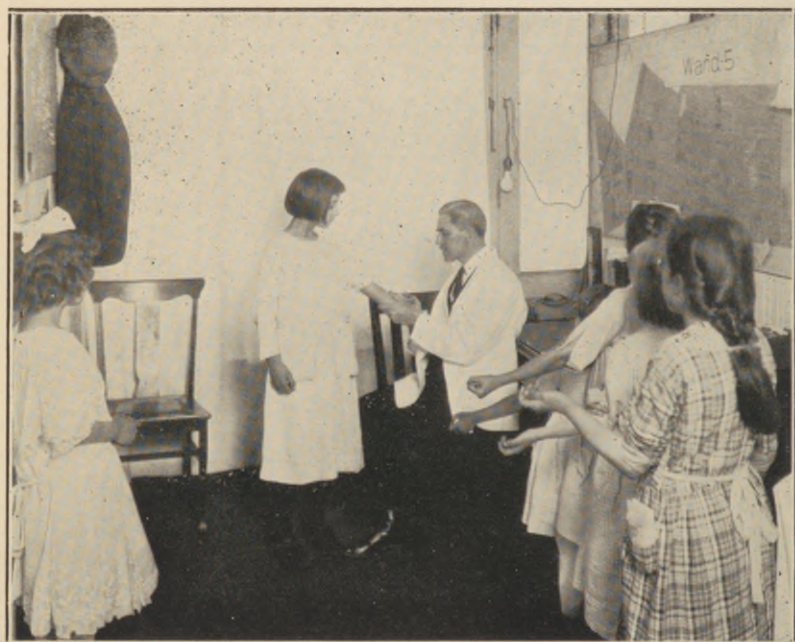
2. We have found the following physical defects :
 1. _____
 2. _____
 3. _____
 4. _____

3. You are especially urged to observe the following hygienic advice :
 1. _____
 2. _____
 3. _____
 4. _____

REVERSE SIDE OF CERTIFICATE



SCHICK TEST CONTEST
CAPTAINS AND LIEUTENANTS WASHING ARMS



SCHICK TEST CONTEST
FEAR IS EASILY MASTERED WHEN SURROUNDED WITH FRIENDS

of immediate typhoid contacts, but its search for typhoid carriers was of no avail. The striking proportion of cases that occurred among children under 20 years of age, 80%, two-thirds of which were boys, was of particular interest.

Diphtheria

The reported cases of diphtheria for the 6 six-month periods of the Health Center show a favorable trend, the figures being 39, 44, 36, 28, 9, 17, while the numbers of carriers discovered were —, 53, 49, 35, 28, 16, although effort to discover them was not relaxed. The mortality will be discussed in the section on Mortality.

Schick Tests

In addition to marked improvement in the immunization of contacts, the chief activity directly against diphtheria occurred in the last year through our efforts at popularizing the Schick test.

They provide an interesting example of the difficulties as well as the eventual success of establishing a new health measure in the district. This simple test for determining susceptibility or immunity to diphtheria has already become a routine measure, like smallpox vaccination, in many schools throughout the country, but it was unknown in the Health Center. Our first efforts took the form of 2,000 circulars entitled Diphtheria Prevention, explaining about the Schick test in five simple sentences and providing for a detachable consent slip to be signed by the parent. These were distributed by our nurses and the sanitary inspector to the parents of pre-school children. The results were almost negligible. During the course of the pre-school examinations in the summer of 1922, only 63 parents were willing to consent to the test.

One day in March, 1923, a quaint idea came to Dr. Hitchcock, who was determined somehow to make a success of our Schick tests. He promised several children whose courage was about to fail them a little sample box of talcum powder, of which the Health Center had been presented with a quantity, if they were brave and took their Schick test. This was reward enough and the tale of it was passed, with some of the talcum powder, no doubt, to their playmates. These playmates came for their "reward" and got it after a Schick test with their parents' consent, which no longer seemed difficult to obtain.

The result was 47 tests in March and 154 in April. Toward the end of April a substitute was found for the talcum powder and the toothpaste in the form of a Schick test party. Word was passed around that only girls who had been schicked could come to the party. This had the desired effect. At the party the formation of a Schick Test Contest was announced, the purpose of which was to see which of six teams of fifteen girls could secure the greatest number of new Schick tests in a week. The teams were drawn, names chosen, captains and lieutenants appointed, the Schick test and contest card which each "candidate" had to fill out after securing his parents' consent were distributed to the team workers and the prizes announced. The contest was a veritable success in which the children became tremendously interested. Rivalry between the teams ran high, the winning team securing 213 of the 500 children who were schicked during the week, after school hours. All the children participating in the contest were invited to attend a motion picture party at a local cinema which donated its theater. Films on Conquering Diphtheria, How Life Begins, and others, were shown. Later the victorious team occupied complimentary seats at the leading vaudeville theater.

The Health Center was taxed to its utmost to manage this contest successfully with the subsequent reading of the tests and the inoculation of the susceptibles with toxin-antitoxin. An appreciable number, 15%, failed to return to be observed and our resources were unequal to the task of going after them. Of those observed, moreover, an unusually small percentage, 19.3%, was found to be positive. The only grounds upon which this low rate may be explained are, the age of children (only 13% were under 6 years of age); the poor, congested character of the Italian children conducing to exposure; the selective character of those returning to be observed (some positives were known to stay away because they did not wish to be known as positives), and possibly the lateness in observing about 15% of the cases.

The protective inoculation with toxin-antitoxin has been strongly urged and a good proportion has received it. Of the 146 positives, 81 received three inoculations, 17 received 2 and 18 received 1, 116 in all.

This experience with the Schick test should teach a valuable lesson to the health teacher and the public health administrator.

Scarlet Fever

The incidence of scarlet fever during the 6 six-month periods beginning July-December, 1920, shows an interesting increase in the January-June period for 1921 and 1922, but not for 1923. The figures are: 26, 66, 13, 43, 0 and 11. All the cases have been of a mild character.

Measles

The presence of a measles epidemic is revealed in the figures giving the number of cases reported or found by six-months periods beginning January, 1921: 19, 1, 144, 79, 82.

Whooping Cough

The figures for whooping cough show two low periods and four high periods: 76, 38, 8, 3, 66, 84.

The table presenting the major communicable diseases reported to the Health Center during the three years by months is given below. The few cases of cerebrospinal meningitis, encephalitis lethargica and the one case of smallpox, do not warrant special consideration.

Major Communicable Diseases Reported in the Health Center District, July, 1920—June, 1923

Year	Total												Total Total		
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	6 Mos.	Year	Deaths
<i>Diphtheria</i>															
1920	7	5	3	4	8	12	39	..	2
1921	..	6	11	4	9	5	44	0	3	7	17	3	36	80	4
1922	..	5	4	3	2	0	28	2	1	1	2	2	9	37	3
1923	..	1	1	4	2	8	17	..	..	..	..	..	..	..	1
<i>Diphtheria Carriers</i>															
1920	24	23	..	..	..
1921	..	13	10	10	2	3	53	0	1	7	21	8	12	49	102
1922	..	3	11	5	5	0	35	2	6	1	10	3	6	28	63
1923	..	1	3	6	2	1	16	..	..	..	..	..	..	..	..
<i>Scarlet Fever</i>															
1920	1	5	1	5	9	5	26	..
1921	..	10	24	12	7	1	66	0	3	3	2	2	3	13	79
1922	..	8	9	4	6	4	43	0	0	0	0	0	0	0	43
1923	..	5	3	0	1	0	11	..	..	..	..	..	..	..	..
<i>Measles</i>															
1921	..	1	14	1	1	2	19	1	0	0	0	0	1	20	2
1922	..	12	31	7	43	51	144	33	10	1	12	6	17	79	223
1923	..	20	17	13	4	0	82	..	..	..	..	..	..	..	3
<i>Typhoid Fever</i>															
1920	0	0	3	6	1	1	11	..
1921	..	0	1	2	4	4	11	4	8	7	1	1	0	21	32
1922	..	0	0	1	2	0	7	10	3	1	8	1	0	19	29
1923	..	1	0	0	0	0	1	..	..	..	..	..	..	..	0
<i>Whooping Cough</i>															
1920	11	18	4	17	19	7	76	..
1921	..	14	5	5	4	1	38	6	0	0	1	0	1	8	46
1922	..	1	0	1	0	1	3	10	9	17	3	17	10	66	69
1923	..	16	14	12	9	10	84	..	..	..	..	..	..	..	2

Inspection of School Children

The Health Center undertook a valuable service which detected many cases of communicable disease in early and late stages when it commenced at headquarters the inspection, and examination if necessary, of all children absent from school more than three days, before returning to school. This was begun at the Health Center in November, 1920, to help relieve the serious congestion caused by the reporting of all children to the epidemiologist in the one-room administrative office of the Department of Health. In the last six weeks of 1920, 611 permits to return to school were granted and 4,985 during the following two years. In the fall of 1922 the largest part of the practice was given up to conform with the new policy established by the Board of Health providing that the school nurses inspect and issue permits to all returning children except those absent due to a communicable disease. The Health Center regretted losing a valuable contact with several thousand school children yearly, but was very ready to conform with the desire of the Board of Health. As associate epidemiologist the Health Center physician continued to see those excluded from school because of illness with or exposure to communicable disease.

Value of Communicable Disease Work

While much benefit accrued to the Health Center from its official status, with its opportunity to do much painstaking educational work in the families of communicable disease cases, its great increase in the use of preventive immunization, its feeling of responsibility for the communicable disease in the district, and while the Department of Health benefited in every way, it must be admitted that the Health Center never felt satisfied with its work and always realized how ineffective was its control over the spread of germ diseases.

VI. SUPERVISION OF THE HEALTH OF SCHOOL CHILDREN

School Nursing

One of the indispensable parts of any comprehensive public health program is that which touches the school child. While the school child is at that age when death leaves its lightest trail he is still plastic in the hands of an unnatural environment which is ever ready to leave its scarring traces. But even more important is the fact that it is preeminently the school child into whose life may be built the health habits, health knowledge and health ideals which alone can carry the nation to new levels of health and happiness.

The Health Center was fortunate to find a well-organized Bureau of Nursing of the Department of Health ably administered by its capable director, Miss Margaret J. Barrett, and caring for the school children of the district as conscientiously and as well as the limited number of nurses made possible. To the end of further increasing the amount of nursing care for the 5,300 school children in the eight schools in the district, the larger territory with its 12 schools previously covered by two nurses was restricted by the Bureau, at the Health Center's suggestion, so that each nurse had four schools with approximately 2,600 pupils. As has been pointed out in the discussion of the generalized public health nursing, these school children, unless sick in bed, were always considered under the care of the school nurses.

The work of the school nurses will not be discussed in detail, since its scope was not materially altered by the Health Center plans. The summary of their health-promoting services, as recorded on their monthly reports, show a large total of 82,414. Of course these services were of varied types. An average day would include visits to two schools, room inspections of all the pupils in two rooms, twenty simple treatments, thirty brief hygienic instructions to individual children seen in the nurse's office, an exclusion or two, several home visits and a number of miscellaneous health services such as Little Mothers' League meetings, visits to social organizations and nurses' meetings.

The Health Center was also used by the school nurses when a diagnosis of a child's condition was desired or when certain types of first-aid treatment were needed. On the other hand, the Health Center reported at once to the Bureau of Nursing the facts regarding every school child that came to it voluntarily or was brought by parent or was sent for examination, treatment or advice. This liason work established by the headquarters nurse was important, and, though mistakes were made at times, frequent and frank discussions with Miss Barrett always cleared away the difficulties. The Health Center endeavored to carry its lessons to the school children not only through the individual contacts, but through talks, posters, leaflets, the health clown, contests and moving pictures. The value of the Health Center to the children of the district was clearly recognized by the principals, teachers and nurses, from whom hearty cooperation was generously received.

Dental Hygiene

In the inadequacy of its dental hygiene work the Health Center recognized one of the weakest points in its public health program. While the development of an adequate prophylactic or treatment service could not be accomplished, the effort expended in this direction promises results in the future. The Health Center has consistently agitated the question of dental hygiene in New Haven and has worked with the New Haven Dental Association and Board of Health in forming plans for more adequate work in the future.

However little has been done in comparison with the ideal, the Health Center has been fortunate in having had more prophylactic work than any other part of the city. The dental hygienist of the Department of Health who was working in one of the eight schools of the district when the Health Center opened was detailed to continue in the district and during the three years gave 5,352 prophylactic treatments in one complete round of the eight schools. She gave 364 talks and toothbrush drills and referred 254 critical cases to the school dentist. Thus the Health Center had the full time of one dental hygienist for its 5,300 school children, while the only other hygienist employed by the Department of Health had 30,000 children to care for until a third hygienist was appointed by the Department of Health in September, 1922. The Health Center's share of the services of the Health Department's two half-time (later one full



time) school dentists was not disproportionate and represented a very insignificant part of the real needs of the school children.

As the free dental clinics at the New Haven and Grace Hospital dispensaries could not meet much more than the emergency needs in the city, the Health Center seriously considered at several times the possibility of establishing a dental clinic for pre-school children and adults at the headquarters. Conferences were held with representatives of the New Haven Dental Association, who were eager to cooperate, but as no way of financing the clinic could be found, the Board of Control deemed it inadvisable to attempt.

Early in 1923 the Board of Health and the New Haven Dental Association again met to consider ways of meeting more adequately the crying need for free dental hygiene treatment, especially among the school children. The Dental Association offered to sponsor a brief dental clinic demonstration in four different quarters of the city. The Health Center headquarters was considered for one location, but for many well-considered reasons it seemed to the Board of Control that a better location would be the Greene Street School. The Health Center's contribution toward the clinic was the purchase of a dental engine and assistance in organizing a publicity campaign to inform the public of the importance of dental hygiene.

VII. GENERALIZED DISTRICT NURSING SERVICE

The visiting nurses played a fundamental and essential part in the conduct of the Health Center demonstration and their loyalty and devotion added greatly to the significance of its successes and failures. Their relationship to the headquarters staff and to the other workers in the field was one of sympathetic understanding and hearty cooperation. Their directors maintained with the Health Center Director a relationship of utmost frankness and mutual understanding which was a rare asset to the work.

Initial Staff

The Health Center opened with 2 infant welfare, 2 tuberculosis and 2 general bedside nurses, and 2 "station matrons", all of whom were under the direction of their specialized supervisors as well as the general direction of the acting superintendent of the Visiting Nurse Association, Miss Harriet Leck, and later of Miss Florence Wright and the associate superintendent, Miss Elizabeth Ross. This nursing staff represented no addition in the number that had been working in the district previously, but ward 8, containing 11,274 inhabitants, was withdrawn from their area, decreasing by one-third the population to be cared for by the same nurses. No greater nursing staff was requested for the first year in view of the greater efficiency expected from the proposed method of generalized nursing. The population of the district was supposed to be at that time but 20,000, or 3,330, less some 500 school children, per nurse. When the U. S. census for 1920 revealed 26,840 inhabitants, or 4,473 less 908 school children, the necessity for more nurses was so obvious that another nurse and a supervisor were detailed. The situation was further relieved for a time by the use of one of the student nurses in the Training Course. In 1922 a second supervising nurse was appointed and a nurse was detailed to the Health Center headquarters who filled a pressing need and made herself invaluable.

Generalized Nursing Demonstration

As among the primary reasons which led the Visiting Nurse Association to participate in the Health Center was the opportunity it

afforded to try out the comparative value of generalized nursing as contrasted with specialized nursing in the other parts of the city, it was important that conditions for this demonstration should be favorable. Broadly trained, experienced nurses were carefully selected, the two successive head supervisors were women of very real ability and of national prominence in the nursing profession, and the field supervisors were chosen from the field nurses for their special abilities. The sanitary inspector's house to house census provided the nurses with detailed knowledge about each individual and family in each of the seven original nursing districts, on the basis of which a more equitable redistricting was later effected.

The demonstration was considered a success and as a result the nursing method of the entire Association was changed, during 1922, from specialized to generalized nursing. The results are well summarized by Miss Elizabeth Ross, for over two years the exceptionally able director of nurses of the Health Center as well as the associate superintendent of the Visiting Nurse Association, in an article in "The Public Health Nurse" for April, 1922. Miss Ross says: "In the first six months of this demonstration there was a great deal of adjustment, but for the calendar year of 1921 certain very interesting figures were obtained. In the demonstration area there was 16% of the population of the whole city; the records of the Visiting Nurse Association showed 25% of the patients; 21% of the nursing visits; 18% of the advisory visits; 20% of the clinic hours; and 16% of the social service visits were credited to this special district. Against the 19% of the visits made among 25% of the patients is the figure showing that only 16% of the nurses of the organization were on duty in this special district, proving conclusively that more work can be accomplished in the small district by the generalized nurse, and nothing was lost in the quality of the work done because of the special supervisor and the careful checking up of the child welfare and tuberculosis work."

In commenting further on the character of generalized nursing, Miss Ross says: "There is one other point that is interesting and significant. In general nursing of acutely sick and chronic patients, which includes of course the obstetrical and post-partum work, a nurse cannot carry too many such cases without being very much overworked. In a district where a certain proportion of the work is advisory, the nurses can do a much bigger piece of work with much less strain by planning to carry a certain number of advisory cases

each day. There is also a great gain in being able to carry the family as a unit, doing both advisory and bedside work with one visit. The average number of calls per day for the nurse in the generalized department is very high. For the last year their average has been about eleven a day. This would not be possible in actual bedside work, but is quite possible in a small district where both bedside and advisory work is carried along with the same families. The criticism is always brought that the advisory work, such as the care of the well baby and the contact families of tuberculosis, are neglected in the generalized program. This has not been true of the demonstration under consideration, and need not be true if the proper supervision is given."

It is clear, however, that the number of nurses was too few to cover their districts adequately, and that it was quite impossible for the nurses to do a great deal that ought to have been done. The actual number of individuals in each nurse's district may be observed from the table on page 106 in the appendix. After revising the seven districts the number of individual varied from 3,328 to 4,135 including school children, and 2,527 to 3,242 excluding them.

Of course the number of nurses employed by an organization is determined by its budget and it is important to appreciate that during the second half of the Health Center demonstration the Visiting Nurse Association expended over \$20,000 per annum, or 19% of its budget, in the Health Center. Indeed, committed to the policy of no further increase in the number of nurses in the organization, the Visiting Nurse Association doubted the wisdom of doing more at the expense of the remainder of the city.

Summary of Work

Turning from ideal desiderata to the solid ground of work accomplished, it is with satisfaction and pride that the 71,784 visits of the nursing staff during the three years can be recorded with the knowledge that these visits brought, in varying degrees to be sure, comfort, relief, hope, helpful counsel or a deed of intelligent helpfulness. For a single year the nursing visits averaged 6,514, the advisory visits 12,267, the social service, including conference and office hours, 5,147, a total of 23,928. This means 2,032 a month or 81 a day for seven nurses. The carrying over from 1921 of 1,409 cases, the taking on of 2,390 new patients in 1922, a total of 3,796 cases, in a population of 27,000, shows the extent of the definitely recorded contact with

the district in a single year. In addition to the usual visits in the homes, the nurses delivered birth certificates to the mothers of the 900 babies born yearly, some 700 four-year-old children were visited with the special purpose of securing their examination at the Health Center, and the children selected for rickets prevention were visited to report on the use of the cod liver oil. The constant urgings on the part of the nurses that individuals be examined at the Health Center, attend the pre-natal clinic, visit the well baby and pre-school conferences, and the distribution of the Health Center literature and in a hundred ways furthering the welfare of the district, became regular activities of the nurses. The conduct of the well baby and pre-school conferences were also in their hands.

The conferences were poor indices of the great and constant efforts which were expended by the nurses on all the infants under two years of age, each one of whom was known to the nurses and under their care, for an enrollment at conferences of only 25% of their babies with a yearly average of seven visits per child in 1922, was all that these unremitting efforts could secure.

The table on page 105 in the appendix, gives the yearly attendance at each of the four conferences and shows that the size of the conference is in direct proportion to the size of the district and the number of nurses that "supply" it with babies. Many different types of appeals were made to the mothers, but with disappointing results. The pre-school conferences were also exceedingly difficult to build up. In order to try to reach more babies and children, two new conferences were opened in the district, one in the Seamen's Bethel in August, 1920, and one at the Health Center headquarters in December, 1920, and though attracting a number not previously reached, fell far below expectations.

An analysis of the relative importance in terms of time consumed of the different types of work performed by the Visiting Nurse Association during the last six months of the demonstration has revealed the following facts:

Field work—		81.0%
Advisory work	46.4	
Nursing work	19.0	
Social Service	2.9	
Well Baby Conference Hours	2.3	
Office hours	10.4	
Field supervision		9.5%
Specialized Supervisors		9.5%
		<hr/> 100.0%

An analysis of the work of three typical district nurses for the last six months shows that an average of 13 visits a day were made in addition to two and a fifth hours of baby conferences, demonstrations and office hours. The average monthly visits of each type of service is as follows:

	General	Tuberculosis	Child Welfare	Total
Nursing	46	12	46	104
Advisory	21	21	152	194
Social Service	3	2	5	10
Not at Home	2	2	9	13
Demonstration . . . . .	..	..	..	2
Conferences . . . . .	..	..	..	9
Office Hours . . . . .	..	..	..	44

The Headquarters Nurse

On August 1, 1921, an important addition was made in the nursing staff by the appointment of a nurse to the Health Center headquarters. The urgent need of such a nurse had long been recognized by both the Visiting Nurse Association and the Director, and the benefits that were immediately reaped by the field nurses, the medical work and the administrative work were very great. No single action contributed more to the smooth running of all phases of the Health Center work than did the appointment of the headquarters nurse. She acted as a hostess for the Health Center, meeting all who entered and making their stay as profitable as possible. Upon learning what they desired and recording the necessary routine information regarding the individual's name, address, age and reason for coming, the patient was referred, if a medical case, to the examining physician; if not a medical case, to the proper persons or agencies. She assisted the medical staff of the Health Center with physical examinations, medical histories and laboratory work. All pertinent information, medical or social, was referred by the nurse to the nurses in the field, immediately or at the morning round table. She helped with the well baby and pre-natal conferences at the Health Center, investigated emergency calls, gave first-aid dressings and assisted the physician in giving vaccinations, Schick tests and inoculations. For a period of six months she kept the communicable disease records of the Health Center, making many visits to the homes of communicable disease cases in this connection. Without her such special activities as the pre-school examination drives, the Schick test contest and the vaccination drive could not have been attempted.

Supervision of Midwives

A valuable relationship with the 24 midwives who deliver two-thirds of the births in the district was established in the fall of 1920 and personally carried on by the director of nurses, Miss Florence S. Wright, whose sudden death in January, 1921, deprived the Visiting Nurse Association and the Health Center of an able, broad-visioned organizer. The first steps toward gaining the confidence of these midwives were slowly but surely taken. In time they were organized into an informal association. Frequent meetings were held at which the opportunities for mutual help and the recognition of their limitations were discussed and the question of standards raised in such a way that they saw the desirability of such self-protection. Later the Visiting Nurse Association requested the Board of Health to supervise and inspect them. A systematic supervision of this character was at length established. The interest of a few of the midwives in the pre-natal clinic was secured and a number of patients were referred by them. Undoubtedly a valuable contribution was made by the Visiting Nurse Association to infant welfare and maternal work in the city in thus awakening the interest and securing the official supervision of the midwives.

The Work of the Dietician and Visiting Housekeeper

Great as was the need for nutrition and home economics work in the district, it could be met in only a very small part, since only one quarter of the time of the one nutrition worker of the Visiting Nurse Association could be detailed to the district. She was aided, however, by a visiting housekeeper who devoted most of her time to assisting at the pre-school conferences, the nutrition classes and in house-keeping for invalid mothers in the special cases referred to its Department of Home Economics by the district nurses. About 100 home visits a month were made by these workers and from 50 to 150 cooking demonstrations, dietaries, and general nutritional instructions given monthly.

As was the case with so many of the nurses and social workers, who had opportunities to compare their work in the Health Center and in other parts of the city, the dietician regarded her work in the district as the most needed, the most difficult and the most unsatisfactory.

Nutrition Classes

Her inability to develop successful nutrition classes as in other parts of the city provided another instance of the unreadiness of the mothers of the district to respond to new preventive health measures. With knowledge of the nutritional condition of many hundreds of pre-school children, obtained from our physical examinations, with the experience gained in conducting successful nutrition classes elsewhere and with unremitting efforts on the part of the dietician, housekeeper and one of the district supervisors, it was still impossible to secure more than a very passing interest in either home cooperation or class attendance on the part of the mothers. The nutrition class of school children at the Neighborhood House was given up upon the closing of school in June, while the class at the Health Center headquarters was given up after several months.

In organizing the Health Center class in the spring of 1923 the supervisor made a preliminary selection of 25 mothers whose cooperation she thought could be counted upon, from a group of over 100 pre-school children who were known, as the result of our examinations, to be underweight and otherwise physically handicapped. These mothers were visited twice and every effort made to interest the mother in her child's condition. The nutrition class idea was explained in a manner adopted to arouse her interest. All the mothers promised to join the class, but the nurse knew well that a number would never appear. Nine children of the twenty-five attended the class, but three of these came only once. Of the six remaining, four attended regularly for fourteen weeks when the class was discontinued because of the failure to get new children to attend and because it was felt that the mothers attending had profited all they were capable of profiting. A total of $9\frac{3}{4}$ pounds was gained by the class of six in fourteen weeks. One child went "over the top". Home cooperation and home control were sadly lacking. Lack of proper food, lack of rest, and continuous candy eating were the rule even among these children. The physical defects—teeth and tonsils—were not corrected, the parents thinking it not sufficiently important. The reasons given for the failure of three mothers to return were: knowledge that the child couldn't be made to follow instructions; worry because the child didn't gain; and illness of the mother. Of the nine enrolled children, four were of Italian stock, two Irish, two American and one Jewish.

The explanation certainly was not to be found in inexperience in dealing with the mothers or the children, or with the conduct of the class. But again it was felt that years, not weeks and months, are necessary to develop among the mothers a realization of the importance of these less acute conditions and a willingness to make a sacrifice in order to correct them. When alarmed by a "serious" illness, every mother is ready to give her life for her child. It is ignorance, not indifference, that the Health Center contends with. But it is an ignorance not easily dispelled.

Value of the Health Center to the Visiting Nurse Association

The value of the Health Center demonstration to the Visiting Nurse Association may be best and most appropriately stated in the words of its president, Miss Lillian Prudden, who has consented to the publication of the following statement:

"The Association entered the Health Center demonstration realizing that here, as in previous demonstrations, there would be an opportunity to study methods for the advancement of public health nursing in New Haven. At the end of the three years as the demonstration closes, the results have been most satisfactory.

"It was the Health Center experiment that brought Miss Florence Wright to the New Haven Visiting Nurse Association and even though her work was so quickly ended, her contribution was of great and lasting value. The Health Center nurses who came under her influence are better equipped to go on because of their memory of her standards and ideals. The work that she started in bringing together the midwives of the city has resulted in good will between the Visiting Nurse Association and the midwives, and it is because of her work that the New Haven Board of Health has been able to take over the direct supervision of this group.

"After Miss Wright's death, Miss Elizabeth Ross took up her work and her contribution has been no less valuable both to the Health Center work and to the Visiting Nurse Association.

"Perhaps the most outstanding contribution that the Health Center has made to the Visiting Nurse Association as a whole is the opportunity to make a scientific study of generalized nursing. While the organization had before this time a small generalized district, there had been no definite study made and the Board realized that the

question of generalization must be met and a decision made as to whether the work in the whole city should be changed to this form of administration. It was really going back to their old original method, but in the early times the method was due to the fact that one or two nurses had to do generalized work. But later, with a staff of fifty nurses, they had to face the question as to which was the most efficient nursing method, specialized or generalized, and the Health Center was immediately established on a generalized plan, with a nurse for every district doing tuberculosis, child welfare and family bedside work.

"The work of the Medical Department of the Health Center has also been of great interest and profit to the field nurses. It was in this department that many of the special experiments were carried on and the nurses all through the three years found interest and profit in helping with these various experiments and special demonstrations.

"Real team work is always good for the workers, and the Health Center nurses were benefited greatly by their close contact with the Board of Health workers, especially the sanitary inspector. A nurse and a Board of Health inspector can move mountains if they attack the job together.

"The value of statistics was brought to the Health Center nurses in a way that they could not fail to appreciate, as the findings were constantly put into use, and the continued analysis of the district—social and physical—with the morbidity and mortality studies, made the nurse realize that the result of such material, properly presented, is a most valuable method of getting the needs before the people.

"Health education has been the watchword of the three years, and as usual it blesses him that gives more than him that takes. The printed material that was part of the nurses' equipment, made it possible for them to illustrate and demonstrate in the homes, many lessons in health.

"It is never possible to estimate the value of such a piece of work as the Health Center demonstration of New Haven, but the Visiting Nurse Association comes to the close of the three years well satisfied that it has been worth all the effort and thought, first of all to the field, which is always their first consideration; second, to the nurses who have developed and been rounded out by their contact with the work, and finally to the organization as a whole."

VIII. MEDICAL CONSULTATION SERVICE

Extent of Its Use

The use made of the Health Center medical staff, consisting of a full-time and a half-time examining physician, is represented in the 20,622 visits to the headquarters made during the three years, as may be seen from the following table. If the 5,905 compulsory visits of school children for inspection or examination before returning to school after an absence for more than three days, and the 1,896 visits of infants and pre-school children to the well baby conferences at headquarters are eliminated, the balance of 12,821 represents the number of visits made independently for the purpose of "seeing the doctor". With the exception of the 414 special examinations discussed on page 65, all of these 12,821 visits may be said to be of a voluntary nature. These visits were made by 7,215 different individuals, or 26.8% of the number of individuals resident in the district January 1, 1920. If correction is made for the estimated number of individuals who though resident outside the district received advice at the headquarters, the percentage would be about 25%. The analysis of the families involved shows that 5,078 different families received medical advice. This represents 90.7% of the 5,600 families resident in the district in 1922. Allowing for non-resident families as estimated, the percentage would be about 85%.

Summary of Visits Made to Health Center Headquarters July, 1920—June, 1923

Type of Visit	July 1920— Dec. 1921	Jan.-June 1922	July-Dec. 1922	Jan.-June 1923	Total July 1920- June, 1923
Visits made for Examination and Consultation	6333	1840	2258	2390	12,821
Visits to Hdqtrs. Well Baby Con., School Children Inspected and Examined	705	493	415	283	1,896
	2768	2753	75	309	5,905
TOTAL	9806	5086	2748	2982	20,622

Summary of Number of Different Individuals and Different Families Frequenting Health Center Headquarters July, 1920—June, 1923

	July, 1920 Dec., 1921	Jan.-June 1922	July-Dec. 1922	Jan.-June 1923	Total July 1920 June 1923	% of Total in District
Different Individuals	4120	1043	1397	655	7215	26.7 ¹
Different Families	2826	750	1007	495	5078	90.7 ²

¹ Allowing for an estimated number of individuals resident outside the district but who received services at the headquarters the percentage would be approximately 25% of the resident population on January 1, 1920.

² Similarly the percentage of families would be reduced to about 85%.

Certain it is that these 12,821 visits by 7,215 individuals represent one of the clear gains that have come to the district from the Health Center. While beyond a doubt many of the individuals would have eventually consulted physicians, as of course some had already done, it is still unquestionable that a great many who, because of expense of time or money, indifference, timidity or ignorance, would not at the time have consulted a physician or a dispensary, did seek the advice of the Health Center's physicians. Just which influences were the more important in bringing this about must remain a matter of opinion, for our efforts to discover from the patient himself were not very successful. Was it the fact that the medical service was free and available from eight-thirty until five and waiting was reduced to a minimum? Was it the fact that the Health Center was near at hand? Was it the cheerful atmosphere and the sympathetic interest and personalities of the doctors? Was it the unhurried, thorough, painstaking examination, the reassuring word of a doctor, the expectation of a pill (not to be fulfilled!) which would cure all or a bandage which would stop the bleeding? Was it the repeated urgings of the nurses to be examined at the Health Center, the appeals of the posters, leaflets, lantern slides, window exhibits and talks, or the desire to hear and see some new thing?

All these influences and many more played a part. The wonder is not that many came, but that so many did not come. For after all, 12,821 visits in three years means an average of only 14 a day, and 862 voluntary physical examinations of adults is a very small number in a population containing 16,000 adults.

Again, there are many factors which must be considered and none which can be accurately measured. Certainly the most important

reason is the fact that the Health Center did not give the community what it wanted. It wanted treatment, medicine. It could not accustom itself to the idea of a physician who did not prescribe medicine. The next most important reason is to be found in the character of the population. As a general rule the idea of sickness prevention is so primitive that faith in ancient superstitions, advertised nostrums and Divine interference leaves no place for modern knowledge. When understanding and cooperation in the simplest principles of communicable disease control could not be obtained it is not surprising that the Health Center's diverse appeals in behalf of annual physical examinations should bear small results. The discussions of the special activities of the Health Center further emphasize this difficulty.

Visits to Health Center Headquarters for Examination, Consultation, Preventive Treatment and Advice by Six Months Periods ¹

	July to Dec.	Jan. to June	July to Dec.	Jan. to June	July to Dec.	Jan. to June	Total
EXAMINATIONS							
Physical Examination of Adults	403	245	65	70	48	31	863
Pre-natal Examinations	24	42	36	48	40	18	208
Examination of Pre-school Children	0	0	645	0	381	28	1,054
Special Examinations ²	68	0	78	48	130	90	414
Total	495	287	824	166	599	167	2,538
CONSULTATIONS							
Not Specifically Referred	472 ³	931 ³	629	527	520	569	3,648
Referred to Physicians and Dentists	116	198	207	79	57	31	688
Referred to Hospitals and Social Agencies	253	287	464	351	237	152	1,744
Total	841³	1416³	1300	957	814	752	6,080
SPECIAL SERVICES							
Smallpox Vaccinations . . . . .	...	...	521	323	365	82	1,291
First Aid Dressings . . . . .	...	...	177	150	225	264	816
Spec. Cult., Blood and Urine Tests . . . . .	...	...	80	109	100	61	350
Typhoid & T.A.T. Inoculations . . . . .	...	...	43	18	69	298	428
Schick Tests . . . . .	...	...	0	0	63	890	953
Total . . . . .	...	...	821	600	822	1595	2,838

MISCELLANEOUS

Information, Appointments, and

Unclassified	149	135	65	119	23	43	534
GRAND TOTAL	1485	1838	3010⁴	1840⁵	2258⁶	2390⁷	12,821⁸

¹ Exclusive of routine inspection of 5,905 school children returning to school, and 1,896 visits to Infant Welfare conferences at Headquarters.

² Comprising examination of special groups, such as boys' clubs, day nursery, kindergarten, playground, summer camp, work-paper and civil service groups.

³ These figures include Special Services, the analyses of which were not preserved.

⁴ Services in addition to major service 528

⁵ Service in addition to major services 44

⁶ Services in addition to major service 434

⁷ Services in addition to major service 364

⁸ Services in addition to major service 1370

Physical Examination of Adults

In the tabulation of the medical work of the Health Center a distinction was always made between the different types of physical examinations as well as the services which were grouped under the term "consultations". The term "physical examination of adult" was reserved for those adults who came requesting a physical examination, and for whom our complete examination was made and fully recorded on a history record form. This examination represented the best that we could give. In addition to a thorough "overhauling", urinalysis was made and if warranted by the slightest suspicion specimens were taken for blood tests and bacteriological examination by the State or City Health Department Laboratories, or appointment was made for an X-ray at the New Haven or Grace Hospitals. The personal relationship between doctor and patient was slowly built up and the heart to heart talk with the sympathetic "health" doctor who was willing and anxious to explain was often a revelation to the patient. Repeatedly the patient would thank the doctor with the remark that he had never before had a real examination like that. At a later date an attractive certificate was printed in orange and black, certifying that the bearer had been examined at the Health Center and recording on the reverse side the general condition of the patient, the principal defects found and specific advice regarding their correction. These certificates were presented with due formality.

It was thought that the field staff of 15 nurses and others visiting in the homes would have no difficulty in keeping the seven daily

appointment hours filled to capacity. And so it was at first, though one-third of the appointments were not kept. But before four months had passed it became apparent that though the "consultations" were increasing markedly, the "examinations" were steadily diminishing. The figures for the six-month periods may be seen from the above table. They were a great disappointment and a great deal of thought went into the effort to determine the reason for the falling off and if possible to increase the number of "examinations". Was the reason that the nurses were too busy with their other work to persuade their patients to be examined, or had they already reached the point of diminishing returns where having persuaded the "suggestible" persons only the less responsive ones remained? The latter idea was suggested by the nurses. Was there something about the examination, the doctors, the reception at the Health Center which could explain it? We could not discover a suggestion of such a nature. It was recognized that the usual hours were not convenient to working men and women, though the Saturday afternoon and Tuesday evening hours were not used to the full and were subsequently given up. Additional publicity was tried. Literature and special notices were distributed in factories. Fourteen six-minute talks in either English or Italian in one factory, with appointment cards left in the foreman's hands, brought no immediate results.

At a later period, February, 1922, the factories, stores, offices and shops of the district were presented with an attractive colored calendar poster urging a physical examination, but the results were not appreciable.

It is true that the Health Center practice of giving a briefer "consultation" for those not desiring a complete physical examination, and for those seeking the doctor's advice about some specific condition, accounts in part for the decrease in the "examinations". It is undoubtedly true also that a great many patients who came to "see the doctor" could have been persuaded to have a thorough examination if the Health Center "hostess" had had either the time or the gift of persuasion. Likewise the physician might well have called "examinations" a great number of his "consultations". So during the last two years, while there were 214 physical, 122 prenatal, 1,054 pre-school and 346 special examinations, a total of 1,736, there were 3,823 of the briefer type of "consultations".

Special Examinations

In this connection it is important to note that complete physical examinations of groups which were examined by special arrangement with the directors of social service groups and therefore without the free consent of the individuals concerned, were considered special examinations. There were 414 such examinations performed for the following groups: United Workers Boys' Club, Leila Day Nursery, Hope Nursery, Elm City Free Kindergarten, the Neighborhood House Playground, the Organized Charities Fresh Air Fund, the Davenport Settlement Vacation Camp, a Lowell House boys' club and those requiring examination in order to obtain work papers or civil service appointments. In performing these examinations the Health Center followed its policy of helping these local organizations to develop a comprehensive health program of their own. The best as well as the most immediately helpful method was felt to be the demonstration of the value of thorough physical examinations, always with the idea of emphasizing the necessity of complete health protection being ultimately provided for by the organization in question. It has been gratifying to see this plan already realized in several instances.

Pre-natal Examinations

There is no doubt about the fact that the pre-natal clinic can be set down as a failure. To the women of the district it was an anomaly and a superfluity. Two hundred and eight pregnant women were examined in three years, while twenty-six hundred babies were born. This was the more remarkable because the woman physician who conducted the clinic possessed a sunny, sympathetic disposition which won the hearts of her patients. The nurses, too, made earnest efforts, time and again, to persuade their pre-natal cases to be examined. Promises were forthcoming, but rarely the individual. As 60% of the births in the district are attended by midwives, every effort was made under the direction of Miss Florence S. Wright, then director of the Health Center nurses, to gain their confidence and support.

Two motives that brought women to the clinic more frequently than the figures indicate were the desire to be assured that there was no pregnancy and the desire for information how to prevent conception. As a public clinic in a State which makes the dissemination

of contraceptive knowledge illegal, the later information could not be given.

In the endeavor to ascertain the real attitude of the pregnant women toward the pre-natal clinic, a limited survey of a section of the district was made by Miss Helen Ford, a graduate student in the Department of Public Health of the Yale School of Medicine, through the cooperation of Professor C.-E. A. Winslow. Miss Ford visited 135 pregnant women. The majority of these women, while expressing some interest and even approval of the idea of medical examination and supervision at the pre-natal clinic, did not seem to consider such care of sufficient importance to warrant any inconvenience on their part. There were also many plausible but hardly insurmountable reasons given for not coming:—the impossibility of leaving her family; the impossibility of bringing the family with her, the impossibility of leaving the store which she attends, the objection of her husband or relatives and her own indisposition. Of the two-thirds whose previous confinements had been attended by midwives, 25% had had some sort of examination, while 58% of the remaining one-third who were attended by physicians had been examined previous to confinement. The appreciation of the Health Center's pre-natal clinic was freely expressed, especially the opportunity which it afforded to consult a woman physician, but the registration of only 10% of the pregnant women in spite of all our effort shows clearly enough that the community did not really want the service.

In view of the fact that 39% of the deaths under one year of age (56% in 1921) have occurred in the first month of life, from causes due almost entirely to congenital conditions, the importance of pre-natal hygiene is very evident.

The visiting nurses are handicapped in their pre-natal work by reason of the fact that the V.N.A. obstetrical and post-partum care can be given only at a physician's request and consequently the 60% of deliveries attended by midwives are deprived of this service.

Examination of Pre-school Children

The summers of 1921 and of 1922 were marked by special efforts on the part of the Health Center to relieve in so far as it could the task of the one Department of Health school physician responsible for 33,000 school children. In 1921, plans were made to examine

and vaccinate the children who were about to enter the eight schools of our district for the first time. Through the cooperation of the Department of Education, the school principals and teachers of the vacation schools and playgrounds, with the assistance of the school nurses, visiting nurses and our sanitary inspector, the names of a large majority of the pre-school children of five or six years of age were secured. About 250 printed circular-letters were sent to the parents of the children. Three hundred letters were distributed by the sanitary inspector. The Health Center was heavily taxed, for the one health measure the population understands and accepts is smallpox vaccination. Parents know that vaccination is a requirement of school attendance, and the opportunity of having it done before the opening of school under the mother's eye, was appealing. Consequently 645 pre-school children were examined and vaccinated, the examination recorded on the regular school card and turned over with a list of the physical defects observed to the Bureau of School Nursing.

From the experience gained in 1921, several changes were effected in our 1922 plans. Instead of turning over to the school nurses, at the beginning of school year, a formidable list of physical defects of the entering children a more helpful service seemed to lie in concentrating on the four-year-old child, and effecting, if possible, during the following year, the correction of the physical defects so that the child might enter school in good condition. As the census of the sanitary inspector had provided the name, address and age of every child, it was an easy matter to furnish each nurse with a card containing this information for the four-year-old children in her district. In order to provide necessary social and medical information for the physician and to facilitate the examination, a list of questions to be checked was printed on the back of the card. The nurses made appointments, leaving a card which had to be presented at the Health Center. The card read as follows: "— is four years old. Next year he will go to school. You want your child to be healthiest and best child in school. We can help you. Please bring him to the Health Center, 578 Grand Avenue, on — morning at 8:30 for a special consultation with the doctor. Your child may be vaccinated if you wish. We will also tell you if your child can catch diphtheria, and we can protect him if you wish. Come on time and bring this card." After the examination an attractive certificate was given the parent, recording the results of the examination and the recom-

mendations. Of these younger children, 381 were examined, vaccinated and in the 63 cases where the mother was willing, Schick tested.

The examination cards were transferred to the four pre-school clinics and the follow-up left in the hands of the public health nurses.

Consultations and Special Services

As has been remarked under the discussion of Physical Examination of Adults, the great majority (94%) of those coming to "see the doctor" for other than specific services such as vaccinations, dressings, urinalyses, inoculations, Schick tests and so forth, during the last two years, received what we called a "consultation", rather than the complete physical examination. The "consultation" varied much in character, depending upon the cause for coming, the desire of the patient, the nature of the conditions found and the judgment of the physician. At one extreme the consultation was very brief, a patient with a toothache, for example, being referred immediately to a dentist; at the other extreme, the consultation lasted an hour or more and consisted of a thorough examination, prolonged reasoning with the patient and the setting in motion of much social welfare machinery. When the individual needed immediate medical treatment or special social case work, he was referred by telephone or refer blank or letter to the physician, dentist, dispensary, hospital or social agency of his choosing. When the patient would express no preference and asked us to decide for him, we did so as wisely and impartially as possible. Only those whose need of immediate treatment was so obvious that it was considered unwise to spend time in consultation or examination were recorded under the term "referred to physician", etc. Of course all individuals receiving examinations and the majority of those receiving "consultations" were urged to consult their physicians more frequently in the future.

Special services, when requested, were performed and recorded separately, though of course accompanied by hygienic and medical advice. On the other hand many supplementary services were performed in addition to the major service, whether it was a consultation or a special service. In order that our figures might be based consistently on the number of visits made, *i.e.*, the number of cards in our files, rather than on services performed, these supplementary services are not included except as a footnote to table on page 63.

It was these consultations that revealed how largely it was medicine that the patients desired, and not infrequently needed. After all, they came in large measure to the Health Center as to a dispensary, in distress, and they desired to be relieved not with a truer understanding of their difficulty and sound counsel and a plan for the future, but with a mysterious panacea. This situation soon forced the Board of Control to consider anew its resolution not to make a dispensary of the Health Center. A committee was appointed to consider the matter thoroughly, consult with the New Haven and Grace Hospital Dispensaries and with the local physicians. This committee, while recognizing the need for medical treatment on the part of the population, and the temptation to yield to the desire of the district and the urging of the Local Advisory Council, followed the advice of the dispensary authorities and the New Haven Medical Association, and declared against any of the possible ways of attempting to provide this treatment service. It was clear that the establishment of any but the highest type of polyclinic dispensary service, which was manifestly impossible, would only be providing a partial, unscientific service that would not be for the best interests of either the population or the future of modern medicine in New Haven. There is no doubt, however, that if treatment facilities had been provided the use of the Health Center by the population would have multiplied.

Special Efforts Against Rickets

The Health Center's efforts to arouse the community to some appreciation of the importance of rickets and the means for its prevention were not very successful. They met with indifference and scepticism. Although careful plans were made at the four well baby conferences for the detection of rachitic symptoms, with home visiting of the cases by the nurses, and cod liver oil was supplied at the stations at less than half the retail price, it was soon reported by the nurses that these children were not taking the oil, except in a few instances. "The baby doesn't like it" was the usual and the sufficient excuse, though the many variations on this excuse took almost unbelievable forms. Our letters to the local physicians calling attention to the Health Center's plans, enclosing a reprint of an article on rickets especially prepared for the Health Department Bulletin at the Health Center's request, by Dr. F. L. Babbott, Jr., of the Department of Pediatrics of the Yale School of Medicine, and asking

their cooperation, brought no responses. Four striking colored posters, 3 feet by 5 feet, were prepared and exhibited at the well baby conferences and elsewhere, and articles were written for the newspapers. From January, 1921, to July, 1922, 300 four-ounce bottles of cod liver oil were sold at the conferences.

AT WORK IN THE HEALTH CENTER DISTRICT



It is the purpose of the physical examination to discover a child's strong points as well as his latent weaknesses and measure physical growth, so that his health experience may be closely adjusted to his individual needs.

AN ANNUAL PHYSICAL EXAMINATION



Reception Room at Health Center Headquarters

To the far left are the reception and waiting rooms of the supervisor of nurses and sanitary inspectors. In the adjoining rooms are the children examination offices, the laboratory and the well baby and staff conference rooms.



New Haven Health Center

57th GRANT AVE.
Wards 5, 6, and 7 - Population 27500
Open since June 1933
Full Time Staff 16, Part Time 6, Volunteer Staff 5.



Well Baby Conference Health Center Headquarters

In the top left corner behind the partition are the general medical examination rooms and private examination rooms.



NUTRITION CLASS

(Held at Neighborhood House)

Children are thin or stout under weight if they follow the habits of the father. Helping young women realize they are given a better life in a 3 hour class.



Clinic for Tubercular Children

Being weighed by the Nursing Nurse before seeing doctor.



AN AUTOMOBILE TO THE DISPENSARY

Parents can't always take their children to the dispensary for ambulatory treatment. The Ford is invaluable on...



CARE OF THE BABIES IN THE HOME

and helpful guidance for the mothers are important features if the nurses are to help them well.



WELL BABY CONFERENCE

(All form of Nurses)
Have any 5 conferences each week in the Health Center District - throughout the USA during an afternoon.

Nobody loves a **SICK PERSON**

The person who is not 100 per cent. well
owes it to himself and his family to


GET WELL

Start right with a yearly medical
examination


ARE YOU 100% FIT?

If not, come inside and
find out what to do
about it

Thorough medical examination
made on appointment
FREE OF CHARGE



Why walk blindly
into sickness?
A good examination,
once a year, will prevent it.




BE EXAMINED
at your
HEALTH CENTER

578 GRAND AVE

1922 January 1922

sun	mon	tue	wed	thu	fri	sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



CALENDAR-POSTER
PRINTED IN COLORS

One half of the Sickness
in this district

IS PREVENTABLE

WHY NOT PREVENT IT?
BY

1. Sound Living Habits.
2. Early recognition of disease.
3. Proper medical and nursing care.

**IT PAYS TO KEEP
100% FIT**

Man wasn't made to be Sick

Keep Fit to Fight

Step in and get a Medical
Examination

TWENTY-FIVE SUCH APPEALS WERE USED AS LANTERN SLIDES
IN AUTOMATIC ATTRACTOSCOPE

IX. GENERAL HEALTH EDUCATIONAL WORK

Much activity was expended in general health education, but as a result of the circumstances which placed the entire responsibility for the initiation and accomplishment of all the strictly educational activities upon the Director, the less pressing educational work often suffered at the expense of the unescapable daily routine and the many constant demands on his time.

Need of Health Education

Previous to the organization of the Health Center, much health work had been carried on in the district by the staffs of the Visiting Nurse Association, Department of Health, the Crippled Children's Aid Society and the work of Dr. Julia Teele of Lowell House, and Dr. Alice Ford of Neighborhood House. The teaching which came from the individual contact of these workers was of course of great value, but little recourse had been made to such methods of organized health education as leaflets, exhibits, movies, talks and the like. The idea of preventive medicine—with the single exception of smallpox vaccination—was as a rule unknown. Typhoid and diphtheria immunization, rickets prevention, the importance of pre-school, prenatal and general physical examinations, the significance of isolation and bedside disinfection in communicable diseases, the seriousness of pneumonia, measles, whooping cough, typhoid, diphtheria—these, and a score of other public health essentials, were within a few exceptions little appreciated, although this was hardly realized at the beginning. A great dread of hospitals, ignorant, prejudiced, superstitious, was soon discovered. Midwives were found to be attending two-thirds of the births. An attitude of unintelligent irresponsibility toward the practicing physician also characterized the foreign-born population of the district. This took the form of refusing to follow his advice, of calling another physician without dismissing the first, if the patient did not rapidly improve, and of frequently dismissing him if he obeyed the Sanitary Code and reported a case of communicable disease.

To this population, necessarily imperfectly understood, but obvi-

ously in need of an aggressive public health education, the Health Center opened its headquarters July 12, 1920. Considerable publicity was given the event in the local papers, both English and Italian, but nothing spectacular to attract the public was planned, as it was thought wiser to operate on a modest basis until the difficulties of the first weeks had been overcome and the staff itself had become more accustomed to their tasks.

Preparation and Distribution of Educational Literature

The first messages to the public, besides the information spread by the field staff and the four large window exhibits at the headquarters, were quarter-page advertisements in the three Italian newspapers announcing briefly the services which the Health Center was prepared to offer to the inhabitants of the three wards. These were shortly followed by a four-page folder, $4\frac{1}{4} \times 6$ inches, announcing the purposes and services of the Health Center and presenting an argument for the annual physical examination. Ten thousand copies of this were printed, half in English, half in Italian, in two colors on buff paper and illustrated by a picture of the Health Center. These were distributed by the field staff and mailed to several hundred of the most influential citizens in the district. A revised edition of 5,700 copies in English was printed nine months later. The first edition cost 87 cents per hundred; the second, 5×8 inches, cost \$1.18 per hundred.

Following upon this first announcement, a number of cards and folders were printed. An appointment card was prepared introducing the bearer to the Health Center for the purpose of health advice or physical examination. These were numbered and distributed to the field workers and Health Center's friends, who signed them when referring individuals to us. Another card which was signed by the nurse and left in every home she visited where there was a baby, called attention to the fact that if the mother or her baby needed the nurse she should send word to the Health Center, address and telephone number being given. A rather unusual circular on "Flies, Dirt and Careless Bottle Feeding" was prepared in Italian and illustrated by six striking cartoons. It told the story of "what happened to 1,000 babies" who were either exposed to or protected from flies, dirt and bottle feeding, and gave

advice on how to protect the baby. Five thousand of these were printed on buff colored paper 6 x 9 inches, in two colors, for 75 cents per hundred. These likewise were distributed by the field staff, at the headquarters, and at meetings. When the analysis of the causes of mortality for the 5½ years previous revealed the seriousness of pneumonia as a cause of death, pneumonia mortality being more than twice that of any other disease, the first step taken was to inform the district through the distribution of pneumonia placards "On Guard Against Pneumonia". Through the cooperation of the Department of Education and the school teachers, this placard, 9 x 12 inches, printed in color, in English and Italian on opposite sides, was made the subject of a talk on pneumonia, and each child received one to take home. How well the children followed instructions was all too evident when an inspection of the houses on a number of streets was made in order to check up the effectiveness of the distribution. The children had been told that the placard should not be hidden away, but should be hung up on the wall where it could be seen. It appears that some of the teachers said they should be put "up high". There they were almost at the height of the ceiling and beyond the range of legibility! An inspection of the streets in the district on the day of distribution showed convincingly that the placards had not been thrown away. In order to avoid waste through duplication, only the older child received the placard if there was a younger school child in the family. About 3,500 were thus distributed, while through other channels 2,500 more were disposed of. The cost of these was \$1.93 per hundred. At the same time, 500 similar placards entitled "How to Take Care of Pneumonia" were printed and placed in those homes where a member of the family was ill with pneumonia. Owing to the small quantity printed, these placards cost \$3.10 per hundred.

To summarize the organization, purpose, activities and accomplishments of the Health Center, at the end of the first year of operation a six-page folder was prepared, printed on buff paper in two colors. This was used primarily to meet the demand for a brief statement about the Health Center. It proved to be of practical value. One thousand copies were mailed to individuals throughout the country, and another thousand distributed to visitors, inquirers and at talks about the Health Center. The 2,000 copies were printed at a cost of \$63.

Handbills on smallpox and typhoid vaccinations and pre-school

examinations, on the Health Center pre-natal clinic and on diphtheria prevention followed during the summer and were distributed by our field workers, by mail and at the Health Center. A doubly illustrated card in buff and sepia, announcing the days of well baby conferences, and the Health Center services, was prepared for each of the four infant welfare stations, and presented by the nurse to the mother of every newborn child at the time of the delivery of the birth certificate.

Among the methods employed to try to increase popular interest in the health examinations was a calendar-poster. A great deal of thought, time and money went into the preparation of the poster and a special effort was made to adapt it to the population for whom it was intended. The red and black text on a pale blue background, surrounded by colored figures descriptive of the text made an attractive poster and shopkeepers were glad to hang it in their windows or on their walls. Its effect on the number of health examinations, however, was disappointing and few people seemed to be impressed by it sufficiently to remark about it. Five hundred were distributed through the factories, public school buildings, shops and offices by the sanitary inspector. Their cost was 25 cents apiece.

Another inducement for the physical examination which was printed at this time was a handsome certificate, similar to certain stock certificates, bearing the Health Center seals and formal attestation to the fact of the examination and urging re-examination at yearly intervals. On the reverse side there was a place for recording the chief findings of the examination and the advice given. These were unquestionably impressive to the patient and helped to make the results of the examination more permanent. Only a small number of these were printed in orange and black, at a cost of about 4 cents apiece, but it was money well spent.

A brief statement in ten sentences of "What the Health Center Has Done in Two Years" was prepared at the suggestion of the Local Advisory Council. On the reverse side were printed two striking instances telling how the Health Center had prevented illness and death through the physical examination. This leaflet was used henceforth on all occasions when it was desired to summarize in a few words what the Health Center had done. Two thousand copies, 3 x 6 inches, were printed in two colors for 70 cents per hundred.

In all, the Health Center prepared and printed 21 different types of public health literature, amounting to 59,450 copies. The cost

was \$816.75. Exclusive of the calendar-posters, the cost was only \$569.75, or an average of 98 cents per hundred.

In addition some 50 types of health literature published by national, state and city organizations, official and private, have been secured free of charge for the most part and made available at all times to the public at the Health Center. Placed upon special tables in the waiting room, opposite the registration desk, it has been a boon to the few inquisitive, searching minds and non-existent to the ignorant, thoughtless majority. About 10,000 copies of various health messages have been taken during the three years.

The written word is perhaps the feeblest of present-day methods of health education and of all the uses of the written word the appeal to the intelligence is certainly the least productive. Although this was recognized it was still felt that it was essential to use the method. An effort was made to limit a message to the minimum, to address it to a definite group, in language it could understand, in a manner which would attract and please, and to distribute it effectively. The follow-up of such a distribution to determine if the message was read and understood and acted upon in any way was a constant desire of the Health Center which circumstances made it impossible to accomplish. It is a pressing need in the field of health education.

Newspaper Articles

Newspaper publicity meant little or nothing to the community itself, but it constituted an important medium of reaching the larger public. Through the many hundreds of notices, news items, reports of monthly meetings, articles of special interest, illustrated feature stories and editorials, the public was kept in frequent touch with the activities and accomplishments of the Health Center and undoubtedly many new conceptions about health work came thereby to the New Haven public.

Exhibits

Again too much emphasis must not be placed on the motivating power of health exhibits, though the value of illustrated, graphic portrayal of health ideas in putting one's mind in a receptive mood is undoubted. The Health Center aimed at making its headquarters an attractive storehouse of health information and to this end made

much use of posters of all kinds, window displays, models, automatic lantern slide projection and a portable motion picture machine. It possessed and used hundreds of the best health posters it could obtain or make and a hundred and fifty specially made lantern slides. Its four large show windows were always dressed to attract the passerby, though the indifference of the great majority of passersby to our hundreds of thoughtful displays was not encouraging. The Health Center assisted in the organization of the public health exhibit of the Department of Health in June, 1921 and its educational material was loaned on a number of occasions to other organizations.

Moving Pictures

Moving pictures on health subjects were shown at special entertainments at the headquarters until we were advised that such entertainments were unacceptable to the Fire Department. A series of three open air entertainments was given, in cooperation with Community Service, Inc., in the three parks in the district during the summer of 1922 before thousands of children and adults. Through the activities of the sanitary inspector, unusual cooperation was received from the four moving picture houses in the district, which exhibited without expense Health Center lantern slides and one-reel health films whenever requested.

Talks

Every opportunity of carrying the Health Center's message to the people in the district or to those outside was seized. Talks were given to groups at the several settlement houses, the day nurseries, playgrounds and public schools; to mothers' clubs, religious organizations, boy scouts and Sunday schools. Thirteen five-minute talks were given at one factory employing 2,500 men and one to the foremen of another large factory. Efforts were made to reach all factory workers, but it was necessary to be content with the distribution of a special Christmas card. The Health Center provided for the entertainment of all the school children in the district by four performances of the health clowns—Dodo and Pompom, otherwise seniors in the Yale Law School. The children in the lower grades were also visited by the Director, with a mechanical cow which carried a vivid lesson in the value of drinking milk.

Country-Wide Interest in the Health Center

The country-wide interest in the Health Center has been expressed in the hundreds of letters of inquiry which have been received asking for detailed information, advice or copies of health literature and reprints of articles on the Health Center.

Our visitors' book contains the names of over five hundred individuals, the majority from out of town, whose interest in the Health Center was sufficient to justify their spending time in a personal visit.

Addresses on the Health Center have been requested and given at several national conferences and a number of articles on the Health Center have been printed.

X. ANALYSIS OF HEALTH CENTER MORTALITY

Comparison of Mortality in the Health Center, City of New Haven and State of Connecticut for 1915-1920 period

In order that the general character of the mortality in the Health Center district, previous to the organization of the Health Center, might be understood, a study of the death certificates of the entire city for the six years 1915-1920 was made, and all deaths that could be determined to be of residents of the district were analyzed in detail, as mentioned in connection with the services performed by volunteers. The tabulation of this data involved the preparation of some sixty tables and provided much valuable information. For a rough comparison with the Health Center district the mortality rates for certain specific diseases for the city of New Haven and the State of Connecticut for the same six-year period have been given in the following table. The diseases are arranged in three groups, the first consisting of the diseases with higher mortality rates in the Health Center than in the other areas; the second, of diseases with lower rates; and the third, diseases that were similar or classified with difficulty.

Of the seventeen important causes of death which are considered the Health Center was decidedly higher than the city and the State in eight diseases, decidedly lower in seven diseases and similar in two cases. It was higher in pneumonia, influenza, bronchitis, diarrhea under two years of age, the prematurity, congenital debility and malformations group, measles, diphtheria and whooping cough. It was lower, generally by 50% or more, in organic diseases of the heart, Bright's disease, cerebral hemorrhage, cancer, external causes, puerperal state and scarlet fever. For typhoid fever its rate was about the same, while for tuberculosis it was slightly higher than the city, but lower than the State.

Mortality From Principal Causes of Death Health Center District, City of New Haven and State of Connecticut, 1915-1920

Cause of Death	Rate per 100,000 Population ¹		
	Health Center	New Haven	Connecticut
Pneumonia (all forms)	278.	212.	196.
Influenza	126.	114.	110.
Acute and Chronic Bronchitis	28.	16.	18.
Diarrhea and Enteritis, under 2	98.	58.	69.
Prematurity, Cong. Deb. and Malform.	90.	82.	84.
Measles	25.	12.	8.
Diphtheria	21.	16.	17.
Whooping Cough	19.	13.	12.
Organic Diseases of Heart	106.	175.	157.
External Causes (suicide excepted)	84.	98.	92.
Brights Disease	63.	110.	105.
Cerebral Hemorrhage	55.	101.	107.
Cancer	48.	110.	94.
Puerperal State ²	2.	6.	7.
Scarlet Fever	*	3.	3.
Typhoid Fever	8.	9.	7.
Tuberculosis (all forms)	120. ³	122.	140.
Tuberculosis (pulmonary)	95. ⁴	93.	120.
Crude death rate per 1000 pop.	14.7	16.3	15.8

¹ Populations taken as of January 1, 1918.

² Including puerperal septicemia, puerperal albuminuria and accidents of pregnancy.

³ Excluding deaths of 8 residents occurring in state institutions, outside New Haven, rate would be 95.

⁴ Excluding deaths of 7 residents occurring in state institutions, outside New Haven, rate would be 68.

* Two deaths occurred in the six year period.

These rates are not corrected for age distribution or nationality or for any other factors or many of these differences would disappear. The low proportion of individuals over 40 and the excessive proportion of children are responsible for the low rates from the diseases of old age and the high rates from the communicable diseases of childhood, while the Italian susceptibility to respiratory diseases and relative resistance to tuberculosis explains the marked differences in these rates.

The crude death rate per 1,000 population for the Health Center for the six-year period is 14.7, compared with 16.3 for the city and

15.6 for the State. Correction for age distribution on the basis of the population of New Haven increases the Health Center rate to about 15.4 and leaves the city rate unchanged at 16.3. The State rate has not been corrected.

Comparison of Mortality in Health Center District with Remainder of City

Although abundant reasons are given below why little or no value can be attached to any comparison either in the number of deaths, in death rates or in percentage reductions, between the Health Center district and the remainder of the city, the following table is presented, which shows the percentage reductions in the mortality of residents of all ages of the two districts in 1921 and in 1922 as compared with a six-year average, 1915-20, and a five-year average, eliminating 1918, the year of the influenza epidemic. A similar table, dealing with infant mortality, is to be found in the appendix, page 108.

Mortality of Residents in Health Center District and in Remainder of the City, with Percentage Reductions for 1921 and 1922.

	I. Comparison with Preceding Period of 6 years (1915-20 inclusive) Resident deaths Only		II. Comparison with Preceding Period of 5 years (Influenza Epidemic Year 1918 omitted) Resident deaths only	
	Health Center	Remainder of City	Health Center	Remainder of City
	Average No. Deaths preceding periods	379	1983	351	1860
No. Deaths, 1921	286	1498	286	1498
Difference 1915-20 and 1921	93	485	65	362
Red. of 1921 Deaths of 1915-20 Deaths	24.5%	24.4%	18.5%	19.5%
No. Deaths 1922	322	1750	322	1750
Difference 1915-20 and 1922	57	233	29	110
Red. of 1922 Deaths of 1915-20 Deaths	15.0%	11.8%	8.3%	5.9%
Difference 1921 and 1922	36.	252.	36.	252.
Increase of 1922 deaths of 1921 deaths	12.6%	16.8%	12.6%	16.8%

From this table it may be observed that the percentage reduction in resident deaths in 1921, when based upon the preceding 6-year period was identical in the two districts under comparison, while slightly greater (1.0%) in the remainder of the city when based upon the preceding 5-year period, eliminating 1918.

For the year 1922 the greater reductions are to be found in the Health Center district, 15.0% and 8.3%, as compared with the 11.8% and 5.9% respectively, for the two preceding periods.

When the increase in mortality in 1922 is compared with the mortality in 1921 it is found that the remainder of the city increased 4.2% more than the Health Center district.

The following pages will point out, it is hoped, some of the reasons why such comparisons as those just made cannot be regarded as significant.

Factors Affecting Comparison of Mortality in Health Center and Remainder of City

1. *Population*

A comparison, year by year, of the mortality in the Health Center district with that in the remainder of the city, in order to be valid, must take many factors into consideration. The assumption is frequently made in such comparisons that these factors are operating in equal degree in the two contiguous groups and therefore may be disregarded. Such factors as the changes in the size, nationality, age and sex of the two groups, the completeness of birth registration and the accuracy of death certification may, on the other hand, be acting in unequal magnitude in the two groups and if this is the case care must be exercised in making comparisons.

A study of the available information suggests that in one respect, namely, the size of the population, changes are taking place from year to year in the Health Center district, which make mortality comparisons with the remainder of the city dangerous, whether the comparisons be in terms of percentage reductions of the actual mortality in subsequent years or mortality rates.

The Health Center information regarding the population of the three wards comprising it have been obtained from two sources, the U. S. censuses of 1910 and 1920 and the three censuses of the district made by our sanitary inspector.

The following data are presented:

U. S. Census 1910 (April 15)	25,440	
U. S. Census 1920 (Jan. 1)	26,840	(+1400)
1st H. C. Census 1921 (Jan.-Feb.)	26,426	(- 414)
2nd H. C. Census 1922 (Feb.-June)	24,569	(-1857)
3rd H. C. Census 1923 (Feb.-March)	26,621	(+2052)

The facts of particular interest in these figures are:

(1) The increase of only 1,400 in 10 years. While we do not possess data regarding Health Center births prior to 1918 or Health Center deaths prior to 1915, it is reasonable to assume that the average excess of births over deaths for 1918-20 represents a conservative average for the 1910-20 period. This average yearly excess of births over deaths is 591, or 5,910 for the ten years. The difference between 1,400 and some such figure as 5,910 must be accounted for either through an understatement of the 1920 census, which seems most unlikely in view of the subsequent Health Center census, or through emigration from the district. The latter alternative is accepted, though we have been unable to obtain any direct evidence to substantiate it.

(2) The close agreement of the sanitary inspector's house-to-house census early in 1921 with the U. S. census of January 1, 1920, a difference of only 1.5%.

(3) The marked decrease in the census enumeration of the sanitary inspector in the spring of 1922, there being 1,857 less people than recorded in his 1921 U. S. census. This census was performed more carefully than the preceding, the name and age of every individual being obtained in addition to many other items. No house or apartment was knowingly missed. There were, however, 470 unrented apartments and 20 undergoing repairs. Unfortunately the 1921 census did not record the number of unrented apartments, but the inspector believes they were few in number. If the 490 apartments had been occupied by the average of 4.5 occupants there would have been 2,205 more individuals in the district. There were also fewer boarders, 1,294 in 1922 as compared with 1,592 in 1921. This decrease in population, which we would not have been able to estimate had the census not been made is to be explained, we believe, by the serious period of unemployment which closed, for a time, practically all the factories in the district and resulted in the disappearance of a number of inhabitants.

Obviously, the number of deaths occurring among 24,426 people would not be the same as that which would occur among 26,840 and

the comparisons of the percentage reductions of 1922 deaths as compared with the 1915-20 deaths of the Health Center and the remainder of the city would be invalid. For example, on the basis of the 1921 death rate (11.0 per 1,000) a population of 2,271 would represent 25 deaths, and a reduction of 25 deaths on a basis of 295 deaths (in 1921) would represent 8.5%.

Since it is impossible to know how the population for the remainder of the city has been affected during 1921, 1922 and 1923, it is futile for this reason, if not for the several reasons discussed below, to attempt to compare the total mortality of the two districts either on the basis of actual deaths or of death rates calculated from population estimates.

Other factors affecting the validity of any comparison of mortality in the two districts which have been considered are the following: age distribution, birth rates, treatment of non-resident deaths, treatment of deaths in hospitals and other institutions, and treatment of deaths of residents in State institutions outside New Haven.

In order that some of the pitfalls encountered in attempting a comparison of mortality may be more fully understood, these above factors will be discussed separately.

2. Age Distribution

A glance at the following table will reveal that the Health Center has a great preponderance of children and a paucity of the aged. With the exception of the first two years of life, the Health Center has an age distribution particularly favorable to a low mortality. If the Health Center had the same proportion of infants under one as the remainder of the city it would have 537 infants instead of 813.

Comparative Age Distributions in Health Center and Remainder of City—U. S. Census, 1920

Age Group	Health Center % of Population	Remainder of City % of Population
Under 1	3.0	2.0
1 to 14	37.4	26.1
15 to 19	8.0	8.4
20 to 44	35.8	41.6
45 and over	15.6	22.3
% of total	16.5	83.5

It happens that the age distribution of New Haven is so similar to the age distribution of the registration area that its crude death rate is unchanged when so standardized. The Health Center crude

death rate, when standardized on the age distribution of New Haven, is increased from 11.0 to 11.8 for 1921, and from 12.2 to 12.6 for 1922.

3. Birth Rate

The Health Center has a markedly higher birth rate than the remainder of the city. The tendency of a high birth rate to be associated with a high infant mortality suggests that the Health Center's high birth rate may affect its infant mortality adversely. The striking differences are shown in the following table:

Comparison of Birth Rates for Health Center and Remainder of City, For Years 1918-22

	Health Center			Remainder of City		
	Population ¹	Births	Birth Rate	Population ¹	Births	Birth Rate
1918	26,626	1062	39.9	131,441	3909	29.8
1919	26,766	892	33.4	134,281	3518	26.2
1920	26,906	890	33.1	137,120	3364	24.6
1921	27,046	901	33.2	139,959	3394	24.3
1922	27,186	849	31.3	142,799	3094	21.7
Annual increase, 140				2,980		
Increase in 10 years, 5.5%				28.2%		

¹ Population estimated as of July 1, according to U. S. Census method from Population Statistics, Census 1910 (as of April 15) and Census 1920 (as of January 1.)

4. Non-resident Deaths

There are no non-resident deaths as such in the Health Center mortality statistics. This is because: (1) individuals residing in the Health Center district, regardless of duration of residence, were considered residents; (2) there are no hospitals in the district in which non-residents might die; (3) as deaths in hospitals and fatal accidents of Health Center residents, which occurred in the city outside the district were charged against the Health Center, deaths by violence occurring in the district but of individuals resident elsewhere in the city were not charged against the Health Center. There were not more than five or six such cases in eight years.

5. Deaths in Hospitals and Other Institutions

The Health Center has always gone to the very considerable trouble of allocating to itself all deaths of its residents, occurring in the three public hospitals of the city. Of the 740 occurring in these hospitals, annually, an average of 61 Health Center deaths a year

(17% of its deaths) were thus added. This could not be done satisfactorily, however, for the 147 deaths occurring annually in city institutions other than hospitals, such as the County Home for the Aged (Springside Home) and the Jewish Home for the Aged, owing to the lack of permanent address of most of the inmates. Although these 147 deaths represent only 7% of the total resident deaths of the city, it is still recognized that in disregarding the deaths of aged people the mortality for the remainder of the city must be weighted unfavorably.

6. *Deaths of Residents in State Institutions Outside New Haven*

The mortality of New Haven, especially for tuberculosis, is seriously affected by the six tuberculosis sanatoria, and eight other principal State institutions, where deaths of New Haven residents occur without being reported to the Registrar of Vital Statistics. As no knowledge of the extent of this mortality was available, the Health Center undertook to request this information at definite intervals from these institutions. The data collected for the period 1915-1923 shows that the deaths of New Haven residents in State institutions is almost as great as the deaths of non-residents in New Haven. It shows, furthermore, that an average of 32 deaths from tuberculosis occur annually among New Haven residents which are not recorded in the mortality statistics of the Department of Health. Seven of these belong to the Health Center district. If this correction were made the specific death rate of the city from tuberculosis per 100,000 population would be 122 instead of 102 for the eight-year period 1915-1922.

The 11 deaths attributable annually to the Health Center residents represents a 2.9% increase; the 78 deaths belonging to residents of the remainder of the city represent a 3.6% increase. The difference is very slight. Even though charging itself with these deaths of its citizens in institutions outside the city, the Health Center cannot equalize the weight of the mortality in the remainder of the city owing to the 179 (9.0%) additional non-resident deaths and the 147 (7.4%) deaths of individuals in city institutions other than hospitals.

Mortality Changes in 1921 and 1922 in the Health Center

In the following table the mortality and mortality rates for 1915-20, 1921 and 1922 reveal the trends occurring in the principal causes of death in the Health Center district.

Mortality from Principal Causes of Death
Health Center District
For 1915-20, 1921, 1922, 1923 (six month)

Cause of Death	Number of Deaths				Rate per 100,000 ¹		
	Average 1915-20	1921	1922	1923 6 months	1915-20	1921	1922
Pneumonia (all forms)	74	37	56	35	278.	137.	206.
Influenza	33	1	4	8	126.	4.	15.
Tuberculosis (all forms)	33	37	25	12	126.	137.	92.
Tuberculosis (pulmonary)	25	27	19	6	95.	100.	70.
Organic Diseases of Heart	28	20	28	18	106.	74.	103.
Diarrhea and Enteritis, under 2	26	12	20	4	98.	44.	74.
Prematurity, Con. Deb. and Mal.	24	33	18	18	90.	122.	66.
External causes (suicides excep.)	22	17	24	15	84.	63.	88.
Automobile accidents	5	6	9	0	19.	22.	33.
Brights Disease	17	8	10	5	63.	30.	37.
Cerebral Hemorrhage	15	16	14	11	55.	59.	51.
Cancer	13	18	14	6	48.	67.	51.
Acute and Chronic Bronchitis	8	2	4	0	30.	7.	15.
Measles	7	2	16	3	25.	7.	59.
Diphtheria	6	4	3	1	21.	15.	11.
Whooping Cough	5	2	1	2	19.	7.	4.
Meningitis	5	4	11	5	19.	15.	41.
Diabetes	4	6	6	2	15.	22.	22.
Puerperal State ²	2	2	2	4	8.	7.	7.
Typhoid	2	2	5	0	8.	7.	18.
Scarlet Fever	*3	0	1	0	0.	0.	4.
All other causes	67	76	66	30	252.	281.	243.
Total Deaths⁴	391	297	328	179	14.7	11.0	12.1

¹ Population for 1915-1920 period, 26,556, as estimated by U. S. Census method for January 1, 1918.

¹ Population for 1921 period, 27,046, as estimated by U. S. Census method for July 1, 1921.

¹ Population for 1922 period, 27,186, as estimated by U. S. Census method for July 1, 1922.

² Including puerperal septicemia, puerperal albuminuria and accidents of pregnancy.

³ Two deaths occurred during these six years, an average of 0.33.

⁴ Including deaths of residents in state institutions outside New Haven. The numbers included are 13, 11, 6 and 5 respectively, for the periods under consideration.

The year 1921 was an exceptionally healthy year throughout the country and the Health Center was no exception. The crude death rate dropped from an average of 14.7 per 1,000 for the 1915-20 period to 11.0. With the exception of slight increases in tuberculosis, cancer, cerebral hemorrhage, diabetes, automobile accidents and ex-

ternal causes and a considerable increase in the congenital debility group, mortality from thirteen other causes of death diminished in an unprecedented manner. The most striking reductions were in pneumonia, influenza, diarrhea, Bright's disease, organic diseases of the heart and communicable diseases of childhood.

The following year, 1922, though not so phenomenally healthy, still showed a marked improvement as compared with the 1915-20 period. It was lower than the earlier period in twelve diseases, higher in eight. As compared with the preceding year, 1922 was lower in tuberculosis, the prematurity, congenital debility and malformation group, cerebral hemorrhage, cancer, diphtheria and whooping cough; it was the same in diabetes and the puerperal state and higher in the remaining twelve diseases. The congenital debility group was 50% lower in 1921.

The trend observable in the mortality from a few of the more interesting diseases will be discussed briefly.

Diphtheria

The decline in diphtheria mortality is worthy of comment. The rate has declined from the 1915-20 average of 21 per 100,000 to 15 in 1921 and 11 in 1922. The first six months of 1923 give a rate of 4, representing one death. No deaths occurred among the residents in the remainder of the city.

Whooping Cough

The decline in mortality from whooping cough is similar to that from diphtheria; 19, 7, 4 for 1915-20, 1921, and 1922, respectively. The first six months of 1923 give a rate of 7, representing 2 deaths.

Scarlet Fever

There have been but 3 deaths from scarlet fever during the past eight and a half years, 2 in 1916 and 1 in 1922.

Measles

Measles shows a decline in 1921 from the 1915-20 average of 25, with a rate of 7, but the following year was marked by a serious epidemic which took 16 lives and established a rate of 59. Only 3 deaths have occurred during the first six months of 1923, giving a rate of 11.

Typhoid Fever

The average mortality for typhoid fever during 1915-20 was 2 deaths, or a rate of 8. This continued the same in 1921, but 5 deaths occurred in 1922 (though the same number of cases as in 1921), giving a rate of 18. No deaths have occurred up to July, 1923.

Deaths From Automobile Accidents

There has been a noticeable increase in fatal automobile accidents, the number of deaths increasing from 5 for the 1915-20 period, to 6 in 1921, to 9 in 1922. No fatalities have occurred during the first six months of 1923.

Pneumonia

The most fatal of all diseases in the Health Center showed a phenomenal decline in 1921, a decline of 51% of the 1915-20 average, or from 278 to 137. In 1922 the rate rose from 137 to 206, and the first six months of 1923 give a still higher rate of 258.

Prematurity, Congenital Debility and Malformations

The average for 1915-20 was 90, the rate for 1921 rose to 122, but fell in 1922 to the exceptional rate of 66. The rate for 1923 based on six months only is already 132.

Tuberculosis

The tuberculosis death rates are calculated upon the deaths of Health Center residents occurring in the city plus the deaths of its residents occurring in the six State tuberculosis sanatoria outside the city of New Haven, although these latter deaths are not reported to the Registrar of Vital Statistics. For the sake of comparison, however, the rates for deaths occurring locally are also given for the past eight years in the table number of the appendix.

The rate for tuberculosis of all forms, while rising in 1921 (137) somewhat above the 1915-20 average (126), fell 45 points the following year, establishing a new record of 92 per 100,000 population. The rate will be still lower in 1923 if the rate for the first six months is maintained. The rise in 1921 and sharp decline in 1922 was equally marked for pulmonary tuberculosis, the rate of 70 being established for 1922. The rate for the first six months of 1923 is 43.

Infant Mortality

The infant mortality record in the Health Center district presents an interesting picture, difficult to explain.

The comparative rates are as follows:

Year	Health Center	Remainder of City ¹	Entire City ¹
1915			88
1916			91
1917			83
1918	85	92	90
1919	73	72	72
1920	107	81	87
1921	68	60	62
1922	74	75	75
1923 (6 mos.)	98	79	83

¹ Including non-resident deaths.

A rapid inspection of these figures would indicate (1) large variation in Health Center rates—a range of 39 points compared with 32 for remainder of city, (2) higher rates for Health Center 2 years, lower rate 1 year, similar rates 2 years, (3) increases and decreases occurred coincidentally in the two districts.

A more careful analysis may be made by the method of averaging consecutive three-year periods, with the idea of reducing the importance of single year variations.

Such a method of averaging gives the following results:

	Health Center	Remainder of City ¹	Entire City ¹
Average of 1915-16-17 . . .			87
Average of 1916-17-18 . . .			88
Average of 1917-18-19 . . .			82
Average of 1918-19-20 . . .	88	82	83
Average of 1919-20-21 . . .	83	71	74
Average of 1920-21-22 . . .	83	72	75
Average of 1921-22-23 ² . . .	80	71	73

¹ Including non-resident deaths.

² Six months.

From such a smoothing of the infant mortality rates it would appear that (1) an appreciable tendency to decline is observable in both the Health Center and the rest of the city, (2) the tendency is marked for both districts in the 1919-20-21 period, (3) the tendency is less in the Health Center district (five points) than in the rest of city (10 points).

It is unfair to consider the first six months as comparable with yearly rates, as the first half of the year is consistently higher (by about 5 points) than the yearly rate. Therefore the comparison with the 1921-22-23 period is not carried out.

But the significant fact about these averages and the mortality rates themselves is that the reduction in the Health Center, though considerable, is less than in the remainder of the city, in spite of the additional intensive work which these infants and their mothers received in the district.

The attempt to explain this situation leads us into so many complicated considerations that it is omitted here, but it is desirable to consider the major causes from which infants under one year of age have died in the Health Center in successive years since 1915. This is given in the following table:

Health Center Major Causes of Deaths under 1 year of age 1915-1923

	1915	1916	1917	1918	1919	1920	1921	1922	1923*
Respiratory . . .	29	34	26	22	16	26	6	20	6
Gastro-intest. . .	27	24	22	13	25	25	11	16	4
Prematurity, Cong.									
Deb., Malfom. . .	23	20	27	29	13	30	34	15	18
Infectious Dis. ¹ . .	11	8	8	17	8	8	1	4	4
All others . . .	14	11	13	9	3	9	9	8	6
	—	—	—	—	—	—	—	—	—
Total . . .	104	97	96	90	65	95	61	63	40
% deaths under 1 mo.	35.	29.	35.	28.	22.	34.	56.	32.	50.
Deaths per 1000 births									
under 1 month				24.	16.	38.	24.	24.	49.
Number of births				1062	892	890	901	849	408

¹ Measles, scarlet fever, whooping cough and diphtheria.

* Six months only.

This table shows markedly lower rates in the last two years in respiratory and gastro-intestinal and infectious diseases and exceptional decreases in the group prematurity, congenital debility and malformations in 1919 and 1922, but with increases for 1920 and 1921.

A comparison of the average number of deaths occurring in the five major groups during the six-year period 1915-20 with the average number in 1921 and 1922 is given in the following table, and shows

that in the respiratory, gastro-intestinal and infectious disease groups the reductions were 49%, 40% and 75%, respectively, while the group representing prematurity, congenital debility and malformation there was a slight increase of 3%, in spite of an exceptionally low number in 1922. While these comparisons are made in terms of the number of deaths the error due to a diminishing number of births is not great, the reduction in births being 7.7%.

Comparison of Deaths of Health Center Infants, Under one, for periods 1915-20 and 1921-22, according to Major Causes of Death

Cause of death	1915-20	1921-22	% Reduction
Respiratory	25.5	13.0	—49
Gastro-intestinal	22.7	13.5	—40
Prematurity, Congenital debility and malformation	23.7	24.5	+3
Infectious diseases	10.0	2.5	—75
All others	9.3	8.5	—9
Average births	948 ¹	875	—8

¹ Average for 1918-20.

Additional light is thrown on the mortality from prematurity, congenital debility and malformation by the mortality rates for the first month of life (given in the table on page 90), for while this first month mortality is not wholly conditional upon congenital weakness, it is largely so. These can be given for only six years, but they present such wide variations that it would seem that only chance variation due to relatively small numbers (average of 948 births) could explain them. At least it seems hardly sound to lay emphasis on the several conceivable explanations.

The final angle from which the mortality of infants in the Health Center will be compared with the mortality of infants resident in the remainder of the city is presented in the following table.

Mortality of Infants Under One in Health Center District and in Remainder of City, with Percentage Reductions for 1921 and 1922

	Health Center Residents ¹	Remainder of City Residents only	Remainder of City Res. and Non-Res.
Average No. Deaths, 1915-20	91	298	308
No. Deaths, 1921	61	180	202
Difference 1915-20 and 1921	30	118	106
Reduction of 1921 Deaths of 1915-20 Deaths	33.0%	39.6%	34.4%
No. Deaths, 1922	63	213	231
Difference 1915-20 and 1922	28	85	77
Reduction of 1922 Deaths of 1915-20 Deaths	30.8%	27.6%	25.0%
Difference 1921 and 1922	2	33	29
Increase of 1922 deaths of 1921 deaths	3.3%	18.3%	14.3%

¹ There are no non-resident deaths in the Health Center.

The percentage reductions in the 1921 and 1922 infant deaths as compared with the average mortality in the 1915-20 period show that the reduction in the Health Center district was less than the remainder of the city in 1921 and greater in 1922. On the other hand when the percentage increase of 1922 over 1921 is considered, the increase is 3.3% for the Health Center and 18.3% for the remainder of the city.

XI. HEALTH CENTER EXPENDITURES

Total Cost

The total cost of the Health Center from its organization on April 1, 1920, to June 30, 1923, including the services of its detailed staff of some seventeen workers paid by their respective organizations, the services of the newly-appointed staff of six, and the operation of the headquarters was \$123,291, or \$41,097 a year. Of this sum \$57,447 represented the expenditures made from the Visiting Nurse Association budget for the work of the twelve nurses, \$17,683 the value of the services rendered by the five Department of Health workers, leaving a balance of \$48,161 expended for the Health Center work as carried on at its headquarters. The full financial statement of yearly expenditures is given below.

Per Capita Cost

This total expenditure represents an average yearly expenditure of \$1.52 per capita, of which the Visiting Nursing work represents 71 cents per capita, the Health Department work 22 cents per capita and the cost of the work of the Health Center headquarters 58 cents per capita. Of the 58 cents the Red Cross contributed 30 cents and the city of New Haven, through the Department of Health, 29 cents.

Comparison with Cost of Ideal Health Department

There is much interest and significance in the comparison of the Health Center per capita expenditures with those recommended for the Ideal Health Department by the Committee on Municipal Health Department Practice of the American Public Health Association. The per capita expenditure recommended for a city of 100,000 population was \$1.95, exclusive of the cost of a contagious disease hospital but including that of public health nursing. The Health Center per capita expenditure was \$1.52, exclusive of the cost of a contagious disease hospital, laboratory, venereal disease, tuberculosis, and food inspection. If the expenditure for all this work except the contagious disease hospital is added at the rate prevailing in the

Department of Health, 13 cents per capita should be added, making \$1.65 per capita. If the rate recommended for these four services and vital statistics is added, namely, 42 cents per capita, the total expenditure would be \$1.94, which would be practically identical with the proposed cost of an ideal health department for a city of 100,000.

A further analysis of the expenditure on a percentage and yearly per capita basis is of interest. The data is presented in tabular form for greater clarity.

Analysis of Health Center Expenditures on Percentage and Yearly Per Capita Basis

EXPENDITURES	Total Amt. 3 years ¹	Percent of Total	Yearly per capita
Total Expenditures	\$123,291.	100.	\$1.25
Visiting Nurse Association (12 nurses, etc.)	57,447.	47.	.71
Department of Health (5 personnel)	17,683.	14.	.22
Department of Health Cash Approp. (H. C. Headquarters)	33,461.	19.	.29
Red Cross Cash Approp. (H. C. Headquarters)	24,700.	20.	.30
Headquarters Expenditures			
Health Center Administration ²	18,688.	15.	.23
Health Center Medical Service ³	14,799.	12.	.18
Health Center Equipment and Installation	2,293.	2.	.08
Health Center Rent	5,287.	4.	.08
Health Center Operation (balance)	7,093.	6.	.09

¹ Cents omitted.

² Salaries of director and secretary.

³ Salaries of a full time physician, a half time physician and honorariums to two physicians each holding a weekly Well Baby Conference.

The cost of administration was high, but one-third of this item might properly be charged against health education. The cost of the medical services was low, considering the unusual requirements and the quality of the work. Medical and office equipment and the cost of alterations and equipment were remarkably low owing to the use of Red Cross furniture. The rent was moderate and the other operating costs, including \$1,818 of educational work, chiefly printing, were a minimum.

Health Center Headquarters Financial Statement

Expenditures for Years 1920, 1921, 1922 and 1923

	April 1 to Dec. 31 1920	Jan. 1 to Dec. 31 1921	Jan. 1 to Dec. 31 1922	Jan. to June 1923	Total
Salaries	\$6,620.74	\$11,017.00	\$11,586.42	\$4,325.23	\$33,549.39
Rent	875.00	1,712.50	1,800.00	900.00	5,287.50
Education and Pub.	654.32	573.15	538.81	52.28	1,818.56
Medical supplies . .	113.83	54.47	89.43	72.36	330.09
Postage	74.88	114.46	97.82	18.82	305.98
Office supplies . . .	274.94	259.32	93.01	81.60	708.87
Express and freight	13.86	12.91	15.33	31.75	78.85
Tel. and Tel.	57.96	95.95	104.43	55.91	314.25
Elec., Gas, Water, Ice, Coal, Wood	252.68	286.88	298.26	295.57	1,133.39
Janitor's wages . . .	217.88	500.70	218.30	146.99	1,083.87
Traveling	21.55	137.62	131.61	5.35	296.13
Repairs	19.79	47.76	77.47	88.60	233.62
Laundry	7.40	29.20	37.47	22.08	96.15
Insurance . . . . .	.....	30.00	30.00	30.00	90.00
Exam. of accounts	.....	30.00	32.00	.....	62.00
Statistical work . .	87.75	100.00	187.75
Miscellaneous, gen.	26.90	20.04	21.44	28.12	96.50
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	\$9,419.48	\$14,921.96	\$15,371.80	\$6,154.66	\$45,867.90
Office Equipment . .	\$1,060.78	\$78.27	\$47.80	\$1,186.85
Medical Equipment	257.96	21.30	.....	\$139.50	418.76
Installation and Alteration	687.25	.....	.....	.....	687.25
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL	\$11,425.47	\$15,021.53	\$15,419.60	\$6,294.16	\$48,160.76

XII. PROVISIONAL EVALUATION OF THE HEALTH CENTER

The Reduction in Mortality

The impossibility of determining in a mature and final sense the importance of any community health demonstration in so short a time as three years has come to be recognized by the leaders of the public health profession. So far as the reduction in mortality is concerned, five years at the very least are required to establish on a sound and scientific basis the significance of the mortality rates which are recorded, and then only when the population under consideration is of sufficient size and constancy to give a substantial number of deaths and to minimize chance variations. With necessary caution, the trends of the mortality from certain diseases during the six years preceding the opening of the Health Center and the two years following were discussed in the section on Mortality. It appeared that the Health Center district had been characterized for some years by absolutely as well as relatively low rates for the degenerative diseases of adult life, the diseases of the puerperal state and scarlet fever, and that 1921 and 1922 were marked by still further decreases. For the communicable diseases of children, congenital debility and the respiratory diseases, particularly pneumonia, its rates were high. All these, excepting congenital debility, declined markedly in 1921. In 1922 the decrease in the congenital debility group was striking, in whooping-cough and diphtheria it was marked but pneumonia and diarrhea increased over 1921 while measles epidemic caused a higher rate than for many years. Tuberculosis increased somewhat in 1921 but declined sharply in 1922. Infant mortality established its lowest rate, 68., in 1921 but rose to 74. in 1922. Its crude death rate was 14.7 for 1915-20, 11.0 for 1921 and 12.1 for 1922.

These are important declines in mortality but to what extent the Health Center can take credit for them it is not possible at this time to say. The reasons why a valid comparison with the remainder of the city cannot be made have been presented.

But the real contribution of the Health Center must not be judged too exclusively on the dubious ground of mortality reduction. Its unmistakable value lies in other directions which though less concretely measurable are none-the-less demonstrable.

Its Significance as a Progressive Health Movement in New Haven

Its significance as a progressive health movement in New Haven with the attendant effect of arousing greater interest in public health throughout the city is unquestioned. The growth in interest and knowledge on the part of the city administration, the visits of hundreds of interested individuals to the headquarters, the talks before city organizations of all types, the personal contacts with hundreds of prominent citizens, the constant publicity through the newspapers and the specially prepared literature, the enthusiastic support of its many friends and many other facts which cannot be appropriately mentioned, attest in some measure to the degree to which its influence spread throughout the city. The public support of health work is greater and more intelligent than it was three years ago and the prospect of the Board of Health achieving the adequate health protection which it desires for the city was never so encouraging.

Its Value to the District

To the district the Health Center has given, according to our present standards, a fairly complete health protection, far in excess, as a matter of fact, of what the district was voluntarily ready to receive. Its primary aim was to educate,—to teach the simple (but not easily practiced) ways and means of keeping well and of getting well and to help one to help oneself. Its 222,275 health-promoting services represent an average of over 8 services to each of the 27,000 individuals in the district. Twelve thousand visits were made to the Health Center headquarters to "see the doctor". Another 12,000 visits were made to the well baby and pre-school conferences. Six thousand school children were inspected at headquarters. Some member of 85.% of the number of families resident in the district in 1920 visited the headquarters, representing 25.% of the population. The 5,300 school children were under constant nursing supervision, 3796 patients were cared for annually by the district

nurses of the Visiting Nurse Association, every family was visited four times by the sanitary inspector, and 70,000 copies of health educational literature were distributed in addition to the talks, moving pictures, exhibits and newspaper publicity. Unfortunately it is impossible to measure the value of this work performed at the small annual cost of \$1.52 per capita, but he would be a bitter sceptic who would not consider it a real contribution to the present and future health and physical welfare of the population. How greatly the district has benefited will be more apparent in the future than at the present. While the participation of the district itself in the responsible direction of the Health Center was not what had been hoped for, a sense of community responsibility was aroused on several occasions.

Its Special Demonstrations

The opportunity which the Health Center afforded to test the value of certain new methods of public health administration was particularly favorable and one which brought definite results. The demonstration of generalized public health nursing as contrasted with specialized nursing was carried out by the Visiting Nurse Association and as stated elsewhere was considered a conclusive proof of the greater effectiveness of generalized nursing and the change in the method of the Visiting Nurse Association was consequently hastened. Likewise the demonstration of the unique value of generalized sanitary inspection conducted in a modern educational spirit was convincingly made.

Its Value to Cooperating Agencies

Finally, the value of the Health Center demonstration to the Board of Health, the Visiting Nurse Association and to other city organizations should be pointed out. Its value to the Board of Health and the Visiting Nurse Association may be most appropriately judged from the voluntary statements of its representatives as quoted on pages 58 and 100. To other organizations its usefulness has been indicated in the course of this report as well as in the annual reports of such organizations as the Organized Charities, Lowell House, Mothers Aid Society, Neighborhood House, Elm City Free Kindergarten, United Workers Boys' Club, Parent-Teachers Organization and in special motions passed by the Red Cross, New Haven Medical Association, United Trades Council and the Grand Avenue Business Men's Association.

XIII. THE FUTURE OF THE HEALTH CENTER

Original Plans

It was always an aim of the Health Center to prove its value to the district and to the city at large so convincingly that its continuance at the end of the three years of demonstration as one of the Department of Health activities, under its direction and at its expense (exclusive of the work of the Visiting Nurse Association) would be assured. To this end much effort was expended by the Director and the question of the future was brought before the Board of Health and the Board of Finance in the summer of 1922 before the submission of the 1923 city budget. The Board of Health voted to request a cash appropriation of \$12,450, an amount sufficient to finance the Health Center (exclusive of the work of the Visiting Nurse Association) for the year 1923 and also requested in its budget an assistant health officer who after June, 1923, would have been the logical Health Department official to direct the Health Center. The failure of the Board of Finance to appropriate more than the usual \$8,200, and its refusal to appoint an assistant health officer for 1923, seriously affected the Health Center's plans, but with a few retrenchments and a \$2,000 donation from the Red Cross, the year 1923 opened with a \$11,300 budget provided for. The future direction of the Health Center, however, was still an uncertainty.

Final Recommendations

This important consideration was just being taken up in March, 1923, when the Health Center lost by sudden death its fellow-organizer, the Health Officer, the late Dr. Frank W. Wright, whose warm heart, able judgment and desire to improve the health of his people had endeared him to all who had worked with him during his thirty-four years of public service. Matters stood pending the appointment of the new Health Officer, Dr. John L. Rice. Facing the problem of its future, Dr. Rice requested the advice of the Executive Committee and the Board of Control of the Health Center. It was the unanimous feeling of those most keenly interested in the

Health Center that Dr. Rice's plans for the expansion and development of the work of the municipal health department as a whole materially altered the situation and that in view of these plans it was far better to devote all available resources to the carrying out of new policies affecting the entire city rather than to attempt to carry on the Health Center along its old lines. The Visiting Nurse Association felt that with the adoption of generalized nursing throughout the city and with the assumption of the Health Center direction by the Board of Health there would be no substantial advantage from its standpoint in maintaining a special joint organization for the Health Center district. In view of these facts it was therefore decided with the approval of all concerned that the health activities of the Health Center should be conducted by the Department of Health on a re-organized and reduced basis.

The plan, as later worked out in detail by the Health Officer and approved by the Board of Health and the Board of Finance, involved the removal of the headquarters on Grand Avenue to the Greene Street School with the limitation of its work to pre-school and school children. The statement given to the public by the Health Officer is quoted:

Health Officer's Statement Regarding Future of Health Center

"On June 30th, the Health Center completed its three-year demonstration period. This demonstration has been a decided success in arousing in the minds of the people in this district and in the city at large, greater interest in the value of public health work. It has proven the value of several new public health methods of conducting health work in a local district, such as generalized nursing and generalized inspection. It has provided a unique free service, which has given 20,000 health consultations. The Health Center has attained for New Haven a prominent place among the cities throughout the country which are making a special effort in the conservation of life and health.

"On July 1st the Health Center was merged with the Health Department and it is proposed to continue it through the year as a branch office of the Health Department in this district for continuing more important of the Health Center activities, the work among children.

"The headquarters of this branch office are located in a large room in the Greene Street School. The special program of health work to be undertaken in this district consists of the following:

"1. Schick tests and toxin-antitoxin for pre-school and school children.

"2. Physical examination and smallpox vaccination for children expecting to enter school in the fall.

"3. Physical examination and smallpox vaccination of missed school children.

"4. First aid work when necessary.

"In carrying out this work, one physician, whole time, is in direct charge of the work, responsible to the Health Officer. Besides the physician there is a general inspector, communicable disease nurse, school physician, dental hygienist and several school nurses from the Health Department, associated in this work. The Visiting Nurse Association is also carrying on its work in this district, following its regular city plan.

"Frequent conferences will be held at the school of the various workers in the district for coordinating the work and making the most of this center."

APPENDIX

Composition and Characteristics of the Population of Wards 5, 6, and 7. From U. S. Census, 1920

NATIVITY

Total population	26,840	
Native white	16,182	60% of total pop.
Native white—native parentage	2,195	14% of native white
“ “ foreign “	12,748	79% “ “ “
“ “ mixed “	1,239	7% “ “ “
Foreign born white	10,517	39% of total pop.
Negro	132	
Others	9	

AGE AND CITIZENSHIP

Total under 7 years of age	5,597	21% of total pop.
Total 7 to 13 yrs., inclusive	4,747	18% “ “ “
Total 14 to 20 yrs., inclusive	3,039	11% “ “ “
Males 21 years of age and over	7,304	27% “ “ “
Foreign born	5,213	19% “ “ “
Naturalized	1,509	29% of for. born adult males
Females 21 years of age and over	6,153	23% of total pop.
Foreign born	4,264	16% “ “ “
Naturalized	1,258	30% of for. born adult females

ILLITERACY

Total 10 years of age and over	19,043	
Number illiterate	3,163	16% of all over 10 yrs.
Percent. foreign born	97%	

DWELLINGS AND FAMILIES

Dwellings, number	2,036
Families, number	5,150

COUNTRY OF BIRTH OF

FOREIGN-BORN WHITE	Number	% of total pop.
Italy	6,943	25.8
Ireland	935	3.5
Poland	750	2.8
Russia	594	2.2
Lithuania	282	1.0
Germany	185	.7
England	133	.5
Hungary	115	.4
All other countries	580	2.2
	10,517	39.1

**Births—According to Sex, Attendant at Birth, Country
of Birth of Mother and Number of Births for Years
1920, 1921, 1922, with Percentage, for
Health Center District**

	1920		1921		1922	
	Number	%	Number	%	Number	%
Total Births	890	100.	901	100.	849	100.
Sex—Male	465	52.	477	53.	437	51.
Female	425	48.	424	47.	412	49.
Attendant at birth—Physician	303	34.	386	43.	333	40.
Midwife	587	66.	513	57.	576	60.

Birthplace of Mother

Italy	540	60.	553	61.	530	64.
U. S. A.	192	22.	187	21.	202 ¹	24.
Russia ²	51	6.	43	5.	20	2.
Poland ²	35	4.	34	4.	32	4.
Austria ²	25	3.	25	3.	12	1.
Ireland	10	1.	13	1.	13	1.
Other	37	4.	46	5.	40	4.
	890	100.	901	100.	849	100.

Number of Births —

First born	182	20.	176	20.	165	19.
Second born	129	15.	127	14.	155	18.
Third born	107	12.	119	13.	89	11.
Fourth born	108	12.	98	11.	95	11.
Fifth born	104	12.	100	11.	76	9.
6 to 10 born	212	24.	248	27.	216	26.
11 to 18 born	48	5.	23	3.	44.	5.
Unknown	0	0.	10	1.	9	1.
	890	100.	901	100.	849	100.

¹ Of these 202 infants born of native-born mothers, 134 or 66% had Italian names. These added to the 530 infants of mothers born in Italy gives 78% of the 1922 births as of Italian racial stock. This may be considered typical of the past few years.

² The figures for Russia, Poland and Austria as countries of birth are of little value, either as representing racial stock or present-day national groups.

Summary of Health Promoting Services Performed by Entire Health Center Staff, July, 1920— June, 1923

HEALTH CENTER HEADQUARTERS

	July-Dec. 1920	Year 1921	Year 1922	Jan.-June 1923	Total
Consultations	990	3,770	2,540	1,125	8,425
Physical examinations	403	310	118	31	
Pre-natal examinations	24	78	87	18	1,414
Special examinations	68	25	178	79	
Pre-school examinations		645	381	28	1,059
Vaccinations only			810	115	925
Schick Tests			54	968	1,022
Epidemiological visits	282	1,243	1,200	1,443	4,168
School permits	611	2,157	2,828	309	5,905
Toxin-Antitoxin				342	342
Cultures				291	291
Total	2,378	8,228	8,196	4,749	23,551

SCHOOL NURSES² (D. of H.)

School visits	432	863	986	448	2,729
Home visits	1,142	1,782	1,871	812	5,607
Class inspections	253	550	685	271	1,759
Exclusions	178	367	419	303	1,267
Treatments	2,749	7,801	8,168	4,546	23,264
Instructions	5,530	12,833	13,708	7,310	39,381
Special Health Services	993	3,119	2,827	1,468	8,407
Total	11,277	27,315	28,664	15,158	82,414

DENTAL HYGIENE (D. of H.)

Treatments	541	1,568	2,067	1,156	5,332
Talks	11	121	164	68	364
Referred to dentist	32	101	100	21	254
Total	584	1,790	2,331	1,245	5,950

SANITARY INSPECTOR (D. of H.)

House inspections	1,706	3,309	3,082	1,728	9,825
Reinspections	616	959	132	170	1,877
Yard inspections	442	1,694	2,000	983	5,119
Reinspections		142	1,467	165	1,774
Other inspections	527	843	781	437	2,318
Total	3,021	6,947	7,462	3,483	20,913

GENERALIZED PUBLIC
HEALTH NURSES (V.N.A.)

Nursing visits	3,080	6,489	6,826	3,148	19,543
Advisory visits	6,751 ¹	8,821	13,530	7,699	36,801
Social service visits	2,353	1,987	1,125	484	5,949
Conference hours		622	998	388	2,008
Office hours		2,532	3,234	1,717	7,483
Total	12,184	20,451	25,713	13,436	71,784

DIETICIAN & HOUSEKEEPER (V.N.A.)

Home visits	72	1,023	1,220	554	2,869
Nutritional instruction, etc.		645	1,724	534	2,903
Total	72	1,668	2,944	1,088	5,772

WELL BABY AND PRE-SCHOOL
CONFERENCES (V.N.A.)

Attendance at Lowell House	917	1,492	1,446	582	4,437
Neighborhood House	507	1,127	1,384	663	3,681
Seamen's Bethel	240	906	731		1,877
Health Center	19	686	908	283	1,896
Total	1,683	4,211	4,469	1,528	11,891

GRAND TOTAL 31,119 70,610 79,779 40,687 222,275

¹ Including 1,148 visits of station matrons in July, August and September.

Attendance by Six-Months Periods at Well Baby Con-
ferences Health Center District
July, 1920—July, 1923

	Lowell House Pop. 13,000 3 Nurses	Neighborhood House Pop. 6,000 2 Nurses	Seamen's Bethel Pop. 3,000 1 Nurse	Health Center Pop. 5,000 1 Nurse	Total Pop. 27,000 Totals
1920					
July to Dec.	917	507	240	19 ¹	1683
1921					
Jan. to June	635	516	351	239	....
July to Dec.	857	615	555	447	4215
1922					
Jan. to June	634	726	288	513	....
July to Dec.	814	655	443	415	4488
1923					
Jan. to June	571	663	*	283	1517
Grand Total	4428	3682	1877	1916	11,903

¹ December only.

* Temporarily discontinued during Jan. to June, 1923.

Analysis of the 7 Nursing Districts According to Age Distribution and Housing Conditions as of April, 1921

	Dist. No. 1	Dist. No. 2	Dist. No. 3	Dist. No. 4	Dist. No. 5	Dist. No. 6	Dist. No. 7	Total
Infants under 1 year	94	81	54	121	100	104	67	621
Infants 1 year	101	62	62	116	103	97	61	602
Infants 2-5 years	520	383	288	616	502	489	377	3175
Children 6-13 years	801	681	603	1007	811	816	728	5447
Children 14-15 years	137	105	106	182	126	151	142	949
Total Children to 16	1653	1312	1113	2042	1642	1657	1375	10,794
Ages 16-20	205	193	177	224	111	187	206	1303
Adults, 21 and over	1470	2163	2323	1869	1985	1801	2389	14,000
Total occupants	3328	3668	3613	4136	3738	3645	3970	26,097
No. Houses	182	284	273	278	325	248	372	1956
Occupants per house	18.1	12.9	13.6	14.9	11.5	14.6	10.7	13.3
No. of Apartments	732	819	838	855	795	805	931	5775
Apartments per house	4.1	2.9	3.1	3.1	2.4	3.2	2.5	3.0
No. of Rooms	2510	3171	3827	3173	3399	3072	4276	23,353
Rooms per Apartment	3.2	3.9	4.5	3.7	4.3	3.2	4.6	4.0
Occupants per Apartment	4.5	4.5	4.4	4.8	4.7	4.5	4.3	4.5
Approximate number families (No. of Apartments)	732	819	836	855	795	805	931	5775
No. of Boarders (incl. as adults)	50	512	589	80	80	72	267	1650
Individuals under nurses' care (excluding school children)	2527	2987	3010	3128	2927	2829	3242	20,650

(In addition to the total, 26,097, the following institutions contain boarders: Y. W. C. A., 100; Hotel Avon, 110; Little Sisters of the Poor, 120; Total, 330; making a grand total of 26,427).

Age and Sex Distribution. U. S. Census, 1920

	Males	Females	Total	%
Total	13,971	12,869	26,840	100.0
Under 1	419	394	813	3.0
1 to 4	1,596	1,589	3,185	11.9
5 to 9	1,915	1,884	3,799	14.1
10 to 14	1,499	1,553	3,052	11.4
15 to 19	1,051	1,094	2,145	8.0
20 to 44	5,043	4,548	9,602	35.8
45 and over	2,400	1,793	4,193	15.6
Age unknown	37	14	51	.2

Mortality From Tuberculosis Health Center District For Each Year 1915-1923

	Pulmonary only		Pulmonary only including transferred deaths ¹		All forms		All Forms including transferred deaths ¹	
	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000	No. of Deaths	Rate per 100,000
1915	19	73.	22	84.	30	115.	33	126.
1916	17	65.	24	91.	26	99.	33	125.
1917	18	68.	20	75.	27	102.	29	110.
1918	26	97.	32	120.	34	128.	40	150.
1919	17	64.	30	112.	25	93.	38	142.
1920	12	45.	24	89.	15	56.	27	100.
1921	20	74.	27	100.	30	111.	37	137.
1922	15	50.	19	70.	21	77.	25	92.
1923 ²	3	22.	6	43.	9	65.	12	88.

¹ Deaths of Health Center residents occurring in the six State Tuberculosis Sanitoria outside of New Haven and not reported to Registrar of Vital Statistics in New Haven.

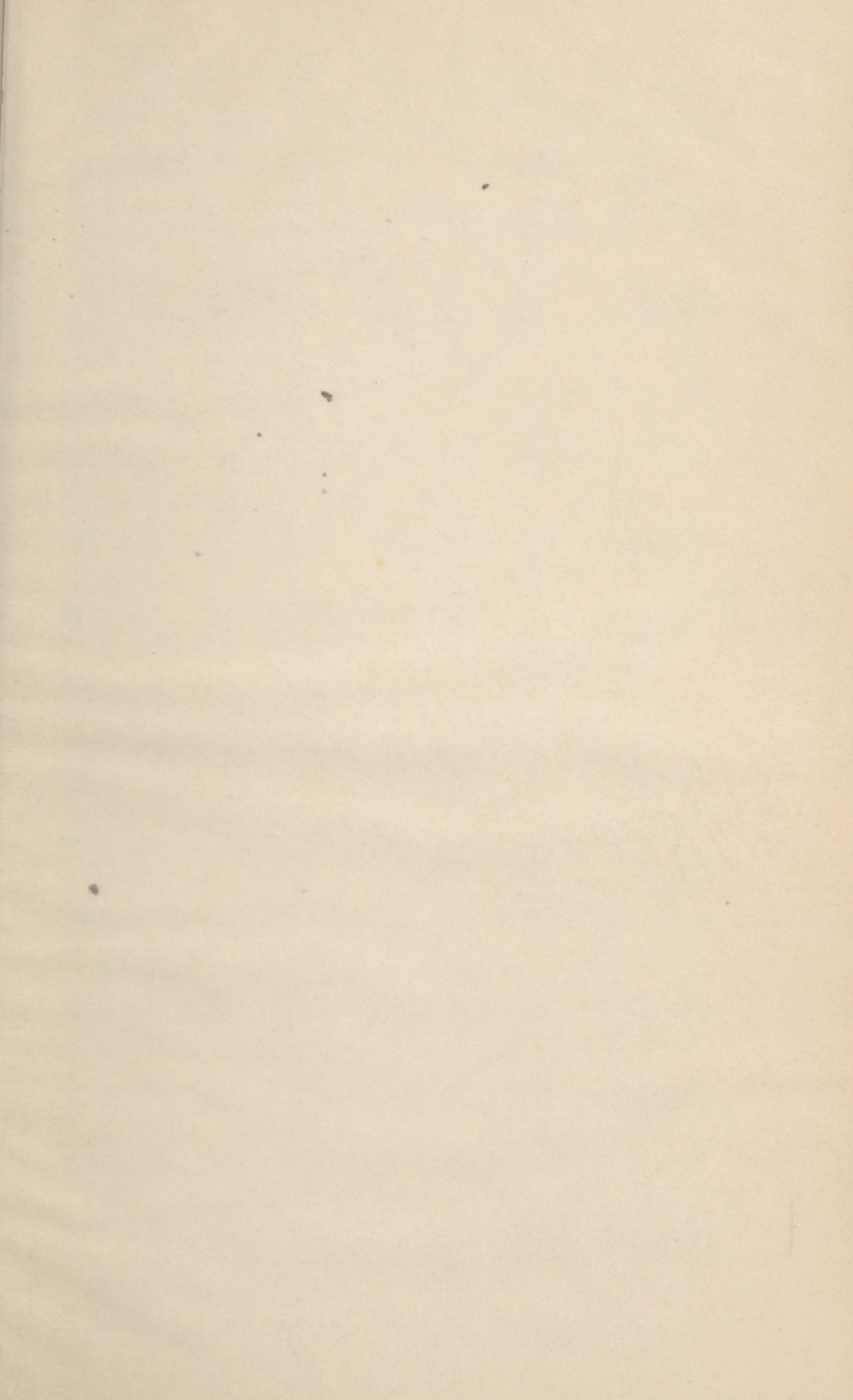
² For six months only, rate calculated on yearly basis.

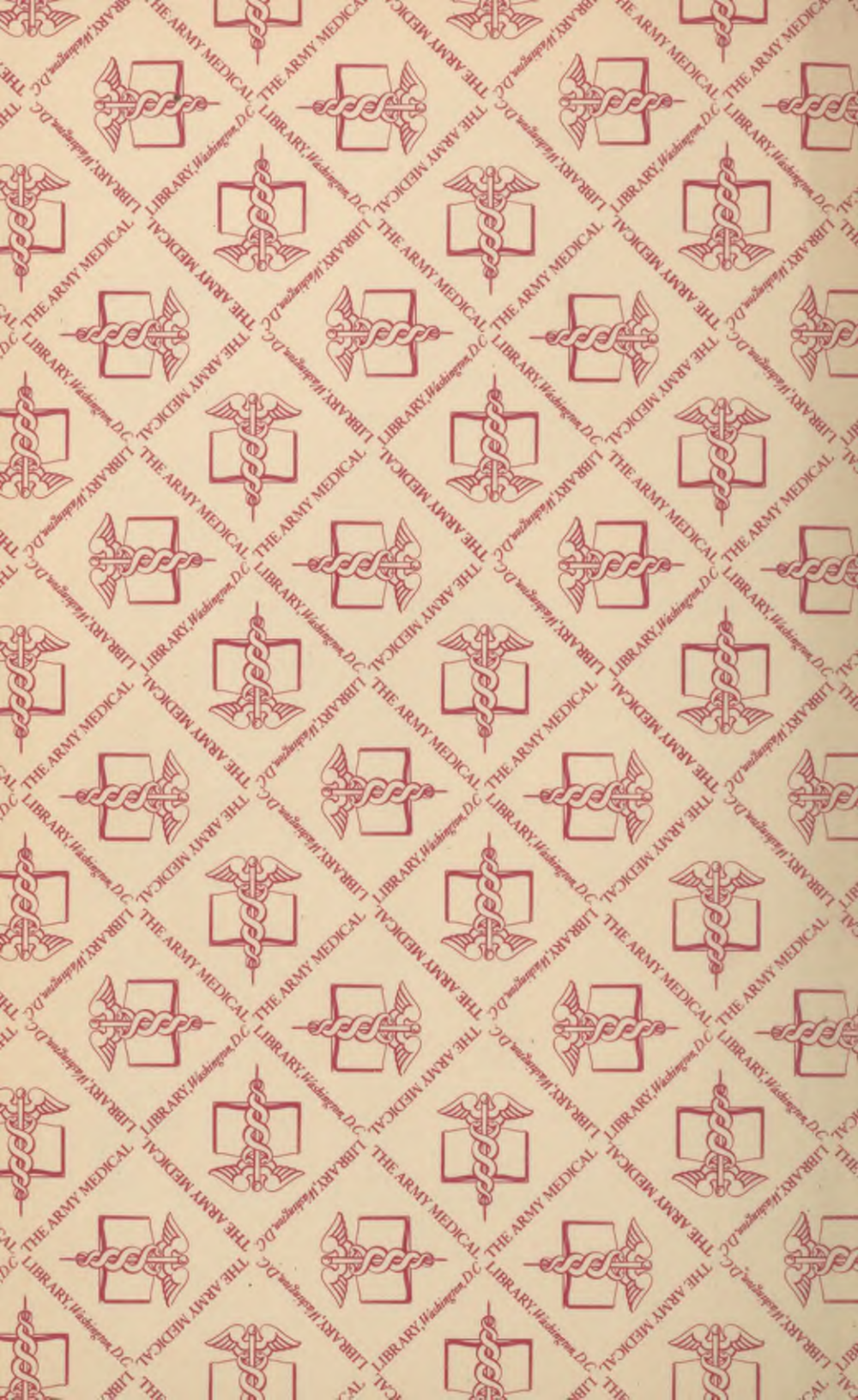
Number of Deaths in Health Center District From Certain Major Causes of Death For Years 1915-1923

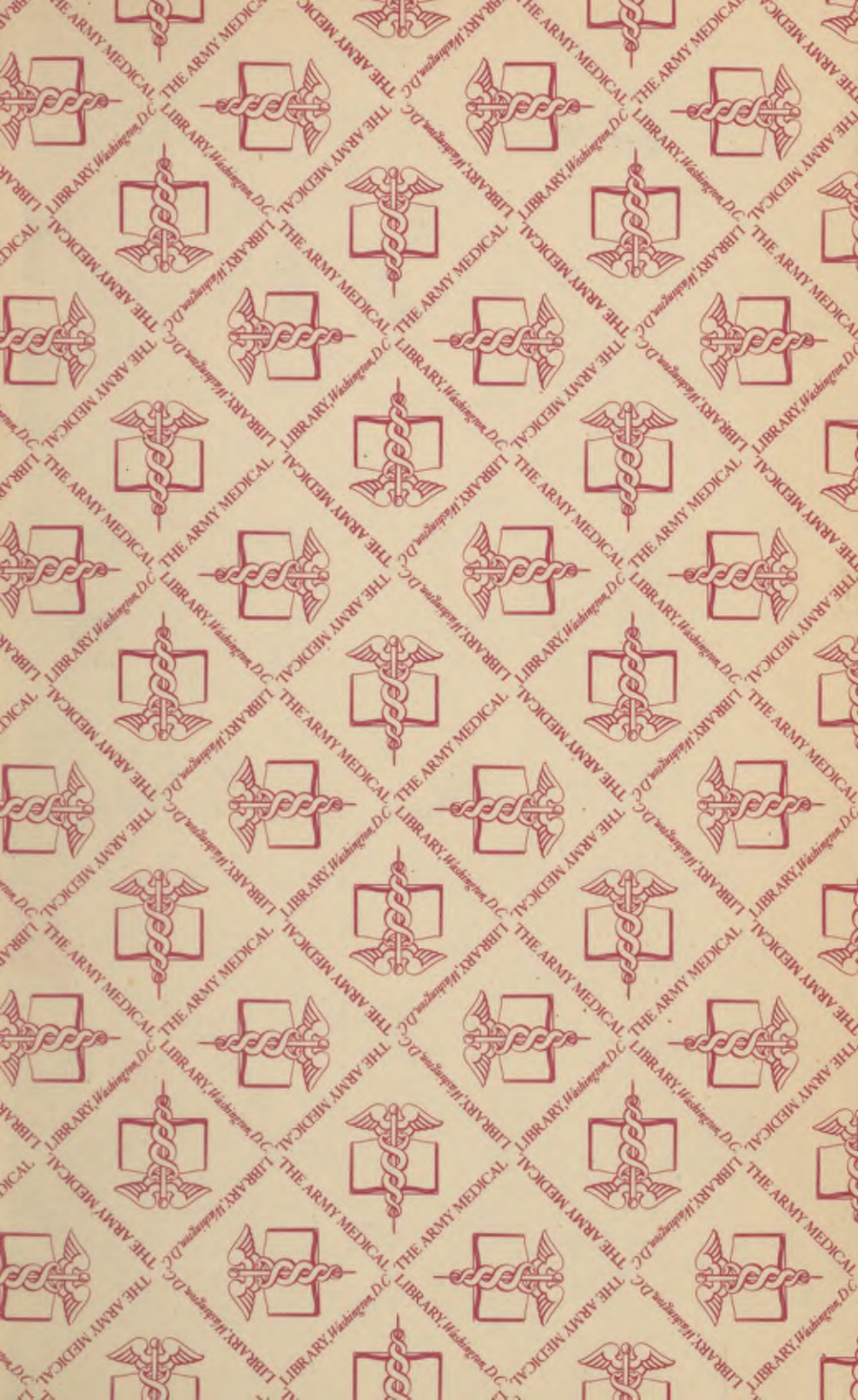
	1915	1916	1917	1918	1919	1920	1921	1922	1923 ¹
Typhoid fever	6	0	4	0	1	1	2	5	0
Diphtheria	9	6	4	5	8	2	4	3	1
Whooping cough	4	5	3	11	1	7	2	1	2
Scarlet fever	0	2	0	0	0	0	0	1	0
Measles	6	1	11	4	3	15	2	16	3
Pulmonary T. B.	22	24	20	32	30	24	27	19	6
Diarrhea (0-2)	31	24	28	17	27	26	11	17	4
Prematurity, Congenital Debility and Malformations ²	23	2	27	30	15	30	33	18	18
Pneumonia, all forms	85	75	76	108	37	61	37	56	35
Under 1 year	104	97	96	90	65	95	61	63	40
Inf. Mortality Rate . . . . .	..	..	..	86.	73.	107.	68.	74.	98.

¹ January to June only.

² Numbers 150, 151, 152 of the International Classification of Causes of Death.







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