New York. Academy of Medicine. Committee on Health relations.

The Hospital Situation in Greater New York

Report of
A Survey of Hospitals in New York City
by
The Public Health Committee
of
The New York Academy of Medicine, Committee on Public Health Relations

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With Illustrations

G. P. Putnam's Sons
New York & London
The Knickerbocker Press
1924

Made in the United States of America

FOREWORD

"*Non est vivere sed valere vita.*"—MARTIAL

THE study of hospital conditions in Greater New York has occupied the time of the regular staff of the Public Health Committee of the New York Academy of Medicine for the greater part of a year. It has been assisted during much of this time by a special staff of four physicians, three nurses, three social workers and two accountants.

Although the study has been confined to hospital conditions in Greater New York, the results have not a local value alone, for about ten per cent. of all the hospital beds of the country are in this City. Besides, the work covers many subjects which have an application to all localities. Thus, the problem of illness (morbidity) in its relation to hospitals and home life has received a great deal of attention. Other topics having a general interest that have been studied are: the adequacy of hospitals to a given population; ambulance work; the make-up of hospital staffs; facilities for teaching; the costs of hospital construction; administrative organization; the character of hospital records; the character of laboratory work; and provisions for convalescence.

Some of the data obtained may be summarized here:

There are in New York City about 32,000 hospital beds in the 182 hospitals. This does not include the State

hospitals for the insane which are located within the confines of the City. It includes, however, beds in 68 proprietary hospitals.

The investment in real estate alone amounts to eighty million dollars, and the annual maintenance costs a total of thirty-five million dollars.

The 114 community hospitals have a bed capacity of 26,232 beds. Forty per cent. of the hospital beds are maintained by the municipality. Of the 26,232 beds in community hospitals, 18,399 are in general hospitals, and 7,833 are in special hospitals.

About 375,000 patients are treated in our hospitals annually.

Over 3,200 physicians and surgeons are on the visiting staffs of the hospitals, and more than 6,500 nurses are engaged in the care of the sick.

The data and views expressed in the report have been carefully considered by the members of the Public Health Committee. Acknowledgments are due Dr. R. L. Dickinson, Dr. S. S. Goldwater, and Dr. Linsly R. Williams for special time and attention given by them to the reading and revision of the manuscript; also to our Executive Secretary, Dr. E. H. Lewinski-Corwin, for the industry and devotion he has bestowed on the work.

CHAS. L. DANA,
Chairman.

PREFACE

THE "survey" is one of the distinctive features of our American democracy. Through this form of stock-taking of existing conditions, our community assets are appraised, the need for alterations or additions to particular sections of our social structure is revealed, and the sense of responsibility is quickened.

During the thirteen years of its existence, the Public Health Committee of the New York Academy of Medicine has conducted a number of surveys in the domain of its particular interests. These surveys have paved the way for substantial progress in the organization of medical and public health activities in the City. The improvement of dispensary or out-patient work may be cited as one example.

The present volume is the report of a study of hospital conditions in New York City. The survey was undertaken because of the rapid growth of hospital accommodations, a growth unguided by a community policy concerning the need of further services and the better adjustment of existing facilities to the requirements of the metropolis. We have in New York City a farrago of hospital services, excellent and mediocre, large and small, expensive and gratuitous, general and special. Until recently there was no agency in the City which was fully conversant with the facts in the situation. The survey was undertaken with a view of ascertaining the existing

hospital services, analyzing the excellencies and deficiencies of organization and management, and making suggestions for such improvements and changes as seemed desirable. If in the report more emphasis is laid on the shortcomings than on the many achievements of our institutions, it is not done in any spirit of disparagement of their splendid work, but in the belief that constructive and friendly criticism is of a greater social value than unqualified praise which may lead to self-complacency. At the present time, the hospitals in New York City are much better equipped and administered than ever before; they are served by as competent and conscientious a corps of physicians and nurses as they have ever had; and they deservedly enjoy the confidence of the public to a greater extent than at any time in the past. The utilization of hospitals on the part of the sick has greatly increased, and this has created greater popular interest in hospitals and placed upon them ever greater demands for efficiency in the discharge of their community responsibility.

The survey revealed the need in the City of an agency which would continuously gather and interpret facts about hospitals and which would serve these institutions as well as the public with information concerning community needs and hospital procedures and problems. At the suggestion of the Public Health Committee of the New York Academy of Medicine, such an agency was established by the United Hospital Fund of New York City, known as the Hospital Information Bureau. Its first year of operation proved convincingly the need and value of such a service, both to the hospitals and the community at large.

The carrying out of this survey would have been impossible without the ready and helpful co-operation of hos-

pital trustees and executives, the assistance of the many physicians associated with the hospitals as well as the aid afforded by nurses and social workers. Hearty appreciation is due them for their good will and the fine public spirit which animates their discharge of arduous duties.

The keen individual and collective interest in the conduct and interpretation of the study on the part of members of the Public Health Committee of the New York Academy of Medicine has greatly facilitated the preparation of the report. Chapter XI, dealing with community policy toward hospitals, represents the conclusions of the Committee and has been approved by unanimous vote. Drs. Robert L. Dickinson, S. S. Goldwater, and Linsly R. Williams read the last draft of the report with care and contributed much to lucidity of exposition.

Dr. C. C. Burlingame very kindly consented to assist in the wearisome task of proof-reading.

Mention should also be made of the painstaking effort with which the staff endeavored to obtain and record the facts with the greatest amount of accuracy. Special credit should be accorded to the work of Miss Dorothy Aidman, Mr. Frank E. Brooke, Dr. Walter M. Brunet, Dr. Thos. K. Davis, Dr. Theodore Lorenz, Mr. Richard Mackenzie, Miss Mary Tobin, Dr. Charles Upham, and particularly Dr. A. Eleanore Conover. Dr. Conover is entirely responsible for the analysis of the vast amount of material dealt with in Chapter VIII and assisted throughout in the preparation of the report.

Recognition is due to the A. R. Elliott Publishing Co., for permission to reprint the material contained in Chapter IX which was published in the Dec. 19, 1923, issue of the *Medical Journal and Record.*

The survey has accomplished its main object of stimu-

lating thought and discussion and of creating a better orientation in this field of community service and responsibility. The Committee believes, however, that the publication of the information secured will be an additional contribution as the book may serve as a source of reference and information for some time to come, although details of organization are constantly changing; even certain statements of fact, as ascertained at the time of the survey, may not now be current. The Committee was urged to publish the report by many who felt that there is need of a source book of this kind. Numerous tables and details of discussion have been omitted for the sake of brevity.

E. H. L.-C.

April, 1924.
17 West 43rd Street,
New York.

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HISTORICAL SKETCH

THE history of hospitals in New York City, as elsewhere, is an account of the evolution of community responsibility toward the problem of disease in its various relationships, and of the development of medical science in its academic, practical and organizational aspects. The hospital annals of New York City are replete with accounts of unselfish devotion, humane sympathy, wise and yet lavish benevolence, hard work and great achievement. The following pages give but a sketchy outline of the successive steps taken in building up the vast hospital system of New York City. This system had its faint beginning in connection with the "Publick Workhouse and House of Correction" built by the City in 1736 on the site where the present City Hall stands. One room measuring 25 feet by 23 feet, with 6 beds, was set apart as a hospital ward. In 1795 a new building for the Workhouse was erected on the same site and early in the second decade of the nineteenth century the institution was moved to Bellevue Farm on East River which the City had acquired from the Murray estate and where two hospital pavilions were established. On the same property in 1794 a Pesthouse had been erected. Through successive removals of various types of inmates, first, children, then prisoners, then the insane, the buildings on the

Bellevue Farm became devoted exclusively to the care of the sick. In this way the present Bellevue Hospital evolved. In 1837 the Pesthouse was moved to the extreme south end of Blackwell's Island, the present site of Schuyler Hall, and was named the Smallpox Hospital of the City of New York.

The first beginnings of a school of medicine in New York City are traceable to 1767 when such a school was established in conjunction with King's College, thanks to the efforts of Dr. Samuel Bard and five other physicians.[1]

Dr. Bard was also instrumental in founding the New York Hospital. In his "Sketch of the Origin and Progress of Medical Schools of New York and Philadelphia," published in January, 1812, in *The American Medical and Philosophical Register*,[2] referring to Dr. Bard's address at the first medical graduation in 1769, Dr. David Hosack says that

upon the same day on which it was delivered a subscription was commenced by his excellency, Sir Henry Moore, then governor of the province, and the sum of eight hundred pounds sterling collected for that establishment. The corporation of the city, animated by the same public spirit and active benevo-

[1] "When, early in the War of the Revolution, King's College was closed, the work of the medical school also ceased, and it remained in abeyance throughout the war. On the reopening of the College under the name of Columbia in 1784 a new medical faculty was appointed. . . . It was not until 1792 that a complete reorganization was effected. . . . Success, however, was not thus assured, and though the work of teaching was continued for the succeeding 21 years, the number of students was small. . . . Meanwhile, the College of Physicians and Surgeons had been organized, and in 1813 the medical school of Columbia was discontinued and its faculty was transferred to its newer and more successful rival. . . . In 1860 the College of Physicians and Surgeons in turn came under the ægis of Columbia . . ." (Frederic S. Lee, *The History of the School of Medicine*, New York, 1904.)

[2] pp. 230–231.

THE FIRST POORHOUSE IN NEW YORK, 1736

It occupied the site on which the City Hall now stands. The room on the west side of the first floor, facing Broadway, was set apart as the Infirmary. It was the forerunner of Bellevue Hospital.

(From "An Account of Bellevue Hospital," ed. by Dr. Robert J. Carlisle, published by the "Society of the Alumni of Bellevue Hospital," New York, 1893.)

lence, in a short time added three thousand pounds sterling to the first subscription; when the united amount was employed in laying the foundation of that valuable institution, now the pride of our city, and alike devoted to the purposes of humanity, and the promotion of medical science.

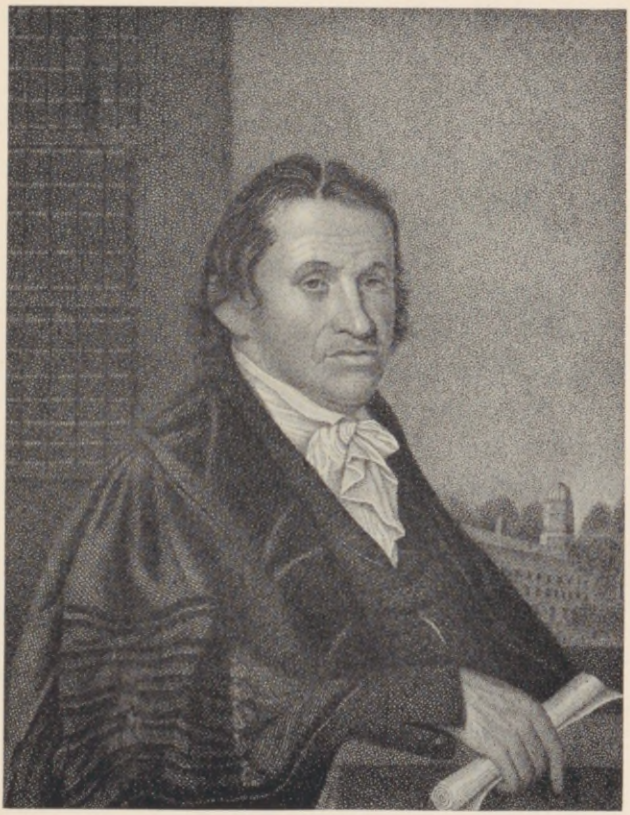
The charter for it was secured in 1771 and the corporation became known as "The Society of the Hospital of the City of New York in America." The name was changed in 1810 to "The Society of the New York Hospital." The incorporators were "the Mayor, Recorder, Alderman and Assistant Alderman of the City of New York, Director of Trinity Church, New York, and one minister each of the ministries of the City, and the President of King's College, New York." Building operations began in 1773 and when, in 1775, the structure was nearly completed, it took fire and was almost entirely destroyed. The Legislature voted 8,000 pounds sterling a year for 20 years. On account of the war, however, the hospital was not opened for patients until 1791.

In the same year the New York Dispensary was opened, thanks to the combined efforts of Rev. John Rogers and the City Medical Society. It is of interest to quote from an early announcement describing the types of persons the Dispensary was to serve:

The Dispensary provides assistance for that description of persons who, when deprived by disease of the earnings of their daily labor are also deprived of the means of procuring the medical assistance necessary for their relief. The mechanic who cannot, without great inconvenience, leave his family to reside in a hospital, the mother who cannot be separated from her children, the tender infant who requires the constant care and assistance of a fond parent, those who labor under chronic disease and are thence not objects of the hospital, are the peculiar objects of this charity.

The establishment of the Society of the Lying-in Hospital is associated with an epidemic of yellow fever which visited the City in 1798 and many pregnant women were left destitute in consequence of the death of their husbands. Dr. David Hosack took an interest in their predicament and circulated a subscription paper proposing the establishment of a maternity hospital. In 1799 the Legislature passed the necessary act of incorporation. As there were not sufficient funds available to meet the expense of a separate institution, the governors of the Society entered into an arrangement with the New York Hospital in 1801 whereby a special lying-in ward was established and toward the maintenance of that ward the interest of the then existing funds of the Lying-in Society were devoted. This arrangement lasted for 26 years until 1827 when it was terminated by action of the governors of the New York Hospital. In 1823 the "New York Asylum for Lying-in Women" was likewise organized for the purpose of providing comfortable accommodations and skillful medical attendance to reputable females during the period of their confinement. This institution was the forerunner of the present Nursery and Child's Hospital and, like the Lying-in Hospital, had its first home in a ward at the New York Hospital. This ward was opened on November 1, 1823. The activity of Dr. Hosack and his associates stimulated action on the part of city authorities who, in 1799, set aside a ward in the Almshouse for maternity cases. This service was put under the direction of Dr. Valentine Seaman.

From the earliest days the City annals disclose a concern with the problem of the insane. The Almshouse was their first refuge and in 1826 separate wards were established at Bellevue for the care of insane patients. Even earlier, the Society of the New York Hospital made



SAMUEL BARD, M.D.

1742-1821

(From a painting by Vanderlyn, printed by Ridley, in "American Medical Biography: or, Memoirs of Eminent Physicians who Have Flourished in America," by Dr. James Thacher, Boston: Richardson & Lord and Cotton & Barnard, 1828.)

accommodations in its building for mental cases. In 1808 a special building was erected for the care of the insane and this soon proved inadequate. The governors obtained a grant from the Legislature and erected a new building "about 7 miles from the City of New York near the Hudson River and facing the Bloomingdale Road." The institution was opened in 1821 as the Bloomingdale Asylum and was located not far from where St. Luke's Hospital stands today. In an address of the governors of the New York Hospital to the public made on May 10, 1821, and signed by Matthew Clarkson, President, and Thomas Buckley, Secretary, the purpose, the organization and methods of procedure are described. Since these indicate a point of view which is modern even today, it is worth quoting at length from this report:

The Governors of the New York Hospital have the satisfaction to announce to the public, the completion of the asylum for the insane; and that it will be open for the reception of patients, from any part of the United States. . . .

Attached to the buildings are about seventy acres of land, a great part of which has been laid out in walks, ornamental grounds, and extensive gardens.

This institution has been established by the bounty of the Legislature of the State of New-York, on the most liberal and enlarged plan, and with the express design to carry into effect that system of management of the insane, happily termed *moral treatment*, the superior efficacy of which has been demonstrated in several of the Hospitals of Europe, and especially in that admirable establishment of the Society of Friends, called "The Retreat," near York, in England. This mild and humane mode of treatment, when contrasted with the harsh and cruel usage, and the severe and unnecessary restraint, which have formerly disgraced the most celebrated lunatic asylums, may be considered as one of the noblest

triumphs of pure and enlightened benevolence. But it is by no means the intention of the Governors to rely on moral, to the exclusion of medical treatment. It is from a judicious combination of both, that the greatest success is to be expected in every attempt to cure or mitigate the disease of insanity.

In the construction of the edifice and in its interior arrangements, it has been considered important to avoid, as far as practicable, consistently with a due regard for the safety of the patients, whatever might impress their minds with the idea of a prison or a place of punishment, and to make everything conduce to their health and to their ease and comfort. The self-respect and complacency which may thus be produced in the insane, must have a salutary influence in restoring the mind to its wonted serenity. In the disposition of the grounds attached to the asylum, everything has been done with reference to the amusement, agreeable occupation, and salutary exercise of the patients.

Agriculture, horticulture, and mechanical employments, may be resorted to, whenever the inclination of the patient, or their probable beneficial effects may render them desirable. To dispel gloomy images, to break morbid associations, to lead the feelings into their proper current, and to restore the mind to its natural poise, various less active amusements will be provided. Reading, writing, drawing, innocent sports, tending and feeding domestic animals, etc., will be encouraged as they may be found conducive to the recovery of the patients.

. . .

The apartments of the house are adapted to the accommodation of the patients, according to their sex, degree of disease, habits of life, and the wishes of their friends. The male and female apartments are entirely separated, so as to be completely secluded from the view of each other.[1]

[1] "Address of the Governors of the New York Hospital to the Public, relative to the Asylum for the Insane at Bloomingdale," New York, May 10, 1821, signed for the Board of Governors by Matthew Clarkson, President, Thomas Buckley, Secretary.

DAVID HOSACK, M.D.

1769-1835

(From a painting by Sully, engraved by Chas. Heath, in "Lives of Eminent American Physicians and Surgeons of the XIXth Century," ed. by Dr. Samuel Gross, Phila.: Lindsay & Blakiston, 1861.)

In 1835 work on the Municipal Lunatic Asylum on Blackwell's Island was begun, but it was not finished until 1848. Although it had a capacity for 200 patients, 400 patients had to be accommodated. From the very start all institutions for the care of the insane in New York were overcrowded—a condition which prevails at the present day.

Owing to the efforts of the State Medical Society the Legislature provided in 1836 for a State Hospital for the Insane at Utica. The memorial of the State Society describes the prevailing sad state of affairs as concerns the insane in the State of New York. It was estimated that about 3,000 persons needed hospital accommodations, two-thirds of whom had to be supported at public expense.

Aside from the treatment of contagious and mental diseases no specialization had yet taken place; the two maternity institutions were still operating merely as wards of a hospital. In 1818 the first definite differentiation took place when the Eye Infirmary was established at 45 Chatham Square. The success of this modest institution was such that, following a meeting in 1821 at the City Hotel, a public subscription was opened, and the institution was incorporated under the name of the New York Eye Infirmary. Two years later a department for diseases of the ear was added. In 1856, after many peregrinations, the institution settled at its present site—Second Avenue and Thirteenth Street, and a new building was erected which included accommodations for indoor patients as well.

During the first half of the century the only additions to medical institutions of the City, were dispensaries; no new hospital was erected during this period. Three dispensaries followed the establishment of the Eye Infirmary.

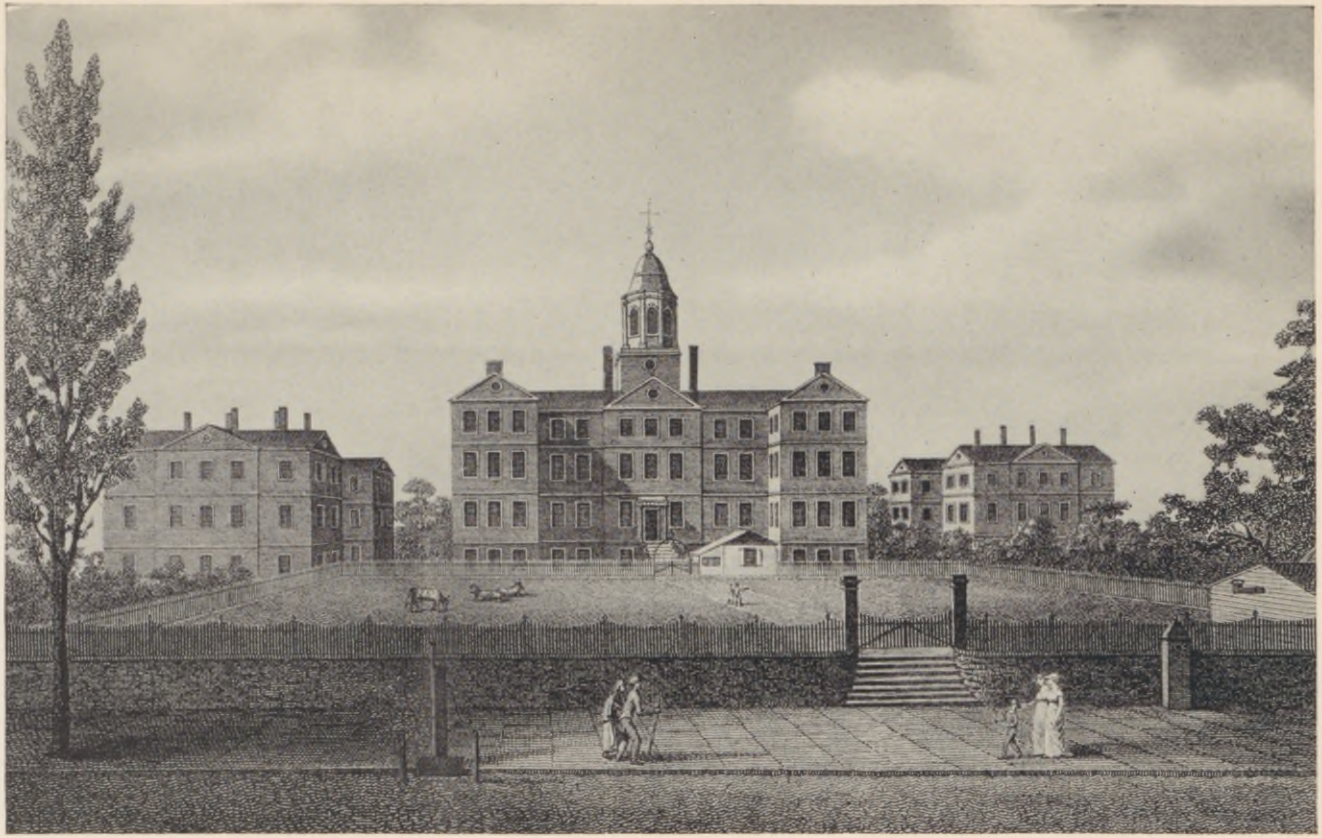
The Northern Dispensary, founded in 1827, was intended by its governors to meet the needs of the population which had extended northward. The Dispensary was located at Herring and Commerce Streets, but this location was soon changed to one farther north at Carmine Street near Sixth Avenue.

A few years later, in 1832, the Eastern Dispensary began operation on the East Side in rooms rented in the Essex Market building at the corner of Essex and Grand Streets. The financial difficulties experienced were solved by an agreement reached with the executors of the will of Sarah H. Burr who had left funds to establish a dispensary for the purpose of giving medical aid and advice to the indigent and to be called "The Good Samaritan Dispensary." The name of the Eastern Dispensary was thus changed.

The third dispensary to be opened before the middle of the century was the New York Homeopathic Dispensary in 1845, fostered by the New York Homeopathic Physicians' Society which had been organized several years back. It was not until 1860, however, that a permanent college devoted to the teachings of homeopathy came into existence.

The development of hospitals across the East River, in Brooklyn, was similar to that in Manhattan. The first hospital provision was made in 1832 in connection with the poorhouse at Flatbush. In the course of time a Lunatic Asylum was erected on the City Farm within the boundaries of the poorhouse property. The asylum soon became overcrowded and steps were taken in 1844 to erect a new building which was completed the following year. Meanwhile, the facilities for the treatment of the sick in connection with the County Poorhouse were developed.

The Brooklyn Hospital, at first known as the Brooklyn



THE NEW YORK HOSPITAL, 1820

Located on Broadway, opposite Pearl Street

(Taken from "An Account of the New York Hospital," New York, 1820)

City Hospital, was incorporated in 1845 after a public meeting which was convened under the auspices of the Brooklyn Association for Improving the Condition of the Poor. The erection of the hospital building was preceded by a Dispensary, known as the Brooklyn City Dispensary.

The impetus for further extension of the hospital facilities of the City came about the middle of the last century and it derived its momentum chiefly from two sources—the growth of the City and the great advancement of medical knowledge which took place about that time. Twelve hospitals and five or six independent dispensaries sprang into existence during the decade from 1850 to 1860, and the already existing institutions were further developed. It is within this period that Bellevue Hospital became an important teaching institution and the City Hospital on Blackwell's Island (known at first as the Island Hospital and later as the Charity Hospital) was established and placed at first under the direction of the Medical Board of Bellevue Hospital. Prior to 1848 the responsibility for the discharge of medical work at Bellevue was vested in a Resident Physician who was appointed by the Common Council. It was a political office and the incumbent changed with every change of administration. In the words of Dr. B. W. MacCready—"the change was rarely for the better."[1] The work of the hospital was performed by several young graduates "whose most essential qualification was the payment of a handsome fee to the Resident Physician."[1] In 1848 a reform was instituted whereby the government of the hospital was entrusted to a medical board of eminent

[1] From speech made at the opening of Bellevue Hospital Medical College in 1861, published in the *American Medical Times*, New York, October 26, 1861.

men, and regular clinical instruction began. Conditions improved very rapidly and in 1861 a medical school was opened in conjunction with the hospital.

At that time a change in public attitude toward hospitals became discernible. The hospitals were no longer regarded as institutions for the poor exclusively; they began to be patronized to an increasing extent by patients who were able to pay for service. St. Vincent's Hospital built in 1850 was the first to provide comfortable private rooms for pay patients. It was also the first denominational hospital in the City.

St. Vincent's was soon followed by the establishment of St. Luke's Hospital which at first was conceived as an appendage to one of the parishes, but because the appeal for contributions found such ready response throughout the Protestant Episcopal community of the City, its scope was greatly enlarged.

Following very closely on the footsteps of these two denominational hospitals came the "Jews' Hospital of the City of New York" in 1852—the forerunner of Mt. Sinai Hospital. The present name was given to the institution in 1872 when ground on Lexington Avenue between 66th and 67th Streets was donated to the hospital by the Common Council of the City.

The first hospital in this City to be built by an immigrant group was the German Hospital, now known as the Lenox Hill Hospital. Rev. J. F. Richmond in his book on "*New York and Its Institutions*" ascribes the organization of this hospital to the fact that "Americans for the most part prefer to be treated at home even in extreme cases, while Europeans resort to the hospital when overtaken with slight illness. . . . It is this early education that has prompted so many foreigners to plan a hospital soon after taking up their residence in an American city."

VIEW OF BROOKLYN HOSPITAL IN 1851

The first hospital established in Brooklyn

(Courtesy of Dr. W. G. Neally)

The dispensary of the German Hospital was opened in 1857, four years before the hospital was incorporated.

During this period there came into existence the Home and Hospital for Colored People, now known as the Lincoln Hospital and Home.

The medical and surgical treatment of the diseases peculiar to women began to be considered a specialty, and this led to the organization of the Woman's Hospital which is closely associated with the name of Dr. J. Marion Sims. Substantial grants were made by the City and the State toward the establishment of the institution.

The development of gynecology and the active interest of women in medical practice was responsible for the establishment of the Infirmary for Women and Children by the sisters Elizabeth and Emily Blackwell in 1853,[1] and renewed activity on the part of the New York Asylum for Lying-in Women (the present Nursery and Child's Hospital) and the Society of the Lying-in Hospital. The objects of the Infirmary for Women and Children were to afford indigent women the opportunity of consulting physicians of their own sex, to assist educated women in the practical study of medicine and to form a school of instruction in nursing and the laws of health.

The only other special hospital founded in the same decade was the New York Ophthalmic Hospital. By a special grant of the Legislature this institution subsequently received the power to grant and confer the degree of "Oculi et Auris Chirurgus."

The dispensaries started in that period were the Demilt Dispensary and the Northwestern Dispensary, both of which were established in 1852.

[1] The teaching was subsequently developed by Dr. Mary Putnam, later Mary Putnam Jacobi: *Life and Letters of Mary Putnam Jacobi*, G. P. Putnam's Sons, New York, 1924.

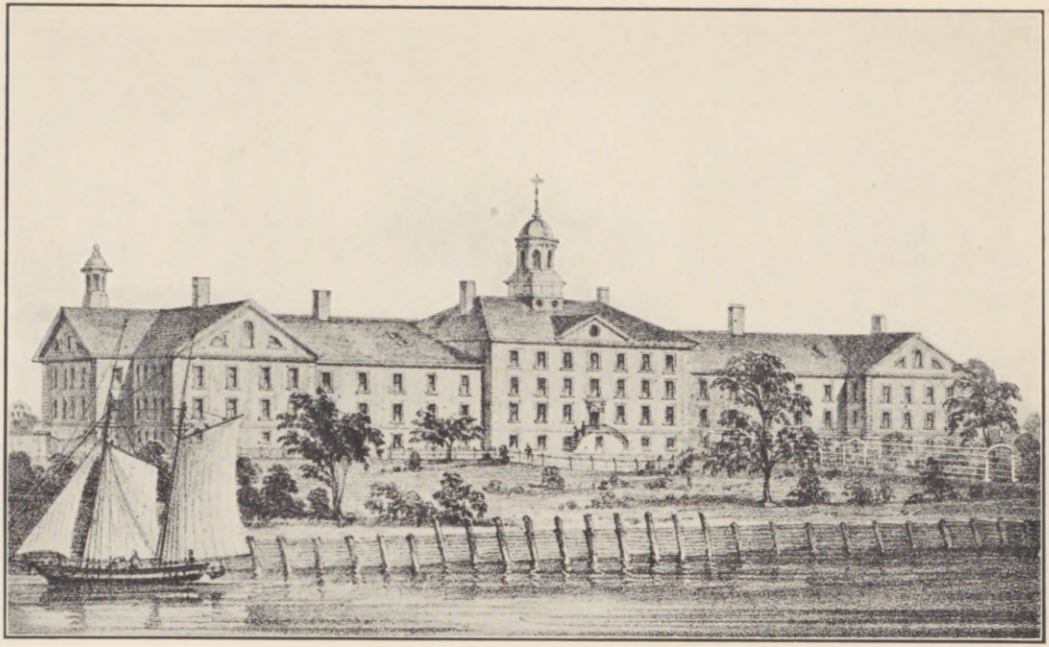
Up to 1851 the Brooklyn City Dispensary was the only one in the sister city across the East River. In that year the Williamsburgh Dispensary was opened. After the building of the bridge in 1883, the name was changed to the Eastern District Dispensary. The third dispensary to be established was the Brooklyn Central Dispensary opened in 1855 at Flatbush Avenue near Nevins Street.

In 1856, one year before the German Dispensary in Manhattan was organized, a number of German physicians and surgeons of Brooklyn combined to institute a charitable medical service in the German section of Brooklyn. This was soon merged with the newly founded St. John's Hospital. In March, 1857, the Long Island College Hospital was incorporated for the double purpose of "maintaining a public hospital" and "for promoting medical science and instruction in the department of learning connected therewith."

The only other institution which came into existence in Brooklyn during this decade was the Brooklyn Homeopathic Dispensary.

The development of hospitals in Brooklyn and other sections of Greater New York lagged behind that of Manhattan. It was only in the seventh and eighth decades of the last century that the provision for the institutional accommodations for the sick took place in Brooklyn on a wider scale. This was also a period of extension of hospital facilities in the other boroughs of the City. The first hospital in Queens was that of St. John's, Long Island City, which was founded in 1861 by the Sisters of St. Joseph, the same year in which the Samuel R. Smith Infirmary was started on Staten Island.

Phenomenal advancement in medical knowledge took place in the 70's and 80's; marked improvements in surgical technique, the introduction of asepsis, the establish-



BELLEVUE HOSPITAL, 1848

(From "Rules and Regulations for the Government of Bellevue Hospital," New York, 1848)

ment of laboratories and other ancillary departments called for appropriate changes and extension in the hospital plants. It was also during this period that the training schools for nurses were introduced and this innovation marked a turning point in the organization of hospital service.

Bellevue Hospital was the first to introduce the modern training school for nurses. In the municipal hospitals the need of a higher class of ward attendant was particularly felt because of the prevailing practice, dating back to the earliest stages of hospital development, of using almshouse and penitentiary inmates as hospital helpers. The school was started in 1873 following the recommendations of the report of Dr. Gill Wylie who was sent to England to study the school established by Florence Nightingale at the St. Thomas Hospital in London. The organizer of the school at Bellevue Hospital was a nurse chosen for the purpose by Miss Nightingale.

The first ambulance service in the City for other than contagious disease cases, was established in connection with Bellevue Hospital in 1869 and served the whole City. Since that time many other hospitals have introduced this service and it has become necessary to divide the city into ambulance areas. The supervision over this work is vested in the Ambulance Board of five members, three of whom serve ex-officio, and the work is directed by an executive officer paid by the City. The Department of Health maintains its own ambulances designed exclusively for the transportation of patients suffering from contagious diseases.

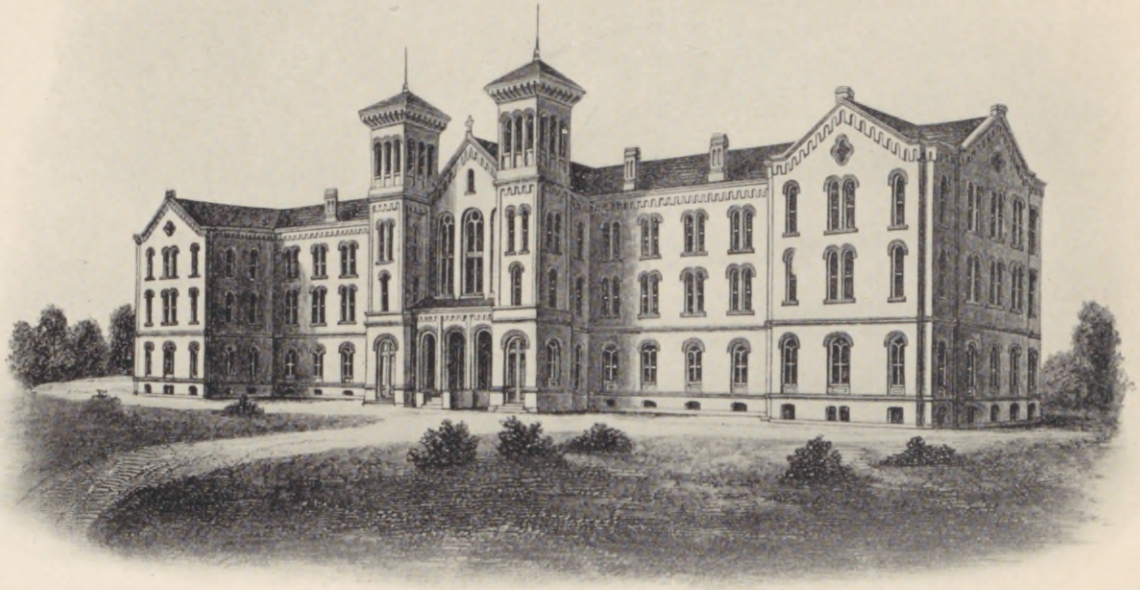
It is impossible in this brief sketch to give more than an enumeration of the hospitals and dispensaries founded since 1870 or thereabouts. The appended table lists these by decades. Some of the hospitals and dispensaries

have ceased to exist, some have combined with other institutions. In recent years the Demilt Dispensary merged with the Reconstruction Hospital, the Laura Franklin Hospital for Children with the Fifth Avenue Hospital and St. Christopher's for Children with the Brooklyn Hospital.

A survey of the trend of hospital development reveals the same lack of a conscious directing force which characterizes that of nearly every branch of social evolution. Scientific enthusiasm and individual initiative, generous benevolence and the rapidly extending city boundaries combined to beget in rapid succession hospitals of one kind or another.

It will be observed that during the 70's a big stride in the development of homeopathic institutions for the sick took place and that the decade of 1880 was the most prolific in the creation of new hospitals. These two decades show also the establishment of most of the special institutions. Aside from the growth of the population, the reasons for the growth of special hospitals were, first, that general hospitals as a rule had no facilities for the introduction of specialties as these arose, and second, that invariably the general hospitals could not provide facilities for pioneering initiative or an opportunity for research along certain specified lines.

It was during this period, also, that the public health movement took on its modern aspects and hospitals for the care of contagious diseases and tuberculosis began to be built. In 1875 the Smallpox Hospital located at the southern end of Blackwell's Island was transferred to the jurisdiction of the Board of Health and was renamed Riverside Hospital. This name was applied to the new hospital which was later erected on North Brother Island. As to the selection of this island for hospital purposes the



ST. LUKE'S HOSPITAL, 1860

Located on the site now occupied by the University Club, Fifth Ave. at 54th St.

(From "An Account of St. Luke's Hospital," New York, 1860)

story goes that when the City put a stop to the practice on the part of the small towns to the north of sending their smallpox cases across the river to Manhattan to be taken care of at City expense, it forced these communities to provide accommodations for their own cases. When the citizens of one of the towns in Westchester discovered a shack which was constructed within their town limits for the care of smallpox cases, they put fire to it and forced the patient and his caretaker into a boat and set them adrift on the river. The outcasts found refuge on North Brother Island and the unoccupied house in which the patient was put by the caretaker became the forerunner of the present hospital. The new hospital buildings were put up in 1885.[1]

The same year saw the opening of the Willard Parker Hospital at the foot of 16th Street for the care of scarlet fever, diphtheria and measles. Three years later a site for a contagious disease hospital was bought by the City of Brooklyn a short distance away from the Kings County Hospital in which the Brooklyn smallpox cases were treated. It is only within the last ten years that a hospital for contagious diseases was established in the borough of Queens.

The contagious disease hospitals came under the jurisdiction of the Board of Health by virtue of a law passed by the Legislature in 1874. Hitherto the Smallpox Hospital, like all the other hospitals, was under the control of the Commissioners of Charities and Corrections. Five years after the consolidation of the City, the municipal hospitals situated in the boroughs of Manhattan and the Bronx were by charter provision removed from the jurisdiction of the Department of Charities and placed under

[1] Charles F. Bolduan *Over a Century of Health Administration*, New York, 1916, pp. 23-24.

a Board of Trustees appointed by the Mayor from lists submitted by several of the charity associations of this City. It was during this period that Bellevue reached a high point in its evolution as a medical teaching center. It became actively associated with three of the medical colleges of the City and was freed from political interference.

With the increase and gradual improvement of hospitals in the City, and the concomitant advancement of medical science and practice, came the larger utilization of hospital facilities by all social classes of the community. A large proportion of hospital beds are now housed in beautiful private pavilions. The introduction of the private pavilion had a most beneficial influence and the hospital ceased to be regarded as exclusively the refuge of the sick poor.

In the course of development, the hospital became a recognized agent, not only in the treatment of diseases, which is its chief function, but also in the prevention of disease and the amelioration of social conditions. The present forces at work in the community tend to make the hospitals still more efficient in their administrative, as well as their professional aspects, and to make them to an even greater extent than they have been in the past, centers of medical education and of health dissemination.

With the growth of hospitals came legislation designed to exercise a certain amount of State supervision over the activities and management of these institutions. Originally hospitals had to obtain special charters, but after 1848 the incorporation of hospitals came under the membership corporation law. For some time after, however, the hospitals continued to apply for special charters from the Legislature. In 1883 the membership

corporation law was amended, providing that the endorsement of the State Board of Charities be required on certificates of incorporation for charitable purposes. This Board has the right to inquire into particular hospital needs, to examine plans and specifications of new buildings, to obtain statistical facts and to inspect hospitals. Until 1900 these powers applied to all charitable institutions without exception, but in the test case of the New York Society for the Prevention of Cruelty to Children, the Court of Appeals ruled that this power of the Board extended only over institutions which are in receipt of public funds derived from taxation. Hospitals and other charitable institutions which do not derive any part of their income from public funds are not subject to inspection by the State Board of Charities.

The authority of the Department of Health over hospitals dates back to the organization of the Metropolitan Board of Health in 1866. At the present time the provisions of the Sanitary Code concern the hospitals only in respect to the reporting of infectious diseases, including puerperal septicemia and venereal diseases, and the isolation of persons suffering from such diseases. The code also requires that all cases of severe or fatal illness resulting from consumption of spoiled or poisoned articles of food be reported to the Department. In 1907 an amendment to the Sanitary Code made it illegal for any person or corporation to conduct a public or private hospital without a permit therefor issued by the Board of Health. This provision puts all the proprietary hospitals under the supervision of the Department of Health. In 1916 the Department of Health established a Division of Institutional Inspection whose duty it is to inspect the sanitary conditions of hospitals and other public institutions.

In 1890 the responsibility for the care of those afflicted with mental disorders was taken over by the State.

In the early period of hospital development it was customary for the Legislature to make grants to hospitals. This practice in course of time led to abuses and discriminations. An amendment to the Constitution in 1894 put an end to the subsidization of private hospitals by the State. The municipalities, however, are free to make such grants as they desire. In New York City the hospitals which take care of so-called "city charges" are entitled to stipulated per diem compensation, and the power of certification is vested in the Commissioner of the Department of Public Welfare. The regulations of the Department in this regard specify that persons capable of paying for their own support will not be accepted as public charges, and that the City will not pay for patients for whose care adequate provision can be made at the time in municipal hospitals, except in emergency cases.

By the law of the State all real and personal property of a corporation used for hospital purposes is exempt from taxation.

APPENDIX

ESTABLISHMENT OF HOSPITALS

BY DECADES, SINCE 1870

DECADE	UNDER MUNICIPAL OR STATE CONTROL	PRIVATELY ENDOWED
1870–1880		Hahnemann (merged with Fifth Ave. Hospital)
		Society for the Relief of Ruptured and Crippled
	Cumberland Street	Roosevelt
		St. Elizabeth's
	Metropolitan	Prospect Heights and Brooklyn Maternity
		Brooklyn Nursery and Infants

ESTABLISHMENT OF HOSPITALS—*Continued*

BY DECADES, SINCE 1870

DECADE	UNDER MUNICIPAL OR STATE CONTROL	PRIVATELY ENDOWED
1870–1880	Asylum (for insane)—Hart's Island	Stranger's (discontinued) St. Catherine's Herman Knapp Memorial Presbyterian Brooklyn Eye and Ear St. Mary's Free Hospital for Children St. John's (Brooklyn) New York Orthopedic Metropolitan Throat Hospital St. John's Guild—Floating Hospital Homeopathic Hospital (discontinued) Faith Home for Incurables
1880–1890		Lutheran Hospital of Brooklyn French Hospital
	Willard Parker	Bedford Dispensary and Hospital New York Polyclinic Medical School and Hospital
	Gouverneur	Methodist Episcopal Brooklyn Home for Consumptives
	Harlem	St. Joseph's Hospital for Consumptives New York Post-Graduate Medical School and Hospital
	Riverside Hospital for Consumptives (North Brother Island)	New York Skin and Cancer Flushing Hospital and Dispensary Memorial Hospital for Women and Children (discontinued) Montefiore Home and Hospital Seaside Hospital for Children (St. John's Guild) Memorial Hospital for the Treatment of Cancer and Allied Diseases Knickerbocker Hospital Laura Franklin Free Hospital for Children (merged with Hahnemann into Fifth Ave. Hospital) Sloane Hospital for Women Norwegian Lutheran Deaconess Home and Hospital Yorkville Dispensary and Hospital for Women and Children (discontinued) Babies' Hospital of the City of New York Wyckoff Heights St. Mark's

ESTABLISHMENT OF HOSPITALS—*Continued*

BY DECADES, SINCE 1870

DECADE	UNDER MUNICIPAL OR STATE CONTROL	PRIVATELY ENDOWED
1880–1890		New York Homeopathic Medical College and Hospital (now New York Homeopathic Medical College and Flower Hospital) St. Andrew's Convalescent Hospital Misericordia Hospital House of the Good Samaritan Deaconesses (merged with Hahnemann Hospital) Children's Hospital of the Five Points House of Industry (discontinued) New Amsterdam Eye and Ear Hospital (discontinued) Florence Hospital (discontinued) Lebanon Hospital Association Williamsburgh (discontinued) Beth Israel
1890–1900		St. Bartholomew's Clinic and Hospital New York Throat, Nose and Lung
	Fordham	Jamaica
	Kingston Avenue	House of St. Giles the Cripple Bushwick
		Sydenham (discontinued)
	Brooklyn State Hospital	St. John's Institute followed by Red Cross Hospital and Training School followed by Park Hospital — Merged with Demilt Dispensary to form Reconstruction Hospital
	Central Islip State Hospital for the Insane	
	Kings County	
		Columbus Home for Hebrew Infants Bethany Deaconesses' and Hospital Society Community Louisa Minturn (discontinued) Seton Harlem Homeopathic Hospital and Dispensary St. Christopher's Hospital for Babies (merged with Brooklyn Hospital) Swedish House of Calvary

ESTABLISHMENT OF HOSPITALS—*Continued*

BY DECADES, SINCE 1870

DECADE	UNDER MUNICIPAL OR STATE CONTROL	PRIVATELY ENDOWED
1900–1910		Hospital of the Rockefeller Institute
		Mary Immaculate
	Bradford Street	St. Vincent's Hospital in the Borough of Richmond
	Sea View	Sea Breeze
		Philanthropin (now Jewish Memorial)
	Coney Island (formerly Reception Hospital)	Samaritan
		St. Joseph's
	Manhattan State Hospital—Ward's Island	Italian
		Hospital for Deformities and Joint Diseases
		Washington Heights
		Manhattan Maternity Hospital and Dispensary
		Volunteer (now Beekman St. Hospital)
		Jewish Maternity
		Jewish Hospital
		St. Lawrence (Columbus Hospital Annex)
		Bronx
		Bronx Maternity
		Beth David
		Booth Memorial
		Home for Incurables
		House of the Holy Comforter
		Lutheran (Manhattan)
		Manhattan Eye, Ear and Throat
		National Hospital for Speech Disorders
	Reception (Welfare Island)	Neurological Institute of New York
		People's
	Brooklyn State Hospital	St. Andrew's Convalescent
	Swinburne Island (U. S. Hospital for Quarantine)	St. Rose's Free Home for Incurable Cancer
		St. Vincent's
	Hoffman Island (U. S. Hospital for Quarantine)	Bikur Cholim Kosher
		Brooklyn Home for Crippled Children
		Carson C. Peck Memorial
		Hospital of the Holy Family
		St. Mary's Hospital of the City of Brooklyn
		Williamsburgh Maternity
		Rockaway Beach
		Staten Island Hospital
		Richmond Memorial

ESTABLISHMENT OF HOSPITALS—*Continued*

BY DECADES, SINCE 1870

DECADE	UNDER MUNICIPAL OR STATE CONTROL	PRIVATELY ENDOWED
Since 1910	Greenpoint	Broad Street The Caledonian Union Harbor Neponsit Beach St. Anthony's Veterans' Tonsil Victory Memorial Beth Moses Reconstruction United Israel Zion Brownsville and East New York

ESTABLISHMENT OF DISPENSARIES

CHRONOLOGICAL LIST

DECADE	
Prior to 1870	New York Dispensary (the oldest in the City, having been established in 1790) Northern Dispensary Eastern Dispensary Homeopathic Dispensary Brooklyn City Dispensary Williamsburgh Dispensary (in 1883 name changed to Eastern District Dispensary) Demilt Dispensary North Western Dispensary Brooklyn Central Dispensary Brooklyn Homeopathic Dispensary Bond Street Homeopathic Dispensary German General Dispensary Manhattan Dispensary North Eastern Dispensary Gates Avenue Homeopathic Dispensary Western Dispensary Harlem Dispensary North Eastern Homeopathic Dispensary Western Homeopathic Dispensary Tompkins Square Homeopathic Dispensary Bushwick and East Brooklyn Dispensary

ESTABLISHMENT OF DISPENSARIES—*Continued*

CHRONOLOGICAL LIST

DECADE	
1870–1880	Yorkville Dispensary Westside German Dispensary German Polyclinic (now Stuyvesant Polyclinic)
1880–1890	Vanderbilt Clinic Brooklyn Dispensary for the Treatment of the Nose, Throat and Lungs Memorial Dispensary for Women and Children
1890–1900	Bloomingdale Clinic Polhemus Memorial Clinic St. Bartholomew's Clinic University and Bellevue Hospital Medical College Dispensary
1900–1910	Bronx Eye and Ear Infirmary Frauenthal Clinic (now Hospital for Deformities and Joint Diseases) Southside Dispensary of East New York East Side Clinic for Children Christ Church Clinic New Utrecht Clinic Grace Chapel Dispensary J. E. Berwind Free Maternity Clinic Bikur Cholim Dispensary of Brooklyn East New York Dispensary Sar Sholam Dispensary Trinity Church Dispensary
Since 1910	Harlem Reformed Church Dispensary Cornell Clinic Clinton Dispensary Richmond Hill House Dispensary Dietz Memorial Clinic

CHAPTER II

HOSPITAL FACILITIES IN NEW YORK CITY

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HOSPITAL FACILITIES IN NEW YORK CITY

I. Capital Investment

THERE are approximately 32,000 beds in the hospitals of New York City or one bed for about every 175 of the population. According to the records of the City Department of Taxes and Assessments, the municipal and private hospitals in New York City represent a total investment of $80,000,000 in grounds and buildings. This figure does not include recent additions, the value of the equipment or of such of the hospitals' real estate properties as are not utilized for hospital purposes, nor the proprietary hospitals. About one-third of the eighty million dollars represents the real estate value of municipal hospitals and the remaining two-thirds the value of the privately endowed institutions. In other words, private philanthropy has invested twice as much in hospital property as has the municipality of New York.

The municipal hospitals of the Department of Welfare group (formerly the Department of Public Charities) are valued at $15,000,000; those of the Bellevue and Allied group at more than $7,600,000; and those of the Department of Health at more than $3,500,000. The buildings and grounds of the privately endowed hospitals represent an investment of about $52,000,000. Of this amount over $34,000,000, or 65%, is invested in general hospitals, and about $18,000,000, or 35%, in special hospitals.

The investment in the privately endowed general hospitals by boroughs is as follows: approximately $26,000,000 in Manhattan; over $6,000,000 in Brooklyn; over $1,300,000 in the Bronx; $994,000 in Queens and approximately $348,000 in Richmond.

The investment in the private special hospitals by boroughs is: over $13,000,000 in Manhattan; about $600,000 in Brooklyn; over $3,000,000 in the Bronx; and about $1,000,000 in Queens.

Discrepancies in Valuation.

The above figures, derived from the tax register, may be taken as fairly representative of the actual values and constitute a nearer approximation to the true valuation than could be deduced either from the original costs or the more or less arbitrary values that are sometimes put on their properties by individual hospitals. In some instances there exists a considerable discrepancy between the values as recorded by the City Tax Board and those given by the institutions themselves in their reports to the United Hospital Fund or to the State Board of Charities. These differences in values are sometimes accounted for by the fact that the hospitals report the original cost of land and construction and do not take into consideration the changes in real estate values or the depreciation of the buildings.

In some instances the valuations reported by the hospitals are considerably above those placed by the City and sometimes they are considerably below. To give a few examples, the City taxation value of Presbyterian Hospital for the year 1920 was almost $1,000,000 above the figures reported by the hospital; the City taxation value of Post-Graduate Hospital was about $1,000,000 less than that given by the hospital; the City valuation of Monte-

fiore Hospital was over $1,300,000 less than that reported by the hospital to the United Hospital Fund. The City assessment value of the Methodist Episcopal Hospital of Brooklyn was, in 1920, about $700,000 less than that reported to the United Hospital Fund by the hospital; the City valuation of Brooklyn Hospital was about $700,000 less than that which the hospital reported to the United Hospital Fund. The valuation of the New York Hospital as published by the State Board of Charities was about $700,000 higher than that given to the United Hospital Fund. The City valuation of Flower Hospital was over $300,000 less than that reported by the hospital to the United Hospital Fund and the State Board of Charities.

Comparison of Building and Land Values.

In 53.2% of the privately endowed hospitals in Manhattan the ground is more valuable than the hospital building which stands upon it. The ground occupied by Presbyterian Hospital is valued at $3,166,000 by the City and the building at $679,500; the ground occupied by New York Hospital is valued at $1,243,500 and the buildings at $575,500; the ground of Roosevelt Hospital was valued in 1920 at $1,200,000 and the buildings at $550,000[1]; the ground of St. Mary's Free Hospital for Children at $159,000 and the buildings at $51,500.

The Bronx stands next to Manhattan in the number of hospitals which occupy ground that is more valuable than the buildings. Thirty-eight percent of the hospitals in this borough occupy ground which is more valuable than the buildings. For instance, the ground occupied by Lincoln Hospital is valued at $143,000 by the City and the hospital building at $92,000; the ground occupied by the Home for Incurables is valued at $500,000 by the City and

[1] Since then a new surgical pavilion has been erected.

the building at $200,000. In Brooklyn ten out of forty-two hospitals, or 23.8%, show a similar relationship between the land value and that of the building; in Queens this is true of only 10% of the hospitals, and on Staten Island all the buildings have a higher value than that of the land.

In the entire City, forty-nine or about 37% of the one hundred and thirty-two private and municipal hospitals occupy ground which is more valuable than the hospital building.

Relation between Ground and Building Values.

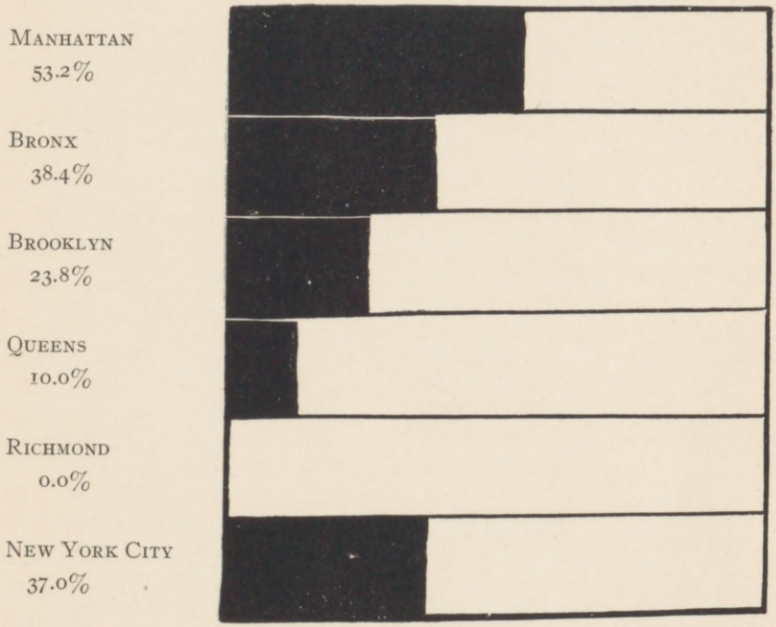
Unlike buildings designed for profit, economic considerations of the relation of value between ground and plant cannot play the most important part in the case of hospitals. The location of hospitals must be governed by community needs, regardless of the value of land. It would seem, nevertheless, a sound economic policy, whenever the need warrants it, to erect large and well equipped structures on valuable pieces of land in order to prevent the social waste of incomplete utilization of valuable and tax exempt real estate. To those interested in the working out of the problem (which does not, however, lend itself to dogmatic generalization) the ratios between land and plant values governing business buildings might serve as a guide.[1]

Comparison of Realty Values per Hospital Bed.

In connection with the property valuation of hospitals it was thought of possible service to express the value of real estate in terms of dollars per bed as a guide for reference and comparison. There exists in this respect

[1] A book published in 1903 by Mr. Richard M. Hurd on *Principles of City Land Value* contains a table of ratios applicable to business buildings of the time.

PROPORTION OF HOSPITALS IN EACH BOROUGH WHOSE GROUND VALUE IS GREATER THAN VALUE OF BUILDINGS



a considerable variation between the hospitals. The real estate value per bed in the case of Jamaica Hospital, for example, is as low as $424, while that for the Presbyterian is $15,000. The Post-Graduate Hospital, with three hundred and ninety-six beds, has a real estate value per bed of $2,261; St. Luke's, with three hundred and eighty-eight beds, has a real estate value of $3,407; Roosevelt, with two hundred and eighty beds, averaged $6,250 per bed. There seems to be no outstanding cluster figure, i.e., if the values per bed were plotted, they would not be found grouped around a particular figure. The result would be what the statisticians call a multi-modal curve.

Among the municipal hospitals the real estate value per bed is lowest in the Department of Health. This is possibly because sites for contagious disease hospitals are selected in neighborhoods where real estate values are lowest.

Comparison of Building Values per Hospital Bed.

Because of the differences of land values, a more profitable guide than the real estate value per bed may be the building cost per bed. The most recurrent figure of building value per bed for both private and municipal hospitals is $3,000. This figure cannot, however, be taken as indicative of construction costs per bed at the present time, because of the rise in costs of building material and labor. But it comes fairly near to the figure of construction cost as ascertained in the study of nineteen hospitals built between 1910 and 1915, by Mr. Oliver H. Bartine.[1] The average cost of construction during that period was $2,740 per hospital bed. Since that time costs have risen considerably.

[1] "The Building of Hospitals: Construction," published in *Modern Hospital*, October, 1915.

Value of Equipment.

In addition to the investment of $80,000,000 in hospital grounds and buildings, the equipment represents a considerable investment, the exact amount of which cannot be ascertained because of the lack of uniformity in methods employed by the hospitals in computing the value of equipment. Some report the original price of purchase, some deduct from that price the amount of depreciation, while others use the cost of replacement as a basis. As an illustration of the nonchalant reporting of the value of equipment, may be mentioned the fact that of two hospitals which have practically the same capacity, one reports a figure of $500,000 for equipment, while the other reports only $169,643. The difference in the character of the service rendered cannot adequately account for such a large discrepancy in values of equipment. It is to be regretted that hospitals do not periodically take stock of their equipment and report it according to a standard method. Because of its direct effect on medical and administrative efficiency, an inventory of equipment is of greater significance than real estate values.

II. Ownership of Hospitals

Of the 182 institutions in Greater New York listed in this study, 18 are municipally owned. The control of these latter is divided among three city departments. The Department of Public Welfare administers eight of them—the Metropolitan, Central Neurological, City, Kings County, Cumberland Street, Greenpoint, Coney Island and Seaview; the Department of Health administers five—the Willard Parker, Queensboro, Kingston Avenue, Riverside and the Municipal Sanatorium at Otisville; while the remaining five—Bellevue, Gouverneur,

ILLUSTRATION OF A NEW TYPE OF HOSPITAL CONSTRUCTION

One of the sketch perspectives of the Columbia-Presbyterian Medical Center

(Courtesy of Dr. C. C. Burlingame)

Harlem, Fordham and Neponsit Beach—are administered by the trustees of the Bellevue and Allied Hospitals.

Private philanthropy has established 114 hospitals, the remainder are proprietary sanatoria or nursing homes. Expressed in percentages based on bed capacity, the 18 municipal hospitals containing 12,404 beds represent 39% of the total hospital capacity in the City; the 114 privately endowed hospitals with a bed capacity of 17,932 constitute 57% of the total; while 1,344 beds, or 4%, are in the 50 proprietary institutions. This division emphasizes in another way the statement made elsewhere that the majority of hospital beds are in institutions established by private philanthropy.

Private, Municipal, and Proprietary Institutions.

The ownership of hospitals shows considerable variation in the different boroughs. In Manhattan, 50% of the hospital beds are in private, 46% in municipal and 4% in proprietary institutions. In Brooklyn, the private institutions provide 55% and the municipal 40% of the total available beds, while the other 5% are in the proprietary hospitals. In the Bronx the vast majority of beds, nearly 87%, are in privately endowed hospitals and only 9% in municipal. In Queens, which has the highest relative percentage of proprietary hospital beds (although Manhattan has the highest actual number of beds in proprietary hospitals), 69% are in private hospitals, 14% in municipal and 17% in proprietary. In Richmond, 73% of the beds are in public institutions, the reason for this large percentage being due to the fact that the sumptuous tuberculosis sanatorium, Seaview Hospital, owned by the City, is located on Staten Island. Outside of its municipal limits, New York maintains a large number of convalescent institutions, some of which are branches of the

hospitals. In addition, the Society of the New York Hospital maintains an institution of 350 bed capacity for the insane at White Plains, and the Municipal Tuberculosis Sanatorium is located at Otisville, N. Y., and has a capacity of about 600 beds.

Denominational and National Auspices of Private Hospitals.

Most of the voluntary hospitals are non-sectarian, but a considerable number operate under denominational auspices.

The Roman Catholic group comprises 14 general hospitals, with a bed capacity of 2,617; 8 institutions for chronics, containing 1,997 beds; and one special hospital of 66 beds.

The Jewish group consists of 12 general hospitals, containing 1,852 beds; 3 special hospitals with 203 beds; and 2 hospitals for chronics with a bed capacity of 656. Several convalescent homes are maintained exclusively by Hebrew charity.

There are 9 Protestant denominational general hospitals having a total bed capacity of 1,223 and 3 special hospitals with a bed capacity of 252.

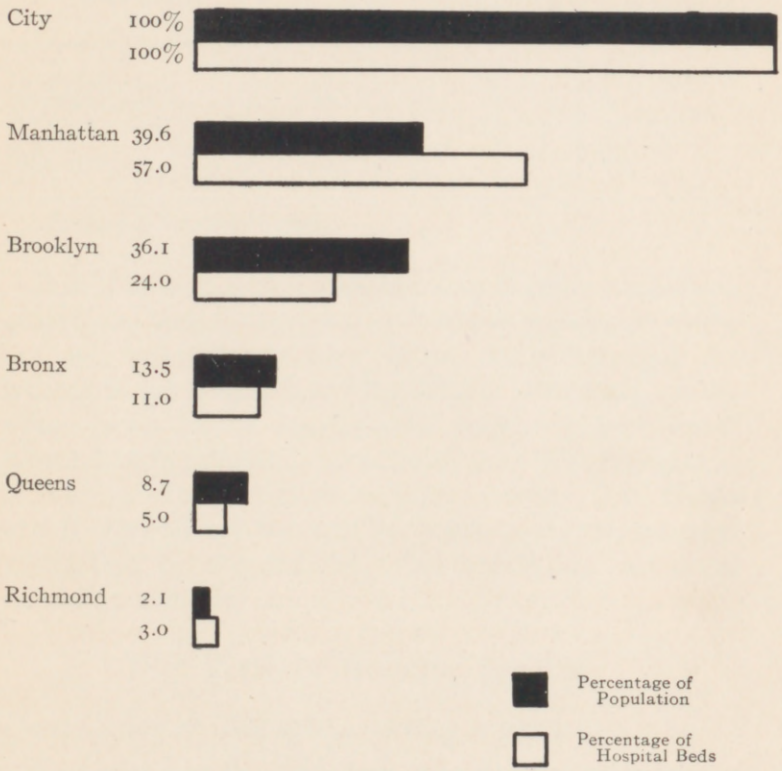
The non-sectarian institutions comprise 23 general hospitals with 3,321 beds; 23 special hospitals with 2,467 beds; and 4 homes for chronics with 541 beds; also a considerable number of convalescent homes.

Under the auspices of different nationalities, there are 3 hospitals in Manhattan and 4 in Brooklyn—all of them general hospitals, containing 929 beds.

III. Ratio of Hospital Beds to Population

According to the Federal census count of January 1, 1920, the population of New York at that date was

COMPARISON OF HOSPITAL BEDS AND POPULATION
BY PERCENTAGES



5,620,048. With its 32,000 hospital beds, New York provides one bed for about every 175 of the population. The percentage distribution of population and hospital beds by boroughs is as follows:

BOROUGH	*Percentage of Population*	*Percentage of Hospital Beds*	*Ratio of Beds to Population*
Manhattan	39.6	57.	7. per M
Brooklyn	36.1	24.	3.5 " "
Bronx	13.5	11.	4.6 " "
Queens	8.7	5.	3.0 " "
Richmond	2.1	3.	8.0* " "

* Because of Seaview Hospital.

It will be seen that Manhattan has a larger proportion of hospital beds in comparison with the population of the borough, but patients from all the other boroughs are treated in the hospitals of Manhattan. Brooklyn, on the other hand, has a considerably smaller proportion of hospital beds in relation to population. The situation in Queens is similar, but to a lesser extent. The Bronx and Richmond are the two boroughs where the ratios of population to hospital bed distribution do not show wide discrepancies.

IV. Types of Hospital Service

Classification of Hospitals According to Service.

Hospitals may be divided roughly into two main groups with regard to service—general hospitals admitting patients with a wide variety of medical and surgical conditions, and special hospitals restricted to certain differentiated types of cases. In New York City 58% of the hospital beds are in general hospitals, 38% in special

hospitals and 4% in proprietary hospitals, most of the latter being used for surgical and obstetrical cases. Of the 12,404 municipally owned hospital beds, 7,814, or 63%, are in general hospitals and 4,590, or 37%, are in special hospitals.

The special hospitals owned by the City include all of the hospitals of the Department of Health, namely: Kingston Avenue, containing 642 beds; Queensboro, 81; Riverside, 771; Willard Parker, 908; as well as Seaview, 754; Central Neurological, 520; and one hospital of the Bellevue and Allied group, Neponsit Beach, with a capacity of 125 beds for bone tuberculosis.

The hospitals comprising the Bellevue and Allied group are all located within the limits of Manhattan and the Bronx, with the exception of the Neponsit Beach Hospital at Rockaway, and provide treatment for acute conditions.

The hospitals controlled by the Department of Public Welfare are on Welfare (Blackwell's) Island and in Brooklyn, all of which provide accommodations for acute as well as sub-acute conditions. The latter group of municipal hospitals also have a considerable proportion of chronic cases, particularly in the Island hospitals and in connection with Kings County Hospital. Recently the City appropriated funds for the erection of another general hospital in the Bronx, to be under the jurisdiction of the Department of Public Welfare.

The private hospitals show the following distribution of their bed capacity: 10,644, or 63%, are in general hospitals, and 6,206, or 37%, are in special hospitals. This proportion is similar to the percentage distribution of beds in municipal hospitals. Specialization is carried further in private institutions than in the municipal, and all but one of the hospitals for orthopedic cases, all the special institutions for obstetrics, for children, for in-

dustrial rehabilitation, for eye, ear, nose and throat, and for cancer are privately endowed institutions.

The Borough Distribution of Hospital Facilities.

The distribution of the general and special hospital beds in the five boroughs of the City, is as follows:

	GENERAL		SPECIAL	
	Hospital Beds	%	*Hospital Beds*	%
Manhattan	9,987	54.	4,115	53.
Bronx	1,225	7.	2,068	26.
Brooklyn	6,266	34.	393	5.
Queens	668	4.	495	6.
Richmond	253	1.	762	10.
City	18,399	100.	7,833	100.

In the Borough of Manhattan, the ratios of beds in general hospitals and in special hospitals to the respective totals for the whole City are practically identical. The Bronx has a very considerable percentage of the total number of special hospital beds, many of which are for chronic conditions, while Brooklyn and Queens have a relatively small number; in these two boroughs the number of beds in special hospitals constitute but 11% of the total number in the City. The Borough of Richmond stands relatively high because of the large municipal tuberculosis hospital which is located there. Altogether only 21% of beds in special hospitals are located outside of Manhattan and the Bronx.

Scope of Special Hospital is Narrowing.

The fact that so large a percentage of the total number of hospital beds in the City is to be found in the special

hospitals, raises the question of the desirability of such a development. Special hospitals have come into existence in the past either as a protest against the neglect of certain types of conditions, or outright refusal on the part of general hospitals to admit them; or because special institutions could provide better opportunity for intensive work and research along certain lines. Conditions have changed with the advance in medicine and surgery. Research in the specialties is carried on in many of the general hospitals where a better opportunity is afforded for the interplay of medical counsel and advice. Moreover, those responsible for the management of general hospitals have come to realize that a narrow delimitation of cases is undesirable.

There are, however, certain conditions which frequently do not obtain as much recognition, treatment and care in general hospitals as they do in the special hospitals established for the purpose. Among these are the neurological and orthopedic cases which very often border on the chronic and which require special regimen, apparatus and equipment for therapeusis, as well as prolonged stay. Certain institutions such as—to quote but one example—the Reconstruction Hospital, provide specialized opportunities for traumatic surgery and for functional rehabilitation, to a degree not found in any general hospital. The care and treatment of infants' and children's diseases presents a problem in itself; the same, of course, holds true for all contagious diseases and chronic maladies. It is safe to say that in the City of New York in the development of special institutions the zenith has been reached, and that hospital development in the future will probably proceed along lines of greater scope on the part of general hospitals.

V. Size of Institutions

The distribution of hospitals by size, according to bed capacities, shows that more than 70% of them are institutions of less than 250 beds. The accompanying table presents the figures of this distribution. Evidently, the tendency in New York City has been toward smaller institutions.

DISTRIBUTION OF HOSPITALS BY SIZE

	Total		*Less than 50 beds*		50–100 *beds*		*100–250 beds*		*250–500 beds*		*More than 500 beds*	
		%		%		%		%		%		%
General.....	75	100	8	10.7	20	26.7	25	33.3	17	22.7	5	6.6
Special.....	54	100	6	11.1	17	31.5	14	25.9	9	16.7	8	14.8

As will be seen from the table, in the group of general hospitals those with a capacity between 100 and 250 beds are most numerous, while in the special hospital group, the smaller institutions, between 50 and 100 beds, are most prevalent. On the other hand, there are more institutions with a bed capacity of over 500 among the special hospitals than there are among the general hospitals. Of the general hospitals of over 500 bed capacity, Mt. Sinai is the only non-municipal institution which has attained this dimension.

From the point of view of community service it is still a moot question whether a few large hospitals are preferable to a greater number of smaller institutions. The advantage of more small hospitals is that they can be

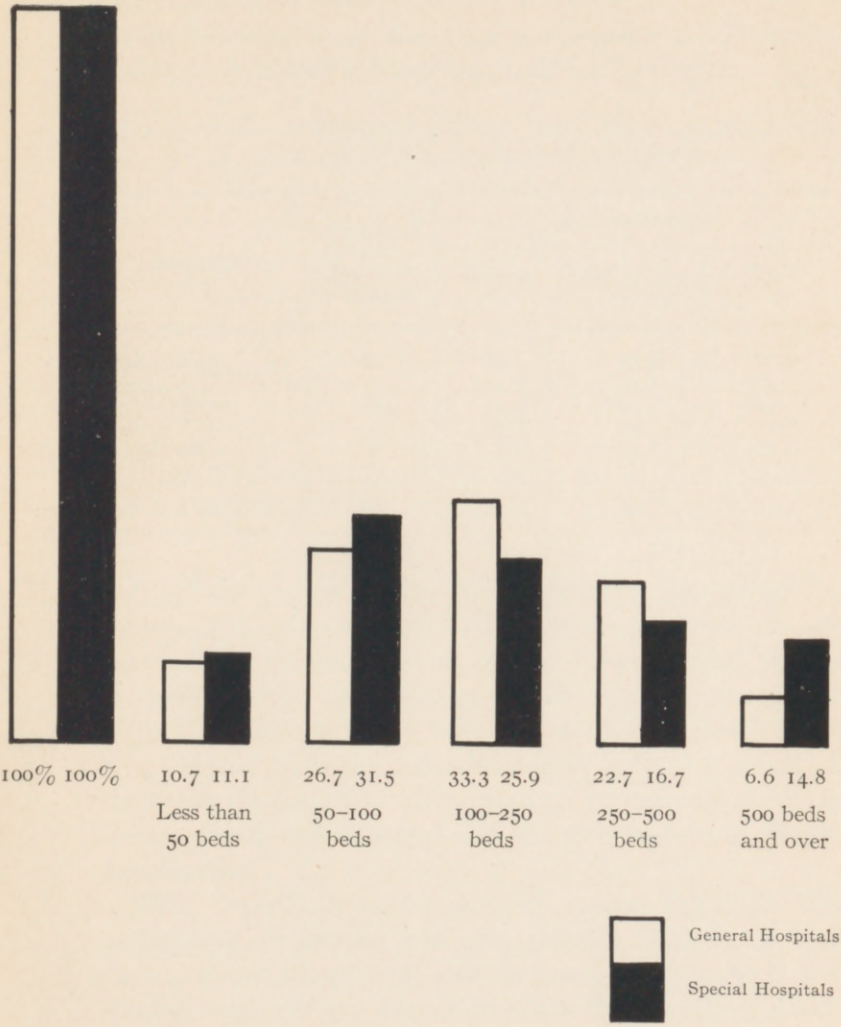
distributed throughout the City, thus also serving through the Out-Patient Departments as local community health centers. But small hospitals are more difficult to provide with proper staffs, and would necessarily be more expensive to administer if they undertook to do the same type of work for which large hospitals are equipped.

VI. Private Room and Ward Facilities

The distribution of beds in a hospital, between public wards, private and semi-private facilities, has important community and financial bearings, and is of no small consequence to the medical staff. The modern, and generally recognized as desirable, tendency in hospital medical organization is toward all-year-round services on the part of the visiting staff and the concomitant discouragement of attending physicians and surgeons from having more than one hospital connection. This tendency makes it imperative for the hospitals to provide their attending staffs with private and semi-private room facilities, sufficient for the accommodation of all their private patients.

What the proper ratio of private to ward beds in a hospital should be, is a problem depending for solution on the needs of the community and the financial support of the hospital. The facts as ascertained by the present survey show that the majority of the larger institutions have a relatively small number of private and semi-private beds. For example, Presbyterian, Mt. Sinai (till very recently), St. Luke's, New York, Lincoln, etc., have between 70 and 90% of the beds in public wards, while the smaller institutions show a preponderance of private and semi-private facilities. In this connection it must be borne in mind that financial

DISTRIBUTION OF GENERAL AND SPECIAL HOSPITALS
BY SIZE ACCORDING TO BED CAPACITIES



limitations very often circumscribe the smaller institutions in the extent of their work in the wards.

The following table shows the distribution of beds in the privately endowed general hospitals by boroughs:

PERCENTAGE DISTRIBUTION OF BED ACCOMMODATIONS IN NON-MUNICIPAL GENERAL HOSPITALS

BOROUGH	*Number of General Hospitals included*	*Accommodations*		
		Private %	*Semi-private* %	*Ward* %
Manhattan	26	16.6	13.6	69.8
Bronx	5	5.5	23.5	71.
Brooklyn	23	14.9	20.1	65.
Queens	6	15.1	14.	70.9
Richmond	3	3.7	13.7	82.6
New York City	63	11.1	17.	71.9

Of all the beds in the 63 non-municipal general hospitals for which the information is available 11.1% are in private rooms, 17% in semi-private rooms or wards and 71.9% in public wards. Manhattan has the highest percentage of private room facilities, followed by Queens and Brooklyn. Bronx leads the other boroughs in its proportion of semi-private facilities. The highest proportion of ward beds is found in Richmond and the next highest in Bronx and Queens.

With regard to non-municipal special hospitals the percentage of private and semi-private facilities is less than in general hospitals. These lower percentages in the special hospitals are due to the fact that in some of the institutions, like St. Mary's Free Hospital for Children or the New York Orthopedic Hospital, all beds are in public wards.

As will be seen from the table below, the relative distribution of facilities in the special hospitals is similar to that in the general hospitals. The largest proportion of private room facilities is in the hospitals of Manhattan, followed by Brooklyn. Brooklyn and the Bronx have the highest percentage of semi-private facilities. There is only one privately endowed special hospital in Queens—St. Anthony's for Consumptives—and there the ward facilities constitute 91% of the total bed capacity.

PERCENTAGE DISTRIBUTION OF BED ACCOMMODATIONS IN NON-MUNICIPAL SPECIAL HOSPITALS

BOROUGH	*Number of Special Hospitals included*	*Accommodations*		
		Private %	*Semi-private* %	*Ward* %
Manhattan	28	13.6	6.4	80.0
Bronx	7	6.7	25.5	67.8
Brooklyn	5	9.3	25.8	64.9
Queens	1	4.	5.	91.
Richmond	....	....	....	....
New York City	41	8.4	15.7	75.9

The practice of designating an ordinary ward for semi-private patients is at times merely a means on the part of a hospital of obtaining additional income, without at the same time offering to the patients better service or more privacy than in the public wards; sometimes the semi-private patients obtain even less care than do the patients in public wards. Yet the fact remains that there is a crying need for adequate facilities for people of moderate means.

In some hospitals physicians are allowed to charge patients in the public wards. This is a practice which is not regarded as desirable.

The policy on the part of the City not to allow private or semi-private accommodations in the municipal hospitals is at times a hardship for patients who are suffering with contagious diseases and are unable to find private hospital accommodation. The only private hospital of that kind —the Minturn—went out of existence several years ago and at the present time there is no provision made in the City of New York for the accommodation of contagious disease patients who are able to pay for hospital care and for medical services in connection with it. All such patients who are transients in the City or who live in hotels must be sent to the public wards of the municipal contagious disease hospitals.

VII. Hospital Affiliations of Physicians and Surgeons

Of the 8,769 physicians in the City of New York listed in the 1921 directory, 3,232, exclusive of consultants, had affiliations with hospitals in the capacity of visiting or assistant visiting physicians or surgeons; this constitutes 36.8% of all the registered medical practitioners in the City. In addition a considerable number find opportunities for service in the out-patient departments. In a recent survey of the hospitals in Cleveland, it was ascertained that only 29% of the total number of physicians are on the staffs of hospitals or dispensaries, and that 71% have no such connections.

The tendency towards continuous service restricts the opportunities of many physicians for hospital appointment. The seeming incompatibility of continuous service with the widest possible association of physicians with hospitals can be overcome in a measure by proper organization, and a close relation of the services

of the out-patient department with those of the wards.

Of the total number of physicians and surgeons affiliated with hospitals in the city, 1,897 or 58.7% are affiliated with hospitals in Manhattan and the Bronx; 1,157 or 35.8% in Brooklyn; 136 or 4.2% in Queens; and 42 or 1.3% in Richmond.

Ratios of Physicians to Hospital Beds.

By dividing the total number of hospital beds in each of the boroughs, exclusive of those in proprietary institutions, by the number of physicians associated with them, we find the following ratio of hospital beds to attending physicians in the several boroughs:

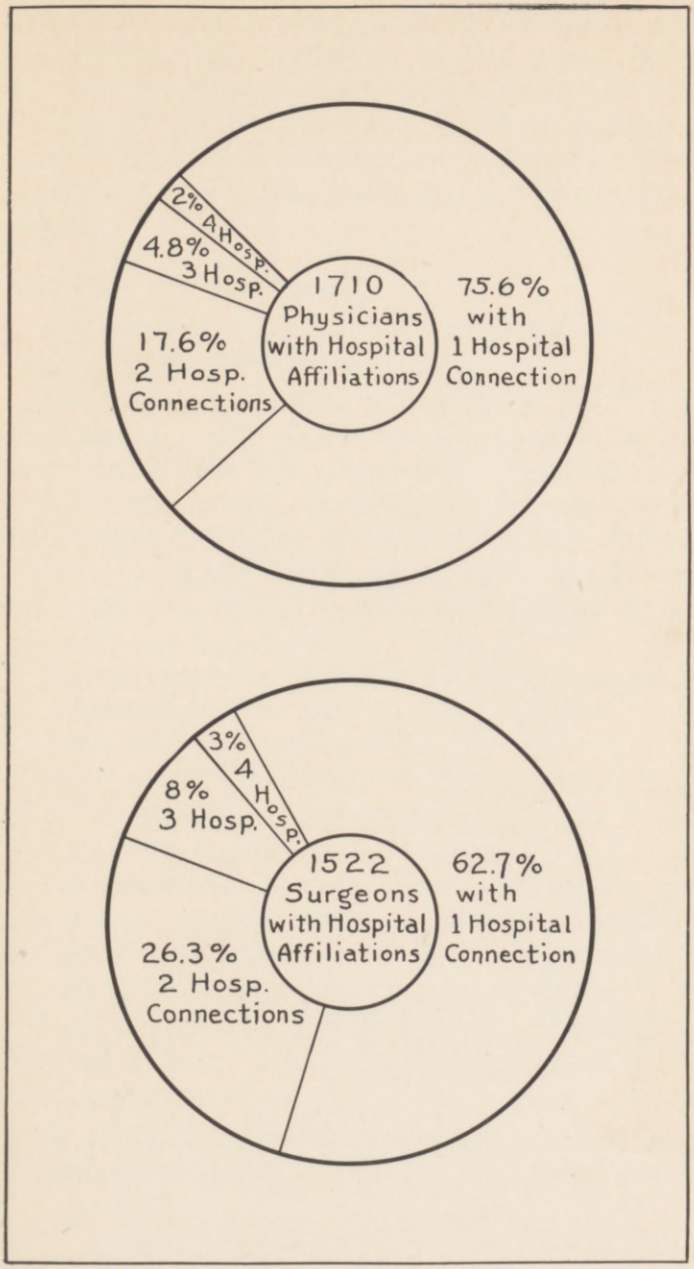
Borough	*No. Beds*	*Attendings & Ass't Attendings*	*Beds per Attending*
Manhattan and Bronx	16,325	1,897	8.6
Brooklyn	7,688	1,157	6.6
Queens	1,508	136	11.
Richmond	1,041	42	24.8

These figures do not take into account the overlapping of associations of physicians and surgeons with hospitals. The accompanying diagram shows the number of affiliations. It is obvious that in the case of surgeons there are more instances of association with more than one hospital than in the case of physicians.

VIII. Ambulance Service

Forty general hospitals in the City have ambulance services. Of these hospitals, 13 are in Manhattan and the Bronx, 18 in Brooklyn, 6 in Queens, and 3 in Richmond. Of the 13 in Manhattan, 5 are municipal, 8 are private, and of the 18 in Brooklyn, 5 are municipal and 13 private. All of the 6 maintaining ambulance services in Queens are

GRAPH SHOWING THE NUMBER OF HOSPITAL AFFILIATIONS OF ATTENDING AND ASSISTANT ATTENDING PHYSICIANS AND SURGEONS IN NEW YORK CITY



private and the 3 hospitals in Richmond are likewise all private. The percentage of the general hospitals in Brooklyn that have an ambulance service is much higher than in Manhattan and the Bronx, as 62% of the general hospitals in Brooklyn have an ambulance service and only 31.7% in Manhattan and the Bronx have this service.

Distribution of Ambulances.

Altogether there are 100 public ambulances in Greater New York maintained by hospitals.

The municipal hospitals of Manhattan and the Bronx maintain 17 or 38% of a total of 45 ambulances in the two boroughs; in Brooklyn the municipal hospitals maintain 8 ambulances or 22% of a total of 36; in Queens all the 12 ambulances belong to private institutions; the 7 ambulances on Staten Island are also private. It will be seen, therefore, that private hospitals maintain the larger proportion of ambulances.

The distribution of ambulances in the private hospitals of Manhattan is as follows: Lincoln and New York hospitals have 5 ambulances each; Flower Hospital has 4;[1] Broad Street, Knickerbocker, St. Vincent's and Beekman Street hospitals have 3 ambulances each; St. Lawrence Hospital (now known as Columbus Annex) has 2.

The distribution of ambulances in the private general hospitals of Brooklyn is as follows: Norwegian, St. Catharine's, St. Mary's and Holy Family Hospitals have 3 ambulances each; Jewish, Long Island College, Methodist Episcopal, St. John's, Swedish, Williamsburgh,[2] Wyckoff Heights, have 2 each; Bushwick and Beth Moses have one each.

[1] Service recently taken over by the Metropolitan and City hospitals.
[2] Recently discontinued.

Ambulance Areas.

A study of the distribution of the ambulance areas assigned to the various hospitals, shows that some of the areas are very large and in one instance the ambulance area is outside of the district in which the hospital is located. This unequal distribution of ambulance areas results from the refusal on the part of many private institutions to conduct an emergency ambulance service, and also from the fact that the City is niggardly in its payment to the private institutions for this service. The rates of payment are $2,000 per annum for Grade A gasoline motor ambulances; $1,050 for Grade B gasoline motor ambulances and $1,500 for electric ambulances.

Ambulance Service Statistics.

Of the total number of 64,784 ambulance calls in Manhattan and the Bronx during 1920, 34,842 or 53.7% were made by municipal ambulances, and 29,942 or 46.3% by private hospital ambulances. In 1921, 51% were made by municipal ambulances and 49% by private hospital ambulances. In 1922 the percentages were the same as in 1921. In 1920 more calls per ambulance were made by the municipal ambulances than those of the private hospitals, as the former made 53.7% of the calls in Manhattan and the Bronx although they constituted only 40% of the ambulances in these boroughs. In 1921 the municipal ambulances made 51% of the calls in these boroughs, although they constituted only 33% of the ambulances, while in 1922, 51% of the calls were made by the municipal ambulances which numbered 17 or 38% of the ambulances in these boroughs.

In the borough of Brooklyn there is a more equal distribution of calls per ambulance for municipal and private institutions. The municipal ambulances which

numbered 24% of all the ambulances in this borough in 1920, made 8,642 or 23.1% of all the calls. The figures for 1922 show, however, that the municipal ambulances, constituting 22% of all the ambulances in Brooklyn, made 13,518 calls or 30.5% of the total.

The five largest ambulance services in Manhattan and the Bronx are those of Bellevue, with a record of 13,238 calls in 1920, 10,860 in 1921, and 12,076 in 1922; Harlem with 7,541 calls in 1920, 7,148 in 1921, and 8,597 in 1922; Gouverneur and New York Hospital with nearly 6,000 calls each in 1920, about 6,000 to 7,000 in 1921, and more than 7,000 in 1922; Lincoln Hospital with more than 5,400 calls in 1920 and 1921, and over 6,000 calls in 1922. The smallest number of ambulance calls in 1920, 1921 and 1922 in Manhattan and the Bronx were made by the St. Lawrence (now known as the Columbus Annex) in the Bronx, and by Broad Street Hospital in the lower part of Manhattan.

The most active ambulance services in Brooklyn are those of St. Mary's Hospital with 3,294 calls for the year 1920, 3,243 in 1921, and 3,261 in 1922; Holy Family, Long Island College, Norwegian and St. Catharine's, with from 2,500 to 3,000 calls each in 1920, from 2,600 to 3,000 each in 1921, and from about 3,000 to 3,300 each in 1922; Williamsburgh and St. John's with 2,445 and 2,117 calls respectively in 1920, 2,531 and 1,488 in 1921 and 2,766 and 1,901 respectively in 1922. Brooklyn Hospital had 2,612 calls in 1920 and 620 calls in 1921. In 1922 the service in this hospital was discontinued. The Williamsburgh Hospital Ambulance Service was discontinued when this institution was closed in 1923.

The classification of conditions for which ambulance calls were made in the years 1920, 1921 and 1922 is as follows:

INJURIES AND DISEASES

(Figures obtained from the office of the Ambulance Board.)

Injuries and Accidents	1920		1921		1922	
	Number	%	*Number*	%	*Number*	%
Abdominal injuries	506	.5	439	.4	547	.4
Asphyxiation	264	.2	220	.2	260	.2
Bullet wounds	571	.5	621	.6	623	.5
Burns or scalds	1,227	1.1	1,161	1.1	1,305	1.0
Burns—electrical	51	.1	50	—	35	—
Concussion—cerebral	635	.6	766	.7	831	.7
Contusions	9,104	8.4	9,559	8.7	11,658	9.2
Dislocations—upper extremity	636	.6	610	.6	650	.5
" lower "	347	.3	339	.3	369	.3
Dog bites	254	.2	323	.3	449	.4
Fractures—skull	1,507	1.4	1,639	1.5	1,881	1.5
" —upper extremity	2,608	2.4	2,530	2.3	3,026	2.4
" —lower "	3,383	3.1	3,399	3.1	3,727	2.9
Heat prostrations	145	.1	311	.3	187	.1
Hernias	528	.5	551	.5	615	.5
Lacerations	13,705	12.5	14,674	13.3	17,188	13.5
Poisonings	1,380	1.3	1,762	1.6	2,727	2.1
Shocks	493	.4	572	.5	599	.5
Sprains	1,235	1.1	1,270	1.2	1,283	1.0
Wounds—stab	518	.5	517	.5	623	.5
" —incised	354	.3	235	.2	340	.3
Unclassified	7,403	6.8	7,342	6.6	9,081	7.2
	46,854	42.9	48,891	44.5	58,004	45.7
Diseases						
Alcoholism—acute	3,399	3.1	3,911	3.5	6,072	4.8
" —delirium tremens	269	.2	197	.2	263	.2
Coma	457	.4	607	.6	748	.6
Convulsions	676	.6	593	.5	634	.5
Diseases of chest	1,620	1.5	1,348	1.2	1,788	1.4
" of heart	2,361	2.2	2,354	2.1	2,687	2.1
" of intestines	4,065	3.7	3,874	3.5	4,138	3.3
" of kidney	1,162	1.1	1,178	1.1	1,184	.9
" of genito-urinary	1,341	1.2	1,222	1.1	1,264	1.0
Erysipelas	466	.4	468	.4	512	.4
Epilepsy	2,071	1.9	2,182	2.0	2,443	2.0
Epistaxis	284	.3	284	.3	414	.3
Hemorrhage—acute	564	.5	515	.5	603	.5
" —lungs	204	.2	211	.2	258	.2
" —stomach	163	.2	230	.2	237	.2
" —cerebral	747	.7	787	.7	795	.6
Hysteria	1,451	1.3	1,634	1.5	1,795	1.4
Insanity	4,379	4.0	4,705	4.3	4,908	3.9
Infections	2,024	1.8	2,224	2.0	2,222	1.7
Labors	4,327	4.0	4,221	3.8	4,393	3.5
Pneumonia	5,641	5.2	3,000	3.3	4,581	3.6
Pulmonary tuberculosis	1,412	1.3	1,220	1.1	1,283	1.0
Unclassified	20,313	18.5	20,134	18.3	21,363	16.9
Unnecessary calls	3,145	2.8	3,442	3.1	4,239	3.3
	62,541	57.1	61,201	55.5	68,824	54.3

	1920	1921	1922
Total number calls.....	109,395	110,092	126,828
Transfers.....	617	774	1,447
Total.....	110,012	110,866	128,275

According to the figures of the Ambulance Board, the average length of time in responding to ambulance calls varies from two to eight minutes. This time covers the period from the reception of the call to the departure of the ambulance.

Organization of Ambulance Board.

The ambulances of the City are under the control of an Ambulance Board consisting of the Commissioner of Police, who is President of the Board, the Commissioner of Public Welfare, who is Secretary of the Board, the President of the Board of Trustees of Bellevue and Allied Hospitals, and two citizens appointed by the Mayor.

It is the function of this Board to establish ambulance districts and to provide for adequate ambulance service in these districts, either by municipal ambulances or by those supplied by privately owned hospitals which are under contract with the Ambulance Board to supply such service. The Board also arranges for the reception and efficient distribution of all calls for ambulances.

Increase in Ambulance Calls.

In 1907 there were 18 ambulances in Brooklyn and in 1922 there were 36; for the year ending June 30, 1907, there were 23,033 ambulance calls in Brooklyn; in the year 1922 there were 44,302 ambulance calls in this borough. In other words, the number of ambulances in Brooklyn has increased 100% since 1907 and the number

of calls 92%. In 1907 there were 15 hospitals in Brooklyn which had ambulance service; in 1922 there were 18.

Manhattan and the Bronx had 42 ambulances in 1907; and 45 in 1922, or an increase of 7%. For the year 1907 the private hospitals in Manhattan and the Bronx had 32,614 ambulance calls and the municipal hospitals had 19,059 or a total of 51,673. The report for 1922 shows that the private hospitals in these boroughs had 35,709 calls and the municipal had 37,141 or a total of 72,850 calls.

In 1922 the 12 private ambulances in the Borough of Queens made 7,365 calls, an increase of 37% over 1920. In the Borough of Richmond 2,311 calls were received in 1922, an increase of 34% over 1920. There are now 3 private hospitals having ambulance service in this borough, that of the Richmond Memorial Hospital having been recently added.

The whole ambulance problem has been under discussion for a long time and the question has been raised whether ambulance service should not become an exclusively municipal activity.

CHAPTER III

THE PROBLEM OF ILLNESS

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I. The Prevalence of Illness

THE extent to which hospitals are used depends on several factors, but chiefly and primarily on the extent and character of disease.

With the exception of the Health Department which is a repository for statistics of reportable communicable diseases, there has existed no machinery in New York City whereby facts about morbidity in the community could be collected periodically. The medical statistics of hospitals are an important source of information but they are published only by a limited number of institutions and are not combined and correlated.[1] The recorded experiences of the visiting nurses' associations and the data obtained in sickness surveys constitute additional sources of information. All the data are fragmentary and do not afford more than an approximation to an index of disease incidence in the community.

Mortality statistics are not an adequate index for

[1] Only within the last year has an attempt been made in this direction. The Hospital Information Bureau of the United Hospital Fund has initiated a central statistical service on the medical and surgical experience of the hospitals in the City. At present six hospitals are participating in the demonstration by supplying in a uniform manner, the principal facts about the patients as they are discharged from the hospitals.

gauging hospital needs, but the fact that, concomitant with the growth of the public health movement, there has been a decline in the death rate may justify the assumption that there has been a reduction in the prevalence of disease and, therefore, of the need for hospital provision.

The Declining Death Rate.

The subjoined table of deaths and death rates from all causes and from certain selected diseases or groups of diseases for the period from 1910 to 1922 inclusive, shows a gradual and continuous decline in the general rate and also in the total number of deaths, with the exception of 1918. While in 1910 we have a general death rate in New York City of 16.04 per 1,000 population, the rate in 1922 was 11.93. In 1910, 76,742 persons died in the City, but in 1922, in spite of the growth of population, the total number of persons who died was only 69,690.

Statistics indicate that there has been either a decline or a stationary condition in all of the principal groups with the exception of that of circulatory diseases. The death rate per 1,000 of population for circulatory diseases has increased from 2.20 in 1910 to 2.97 in 1922; the deaths from organic heart disease have increased during that period from 6,870, or 1.44 per 1,000 of population in 1910 to 13,361, or a rate of 2.29 per 1,000 in 1922; diseases of the arteries contributed 25% increase in the death rate from these conditions during the decade. The total number of deaths from cardio-vascular diseases in New York City exceeded in 1922 by 6,372 the combined deaths from cancer and phthisis.

The death rate from general diseases decreased from 4.61 to 3.33 per 1,000 population; of the numerically important diseases in this group showing an increase, cancer occupies the first place. The death rate from that disease increased from .77 in 1910 to 1.02 in 1922; and the

number of deaths from 3,710 in 1910 to 5,945 in 1922. To more than offset this increase was the decline in the pulmonary tuberculosis death rate from 1.82 in 1910 to .86 in 1922. The actual number of deaths from phthisis was 8,692 in 1910 and 5,033 in 1922. The Metropolitan Life Insurance Company recently reported that the pulmonary death rate among the white males between 25 and 40 years of age in the two years 1919 and 1920 combined, was one-half of that for the combined years of 1911 and 1912; practically the same is true for women.[1]

With the exception of the year 1918 the rate from respiratory diseases has declined, the high rate in 1918 being due to the influenza epidemic. There has likewise been a very considerable drop in the death rate from digestive diseases. Statistics also show decreases of various degrees in the death rates from non-venereal genito-urinary diseases, from diseases of childhood, typhoid fever and from external causes.

Determination of the Illness Rate.

In the study made by the State Charities Aid Association of New York in 1907, an approximation of the amount of sickness prevalence in the city was made on the basis of the mortality. The method employed was to determine a mortality rate for each of the diseases on the basis of medical experience and, by multiplying the total number of deaths for a certain disease by the inverse ratio of its death rate, obtain the total number of cases suffering from that disease during the year. In this wise an illness rate of 3.3 for every 1,000 of population was obtained, and 2.21 if contagious diseases and tuberculosis be excluded.[2]

[1] *Statistical Bulletin*—March, 1921.

[2] "New Hospitals needed in Greater New York," Appendix 1–b of the *Report of the Commission on Public Hospitals* appointed by Mayor Geo. B. McClellan, New York, 1909, pp. 604–608.

TOTAL DEATHS FROM ALL CAUSES AND CERTAIN SELECTED DEATH RATES PER

Int. List No.	*Cause of Death*	1910		1911		1912		1913		1914	
		Deaths	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*
1.	Typhoid Fever	558	.12	545	.11	499	.10	362	.07	334	.06
6.	Measles	785	.16	659	.14	671	.14	628	.12	560	.11
7.	Scarlet Fever	953	.20	741	.15	615	.12	507	.10	452	.09
9.	Diphtheria	1,715	.36	1,281	.26	1,125	.23	1,333	.26	1,491	.29
28.	Pulmonary Tuberculosis.	8,692	1.82	8,790	1.80	8,591	1.73	8,601	1.70	8,918	1.74
29–35.	Other forms of Tbc.	1,382	.29	1,460	.30	1,390	.28	1,430	.28	1,372	.27
39–45.	Total Cancer	3,710	.77	3,873	.79	4,071	.82	4,223	.84	4,467	.87
53.	Leukemia	80	.02	102	.02	108	.02	113	.02	120	.02
54.	Anemia	133	.03	137	.03	134	.03	173	.03	178	.03
1–59.	Total General Diseases	22,062	4.61	22,026	4.52	20,745	4.18	21,290	4.22	21,946	4.27
60–76.	Total Dis. Nervous Sys.	3,248	.68	3,275	.67	2,953	.59	2,814	.56	2,942	.57
79.	Organic Heart Disease	6,870	1.44	7,965	1.63	8,890	1.79	9,674	1.92	10,058	1.96
81.	Diseases of Arteries	1,903	.40	2,135	.44	2,104	.42	2,182	.43	2,368	.46
77–85.	Total Circulatory Dis.	10,531	2.20	11,611	2.38	12,008	2.42	12,813	2.54	13,469	2.62
91.	Broncho Pneumonia	4,979	*2.20	4,802	2.06	4,661	2.01	4,834	1.99	4,533	1.88
92.	Lobar Pneumonia	5,540		5,253		5,318		5,208		5,145	
86–98.	Total Respiratory Dis.	12,674	2.65	11,964	2.46	11,341	2.29	11,392	2.26	10,924	2.13
104.	Diarrhœa (under 2 yrs)	5,649		4,473		3,948		3,554		3,432	
105.	Diarrhœa (over 2 yrs.)	721		624		550		481		423	
108.	Appendicitis	639	.13	633	.13	637	.13	618	.12	710	.14
109.	Hernia	587	.12	544	.11	593	.12	605	.12	584	.11
113.	Cirrhosis of Liver	1,140	.24	1,188	.24	926	.19	883	.17	784	.15
99–118.	Total Digestive Dis.	9,767	2.04	8,533	1.75	7,683	1.55	7,262	1.44	7,114	1.38
119.	Acute Nephritis	734	†1.18	541	1.06	550	1.15	608	1.11	510	1.09
120.	Bright's Disease	4,904		4,666		5,174		5,007		5,107	
119–133.	Total Genito-Urinary Dis. (Non-Venereal)	6,333	1.32	5,850	1.20	6,339	1.28	6,329	1.25	6,343	1.23
134–141.	Puerperal Diseases	761	.16	738	.15	676	.14	668	.13	679	.13
142–145.	Skin & Cellular Tissue Dis.	217	.04	237	.05	201	.04	219	.04	212	.04
146–149.	Total Dis. Bones & Organs of Locomotion	196	.04	108	.02	163	.03	119	.02	117	.02
150.	Total Congenital Malformation	661	.14	677	.14	708	.14	784	.15	706	.14
151–153.	Total Dis. of Early Infancy	4,252	.89	4,113	.84	4,829	.97	4,761	.94	4,868	.95
154.	Senility	683	.14	525	.11	539	.11	450	.09	436	.08
155–186.	Total External Causes	4,638	.97	5,183	1.06	4,762	.96	4,937	.98	4,985	.97
182–184.	Homicide	286	.06	281	.06	299	.06	326	.06	299	.06
187–189.	Ill Defined	719	.15	583	.12	61	.01	64	.01	62	.01
	Total All Causes	76,742	16.04	75,423	15.48	73,008	14.71	73,902	14.64	74,803	14.56

* Both pneumonias. † Bright's Disease & Nephritis.

DISEASES, CITY OF NEW YORK, YEARS 1910 TO 1922, INCLUSIVE
1,000 POPULATION

1915		1916		1917		1918		1919		1920		1921		1922	
Deaths	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*	*Deaths*	*Rate*
332	.06	216	.04	229	.04	196	.04	121	.02	137	.02	123	.02	129	.02
630	.12	490	.09	560	.10	790	.14	218	.04	736	.13	165	.03	9.77	.17
291	.06	96	.02	120	.02	177	.03	136	.02	220	.04	385	.07	216	.04
1,278	.24	1,031	.19	1,158	.21	1,245	.23	1,239	.22	1,045	.18	891	.16	873	.15
8,825	1.69	8,411	1.58	8,825	1.63	8,779	1.60	7,395	1.33	6,165	1.09	5,143	.89	5,033	.86
1,424	.27	1,237	.23	1,317	.24	1,319	.24	1,103	.20	970	.17	779	.13	769	.13
4,647	.89	4,701	.88	4,867	.90	4,932	.90	5,147	.92	5,317	.94	5,573	.97	5,945	1.02
141	.03	165	.03	140	.03	145	.03	160	.03	159	.03	136	.02	195	.03
171	.03	183	.03	197	.04	242	.04	205	.04	229	.04	231	.04	297	.05
22.037	4.22	21,069	3.96	21,877	4.05	33,842	6.17	23,337	4.18	21,664	3.82	17,565	3.05	19,434	3.33
2,677	.51	5,021	.94	2,697	.50	2,931	.53	2,680	.48	2,560	.45	2,405	.42	2,318	.40
10,383	1.99	10,687	2.01	11,102	2.06	12,103	2.21	10,435	1.87	11,342	2.00	12,005	2.09	13,361	2.29
2,210	.42	2,661	.50	2,903	.54	2,694	.49	2,732	.49	2,824	.50	2,614	.45	2,936	.50
13,596	2.60	14,210	2.67	14,818	2.74	15,660	2.85	14,077	2.52	15,195	2.68	15,696	2.73	17,350	2.97
4,836		4,438		3,783		6,987		4,783		4,874		2,900	.50	4,337	.74
6,086	2.09	6,130	1.99	7,268	2.05	13,641	3.76	6,194	1.97	5,184	1.78	3,577	.62	4,457	.76
12,346	2.36	12,008	2.26	12,471	2.31	22,171	4.04	12,164	2.18	11,501	2.03	7,444	1.29	9,714	1.66
3,734		2,851		3,181		2,413		2,361		2,545		1,987		1,628	
469		443		444		354		304		381		279		210	
723	.14	697	.13	668	.12	584	.11	690	.12	792	.14	824	.14	883	.15
564	.11	595	.11	601	.11	658	.12	598	.11	653	.12	651	.11	603	.10
721	.14	644	.12	668	.12	433	.08	383	.07	366	.06	335	.06	293	.05
7,345	1.41	6,439	1.21	6,816	1.26	5,508	1.00	5,367	.96	5,960	1.05	5,424	.94	4,933	.84
445		434		350		267		238		257		219	.04	160	.03
5,076	1.06	6,112	1.23	6,377	1.25	5,002	.96	4,769	.90	4,576	.85	3,886	.68	4,290	.73
6,273	1.20	7,282	1.37	7,515	1.39	5,979	1.09	5,760	1.03	5,615	.99	4,935	.86	5,183	.89
710	.14	653	.12	651	.12	664	.12	644	.12	708	.12	746	.13	699	.12
280	.05	290	.05	296	.05	220	.04	208	.04	210	.04	241	.04	192	.03
115	.02	111	.02	157	.03	122	.02	129	.02	124	.02	131	.02	147	.03
728	.14	707	.13	698	.13	682	.12	655	.11	649	.11	672	.12	717	.12
4,866	.93	4,588	.86	4,519	.84	4,722	.86	4,241	.76	4,091	.72	4,039	.70	3,791	.65
359	.07	317	.06	271	.05	280	.05	285	.05	289	.05	223	.04	349	.06
4,777	.91	5,060	.95	5,742	1.06	5,261	.96	4,808	.86	4,614	.81	‡4,617	.80	‡4,797	.82
261	.05	256	.05	248	.05	247	.04	279	.05	325	.06	303	.05	337	.06
84	.02	46	.01	47	.01	77	.01	78	.01	69	.01	119	.02	66	.01
76,193	14.58	77,801	14.64	78,575	14.55	98,119	17.88	74,433	13.35	73,249	12.93	64,257	11.17	69,690	11.93

‡ Includes Homicides.

Recent surveys made in this city and elsewhere indicate that 2% is a fair approximation of the actually ill in a community such as New York City. A house-to-house canvas of 2023 families in which there were 8645 individuals, made by the agents of the Public Health Committee of the New York Academy of Medicine in 1918, disclosed a sickness rate of 2.2.[1] A similar survey made jointly by the Metropolitan Life Insurance Company and the Chelsea Neighborhood Association, for the district in Manhattan bounded by 14th and 42nd Streets, Fifth Avenue and the Hudson River, showed a lower illness rate. Two percent can, therefore, be taken as a fairly accurate gauge of illness prevalence under present conditions of life, housing and employment. On this basis there are at all times in the Greater City about 120,000 people sick enough to require medical or hospital attention. This figure is lower than the estimate made in 1907. In the study made at the time it was estimated that the average daily number of sick persons in the City was 135,000 and that, exclusive of contagious diseases and tuberculosis, the number was 89,979. The figure 120,000 given above probably represents as accurately as any calculation can determine the present extent and prevalence of illness. With over 30,000 hospital beds in the City we have, roughly speaking, hospital accommodations for every fourth sick person.

II. Use of Hospitals

The next question to consider is, how much in the way of hospital accommodation is needed for the sick? Several

[1] "The Problem of Disease," *Modern Medicine*, Chicago, 1920, March, May, July and September issues.

elements which have a bearing on the answer, enter into the situation. First, the still lingering prejudice in certain racial groups against hospitals; second, the housing conditions in the City and the servant problem tend to make people seek hospital accommodation in illness; third, the progress of medicine and surgery, which necessitates the use of a large amount of equipment and other facilities for both diagnosis and treatment, obtainable only in a hospital; fourth, the emphasis on hospitalization of tonsil and adenoid cases, maternity cases and of certain communicable diseases. Another element in the City of New York's hospital situation is the fact that New York is a natural gravitation center for a large area. Many of the sick from other communities come to New York for diagnosis or operation. In estimating the hospital needs, all these elements have to be taken into consideration.

There are no readily available data as to the proportion of patients in our hospitals who come from outside of the City for treatment. A study of the records could be undertaken in only a limited number of hospitals, as in many instances the hospitals take only the patient's city address and, in the case of ward cases, the patients very often conceal the fact of their out-of-town domicile. On the basis of available information it appears that a little over 5% of our hospital patients are non-residents, and on the basis of the very limited experience of but five hospitals, about 30% of these are private patients and 70% ward patients.

Increasing Popularity of Hospitals.

The hospital as an institution is increasing in popular favor and there is a tendency toward greater recourse to hospitals by the public. Studies made in the past indicate

that not more than 10% of the resident sick population have made use of hospitals. The State Charities Aid Association study estimated that only 8.4% go to hospitals.[1] The Report of the Inquiry into the Departments of Health, Charities, and Bellevue and Allied Hospitals estimated, in 1913, that 10.6% of the population in the district on the lower east side of Manhattan and 5.4% on the west side, sought relief in hospitals.[2] Our own estimate on the basis of the study is that 14.6% of the sick days of our population are spent in hospitals. The method of arriving at this figure is as follows: it was estimated that there are 120,000 persons sick every day during the year; therefore, in a year there would be 43,800,000 days of sickness. In round figures the general hospitals report 4,500,000 hospital days given during the year and the special hospitals 2,250,000, a total of 6,750,000 days. From this number was deducted the estimated 5% of hospital days utilized by patients from out-of-town, leaving a total of 6,412,500 hospital days for the resident population. This constitutes 14.6% of the total days of illness in the City. If the bases of these figures be correct, there has been an increase in the utilization of hospitals in the last decade.

New York Hospital Facilities Adequate in Numbers.

Because there are no morbidity statistics one cannot state exactly the needs for hospital accommodation for particular types of sickness, with the exception of those necessary for communicable disease cases and, perhaps, for childbirth. On the basis of the reported incidence, and the percentage of utilization of contagious disease

[1] Supra, p. 609.

[2] Report of the Committee appointed by the Board of Estimate and Apportionment, New York, 1913, pp. 523–526.

hospitals, our present bed facilities seem adequate in number to meet existing needs, although the growing borough of the Bronx, with its large child population and high birth rate, is not provided with an adequate contagious disease hospital. Should there be, however, a change of popular attitude towards these hospitals, similar to that prevailing in London, for example, where over 90% of diphtheria and scarlet fever cases are treated in the fever hospitals, our facilities would need considerable extension. Certain pavilions in some of the contagious disease hospitals are inadequate for the present needs and require replacement by new buildings.

Due to the continued decrease in the prevalence of tuberculosis and its declining death rate, the accommodations for this condition seem likewise to be adequate in number. We have 4,922 tuberculosis beds and according to the "yardsticks" evolved from the demonstration at Framingham, Massachusetts, this number is within a close margin of the present needs. The Framingham report postulates that adequate tuberculosis hospital provision calls for one bed for each death from phthisis. In New York City we had 6,165 deaths from pulmonary tuberculosis in 1920, 5,143 in 1921 and 5,033 in 1922.

As to obstetrical facilities, if the principle be accepted that every primipara should be delivered in a hospital, our obstetrical facilities are also adequate in number on a minimum basis. The Bureau of Records of the Department of Health does not publish statistics of the order of each birth in the family, consequently we do not know how many of the children are born of primiparæ. The city of Providence, however, made a tabulation of this kind some years ago and found that 26.7% of the infants born in that year were first-born children. Applying this

ratio to the City of New York, we infer that of the 134,000 babies born annually, at least 35,000 children should have been born in hospitals. On the basis of an average length of stay of 12 days for an obstetrical case, one bed can accommodate about 30 women in a year; therefore, the minimum need for obstetrical beds in the City of New York is over 1,000. We have actually 1,800 beds; in other words, we are amply provided for under prevailing conditions if our gauge be the one stated in the opening sentence of this paragraph.

There exist, however, at the present time many social and economic conditions which cause a greater recourse to hospitals by maternity patients than hitherto. Housing conditions and domestic service are such that in cases of illness generally, more people apply to hospitals for accommodations than heretofore. Furthermore, women who have once been confined in a hospital, as a rule, return for subsequent confinements. In any calculation of the need of hospital beds for maternity cases the multiparæ should therefore be included to a considerable extent. As a matter of fact, many multiparæ cases should be and are delivered in hospitals. In some communities 40% of all the births take place in hospitals.

The midwife as a factor in the situation, is gradually declining in importance. It is interesting to note that in 1909 there were 3,131 midwives registered in this City who attended at 49,616 births or 40% of all the births in the City; in 1920, 1,517 midwives were registered, and they attended 36,369 births, or 26% of all births.

The recent growth of pre-natal clinics should also prove to be no insignificant factor in causing patients to apply for hospital accommodations in childbirth.

The comparatively low utilization of available obstetri-

cal beds indicates that, as far as the effective demand for them is concerned, we are obviously at present well supplied in this respect.

Average Utilization of Beds Decreasing.

The average utilization of hospital beds in the general as well as in the special institutions, private and municipal, small and large, has been decreasing during the last decade as additional hospital facilities have been provided.

For the year 1920 the average utilization of hospital beds in the general hospitals was 70.6%; the privately controlled hospitals had an average of 73.2% and the municipal 67.3%. It varied from borough to borough as indicated in the following table:

PERCENTAGE OF UTILIZATION BY BOROUGHS

1920

	Days		
	Estimated Full Capacity	*Actually Used*	*% of Utilization*
MANHATTAN			
Private	1,652,815	1,298,916	78.5
Municipal	1,800,040	1,275,842	70.8
Total	3,452,855	2,574,758	74.5
BRONX			
Private	308,790	247,200	80.
Municipal	106,215	94,445	89.
Total	415,005	341,645	82.4
BROOKLYN			
Private	1,270,426	864,183	68.
Municipal	873,810	503,023	57.5
Total	2,144,236	1,367,206	63.7

PERCENTAGE OF UTILIZATION BY BOROUGHS—*Continued*

1920

	Days		
	Estimated Full Capacity	*Actually Used*	*% of Utilization*
QUEENS			
Private	246,375	133,548	54.2
RICHMOND			
Private	91,250	71,369	78.2
ALL BOROUGHS			
Private	3,569,656	2,615,216	73.2
Municipal	2,780,065	1,873,310	67.3
Grand Total	6,349,721	4,488,526	70.6

The highest utilization has been recorded in the Bronx, 82.4%. Fordham Hospital, the only municipal hospital in that borough, exceeded the private hospitals in percentage of utilization. The borough of Richmond with its three private hospitals was the second highest in hospital utilization, followed by Manhattan which showed a rate of utilization of about 75% capacity, the private hospitals exceeding the municipal by about 8%. Brooklyn reported an average of 63.7%, the private hospitals exceeding the municipal institutions by 10.5%.

Variation in Utilization of Hospitals.

Utilization of institutions in the above list varied from 100% in the Swedish Hospital, 96% in St. Elizabeth's, 95% in Presbyterian, 91% in St. Vincent's, to as low as 32% in the case of St. John's, Long Island City; 40% in Harbor; 45% in Volunteer; 46% in St. Joseph's; 50% in

St. Francis'; 55% in Knickerbocker; 38% in Columbus Hospital Annex in the Bronx; 58% in the Italian and 63% in the Broad Street Hospital. Of the municipal general hospitals the Bellevue and Allied group showed a much higher utilization (between 84% and 89%) than the Public Welfare group of hospitals, which averaged a little over 50% of available bed capacity. Of late years efforts have been made on the part of the administration to increase the utilization of municipal hospitals under the jurisdiction of the Public Welfare Department. Conditions of general prosperity have a bearing on the utilization of some of the hospitals in this group, the greater the prosperity the less the demand for accommodations.

The utilization of special hospitals varies with the type of conditions treated. The contagious disease hospitals, because of the seasonal nature of the diseases treated, show a very light utilization, not over 31% in any of the four hospitals. The relatively high cost of maintaining contagious disease hospitals because of this small utilization has caused the closing of the Minturn Hospital, which was established to provide private facilities for scarlet fever and diphtheria cases.

The other group of hospitals showing a relatively low utilization is that of the special hospitals for infants and children. With the exception of the Laura Franklin Hospital (which has since become merged with the Fifth Avenue Hospital) which had a very high degree of utilization, the other hospitals in this group showed a relatively low utilization. For example, Babies' Hospital and St. Mary's Free Hospital in Manhattan reported respectively 52% and 53%; St. Christopher's Hospital in Brooklyn reported a utilization of about 72%. This hospital has since been discontinued and the service taken over by the Brooklyn Hospital.

The low utilization of hospitals for children undoubtedly bears a direct relation to the decreasing mortality and morbidity among children. In the year 1922 the death rate of children under 5 years of age was 25.4, Manhattan registering the highest death rate of all the five boroughs, namely 28.8, and the Bronx the lowest with 18.0. In 1910 the two boroughs had death rates of 48.77 and 33.91, respectively. In spite of the growth of the City the *actual* number of deaths is considerably less than it was a decade ago. While in 1910 there were 24,268 children under 5 years of age who died in the City, in 1922 the number of deaths was only 14,847 among children in that age group. Furthermore, the present tendency is not towards hospitalization of young children except for surgical and a selected group of medical conditions. The out-patient departments in the case of the poorer classes of the population, and the consulting pediatricians in the case of the well-to-do, are able to accomplish a great deal by instructing the mothers in the proper methods of feeding and the general care of children.

The average utilization of the maternity hospitals in 1920 was 68.6%. This figure is not an accurate index of utilization of beds for obstetrical work, because in the bed capacity of many of these hospitals are included accommodations for gynecological and pediatric cases. The average utilization of these hospitals increased considerably in 1922. In spite of the general low average, conditions in some of the institutions border at times on overcrowding.

In the maternity services of general hospitals the percentage of ward bed utilization has been lower than in the special hospitals; the municipal hospitals and particularly those in the Department of Public Welfare being respon-

DEATHS AND DEATH RATES UNDER 5 YEARS OF AGE

		1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922
MANHATTAN	**Deaths**	13070	12024	11122	10665	9988	10187	9339	8533	9403	7311	7980	6344	6533
	Death Rates	48.77	43.92		42.87	39.	30.9			41.0	32.0	35.0	27.9	28.8
BRONX	**Deaths**	1708	1670	1697	1777	1703	1830	1810	1903	2069	1631	1659	1402	1453
	Death Rates	33.91	30.16		30.43	24.6	30.7			30.2	22.8	22.2	18.0	18.0
BROOKLYN	**Deaths**	7860	7027	6682	6633	6267	6622	7053	6197	7646	5453	6124	4719	5464
	Death Rates	41.04	35.32		35.96	29.2	31.4			39.0	27.3	30.0	22.7	25.8
QUEENS	**Deaths**	1277	1138	1115	1283	1260	1303	1421	1311	1445	1035	1163	943	1088
	Death Rates	35.36	29.27		35.65	30.5	32.9			32.8	22.5	24.3	19.0	21.1
RICHMOND	**Deaths**	353	383	362	353	312	349	344	321	456	314	362	264	309
	Death Rates	36.54	38.31		36.82	32.9	35.5			40.8	27.3	30.6	21.8	24.8
TOTAL—All Boroughs		24268	22242	20978	20711	19530	20291	19967	18265	21019	15744	17288	13672	14847
								33.5		38.3	28.2	30.5	23.8	25.4

sible for the rather low average of utilization. The considerably higher figure of bed utilization in the special maternity hospitals and in the maternity services of private general hospitals as compared with the municipal institutions is due in a measure to the fact that many of the private rooms in the non-municipal hospitals are used for obstetrical cases.

High Degree of Utilization of Hospitals for Chronics.

The orthopedic hospitals show a high degree of utilization. The Neurological Institute reported a utilization of its bed capacity of about 83% for 1920 and 85% for 1922. The hospitals for chronics are among those utilized to capacity. The tuberculosis hospitals, with the exception of one, likewise show a high utilization.

Overcrowding in Hospitals for Mental Conditions.

Of all the institutions, however, none present such conditions of overcrowding as the hospitals for mental diseases. Although these hospitals were not included in the survey, either as far as medical work or methods of administration are concerned, statistics of utilization have been obtained. These have been ascertained to point out the existing conditions and to emphasize the fact that there is a large increase in diseases of the mind and that a great deal of preventive work in mental hygiene can and should be done. The State hospitals within the boundaries of New York City show an average utilization of over 130% capacity! This fact means that in addition to the certified bed capacity, cots and other provisions are made to accommodate more patients than were originally provided for. There is a need for a psychopathic hospital in this City in which patients with mental diseases may be treated without the stigma of

commitment. This matter will be discussed more fully in another section of the book.

Additional Factors Determining the Rate of Utilization of Hospitals.

In discussing the utilization of the available bed capacity of hospitals and the extent to which the community allows its resources to lie fallow, several factors that enter into the problem should be borne in mind. These may be briefly mentioned as follows: The majority of hospital beds are in wards; the sizes of wards show considerable variation; some contain as few as 8 beds, others as many as 20. The uses of a ward are not readily interchangeable or flexible. Obviously a male ward cannot be utilized for the overflow of female cases, and the larger the size of the ward, the greater is the possible waste due to this inflexibility. In many institutions the separation of services is rigidly maintained, no medical cases are placed in a surgical ward and vice versa. Furthermore, because of the rules of admission a vacancy occurring in a ward after a certain hour is often not filled until the next day. Wards have to be cleaned and renovated periodically and during the period of renovation they are closed.

Some rooms, such as isolation rooms, which are used on certain occasions only, are included in the total bed capacity and figured in the percentage utilization.

The incidence of disease is subject to seasonal variation, particularly in such conditions as the respiratory diseases. A hospital may report a low average annual utilization of its bed capacity, yet it may work to maximum capacity at certain times of the year.

At this point the need of larger administrative latitude should be emphasized. During epidemics or seasons

when the incidence of such diseases as pneumonia or influenza or encephalitis lethargica is high, surgical work should be reduced to the minimum of indispensable emergency work, and the surgical wards utilized for the acute conditions urgently requiring hospital accommodations. Certain types of work, such as tonsil and adenoid operations, could conveniently in the case of school children be done during the summer months when the pressure upon the hospital is lower.

With regard to seasonal fluctuations, an analysis of patient days by months was made for a small number of institutions for which these statistics were available. The figures show a slump in December prior to the Christmas holidays; in January the hospital population usually increases; the same is true of September, immediately after the summer months. There is no inverse correlation between the number of patients and the average number of days' stay. In this connection it is interesting to mention that the average stay per patient is shorter in the municipal than in the private hospitals.

It should also be borne in mind that beds alone do not constitute ability on the part of the hospital to receive patients. The bed capacity is conditioned by the medical and nursing personnel, as well as by laboratory and other kinds of auxiliary help. Whatever the causes may be, the fact nevertheless remains that a very large part of our hospital resources remains unused from year to year. An idleness of 10% of the bed capacity may be regarded as inevitable. Figuring the unused bed capacity on the basis of 90% only, we find that in New York City, taking the private general hospitals alone, the available resources are not utilized to the extent of four and a half times the capacity of Mt. Sinai, the largest of our private general hospitals. In other words, if only the private general

hospitals were utilized to 90% of their capacity we would have added to the available facilities four and a half hospitals as large as Mt. Sinai. Taking *all* hospitals, the loss of potential days of utilization on the 90% basis deprives us of hospital facilities six and a half times the size of Mt. Sinai. In other words, we are amply supplied with hospital beds, but there is need of readjustment of types of facilities and, above all, better utilization and improvement of existing facilities.

Distribution of Hospital Services.

The statistics of home visiting on the part of the nursing staff of the Henry Street Settlement furnish an index to the distribution of disease in the community by certain principal types. The accompanying table giving the

STATISTICS OF THE HENRY STREET SETTLEMENT NURSE VISITS BY TYPES OF CONDITIONS

	1918	1919	1920	1921†	1922	1923
General Diseases	23.7%	16.8%	19.0%	....	9.9%	9.6%
Nervous System	1.7	2.2	2.9	....	1.5	1.7
Circulatory	1.2	1.1	1.6	....	1.3	1.3
Respiratory	17.7	15.2	16.8	10.8%	12.4	13.2
Digestive	3.5	5.0	6.8	....	1.4	1.1
Genito-Urinary	1.3	1.5	2.2	....	2.1	2.2
Puerperal State	13.0	17.5	22.9	22.8	27.6	26.0
External Causes	1.7	2.0	2.0	....	1.5	2.0
New-born	10.7	14.3	19.9	20.5	23.6	21.4
Skin*	.6	.4	.8	....	*	*
Bones and Organs of Locomotion*	.3	.05	.1	....	*	*
Malformations, Diseases of Early Infancy*	.3	.6	.1	....	*	*
Old Age*	.03	.06	.13	....	*	*
Poliomyelitis	2.9	....	.01	....	....	....
Ill-Defined and all others	2.6	3.5	4.7	....	10.6	13.9
Not nursed	18.7	19.7	....	18.9	8.1	7.6
Total No. of patients attended.	42,679	33,140	32,827	37,575	47,069	44,158

*In 1922 and 1923, included among the "Ill-defined and All Others."
†In 1921 not otherwise classified.

percentage distribution of groups of illnesses for six years is of interest as an indication of the relative importance of certain diseases which are being treated at home. General diseases, and those of the respiratory system and childbirth make up the bulk of the conditions for which the visiting nurse service is used. It is of interest that the skin, genito-urinary and neurological cases constitute about 5% of the total.

In using these figures as a possible gauge for judging the adequacy of distribution of beds in hospitals by services, it should be borne in mind that almost all of the cases attended by the visiting nurses are medical and obstetrical and include few, if any, surgical cases. Surgical cases, however, constitute on the average at least 60% of the hospital patients; of the surgical cases approximately 24% are in the domain of gynecology.[1]

The accompanying table shows the distribution of bed capacity in the New York hospitals, and indicates the extent of "specialization."

In the private general hospitals 18.5% of the beds are devoted to medicine; 22.5% to surgery; 6.5% to obstetrics; 3% to gynecology and 9% to pediatrics. 28.3% of the bed capacity is used "interchangeably." In this number are included practically all private and semi-private bed facilities as well as a number of ward beds in institutions where the differentiation between services is not very rigid. The number of beds in the private general hospitals devoted to neurology and skin diseases is practically nil, while the beds used for eye, nose and throat work constitute less than 1% of the total number.

[1] Dr. Robert L. Dickinson, "Analysis of the Work of the Uterologist," *Surgery, Gynecology and Obstetrics*. November, 1918, vol. xxvii., p. 486.

DISTRIBUTION OF BED CAPACITY ACCORDING TO SERVICE AND USE IN 182 HOSPITALS OF GREATER NEW YORK

Service and Use	*Municipal*		*Private General*		*Private Special*		*Proprietary*		*Total*	%
	Beds	%	*Beds*	%	*Beds*	%	*Beds*	%		
Medical	1,366	11.1	1,900	18.5	53	.7	....	....	3,319	10.6
Surgical	1,424	11.6	2,290	22.5	9	.1	....	....	3,723	10.6
Obstetrical	398	3.3	666	6.5	558	8.0	203	15.2	1,825	5.3
Gynecological	254	2.1	313	3.0	119	1.5	....	....	686	2.2
Genito-urinary	242	2.0	96	.9	....	....	....	....	338	1.0
Syphilis	211	1.8	....	....	6	.2	....	....	217	.6
Eye	117	1.0	12	.1	47	.6	....	....	176	.5
Eye, ear, nose and throat	....	....	98	.9	403	5.6	....	....	501	1.6
Pediatric	879	7.2	957	9.0	882	12.3	....	....	2,736	8.7
Orthopedic	236	1.1	70	.7	447*	6.3	....	....	753	2.4
Chronic orthopedic	....	....	....	....	556†	9.9	....	....	556	1.7
Skin	174	1.5	8	....	30	.4	....	....	212	.6
Cancer ‡	....	....	....	....	129	1.8	....	....	129	.4
Chronic cancer	....	....	....	....	263	3.7	....	....	263	.8
Neurological	532	4.4	17	.1	349	4.9	....	....	898	2.8
Interchangeable	....	....	2,899	28.3	169	2.4	819	59.9	3,887	13.0
Psychopathic	434	3.6	....	....	350	4.9	332	24.9	1,116	4.0
Tuberculosis	2,585	21.0	16	.1	1,621	22.9	....	....	4,222	13.5
Erysipelas	33	.3	....	....	....	....	....	....	33	.1
Contagious	1,959	16.0	10	....	....	....	....	....	1,969	6.3
Chronic	1,174	9.6	....	....	458	6.5	....	....	1,632	5.2
Industrial	....	....	....	....	40	.5	....	....	40	.1
Boarding Beds	12	.1	....	....	....	....	....	....	12	....
Bassinets	283	2.3	890	8.6	555	7.9	....	....	1,728	6.0
Research	....	....	....	....	70	.9	....	....	70	.2
Total	12,331		10,242		7,124		1,354		31,051	

* Of these 273 beds are for children. † Children's beds.

‡ Recently a special cancer service was established at the City Hospital on Welfare Island.

III. Hospital Charges

Hospital charges are a matter of considerable concern to patients as well as to hospitals. For this reason detailed information on the range of prices for hospital accommodations and for services was secured. All the figures presented in this section refer to the year 1920. Since that time changes have been made and the revision has been uniformly upwards.

Charges in Private General Hospitals.

In the private general hospitals the charges for private rooms vary from $3.00 to $15.00 per day; 746 out of 1,312, or over one-half of the rooms cost from $5.00 to $8.00 per

day. The higher priced rooms, or those ranging from $10.00 to $15.00, constitute a little over 13% of the total number of private rooms in the general hospitals.

The following table gives the distribution of charges for private rooms and is arranged in a descending numerical order of the price per room per day:

Price per day	*Number of rooms*	*Price per day*	*Number of rooms*
$15.00	36	$7.00	206
12.00	25	6.50	90
11.00	35	6.00	138
10.00	79	5.50	54
9.50	4	5.00	210
9.00	70	4.50	48
8.50	17	4.00	34
8.00	192	3.50	29
7.50	22	3.00	23

Charges for Semi-Private Beds and Rooms.

Charges for semi-private beds vary as much as from $2.50 to $7.00 per day. As has been pointed out in the previous chapter, a semi-private bed is rather an indefinite term; it may mean a bed in a room with only two beds or a bed in a ward of ten beds or more. The bulk of the semi-private accommodations cost from $3.00 to $4.50 per day.

The following is a tabular presentation of the charges for semi-private room accommodations:

Price per day	*Number of beds*	*Price per day*	*Number of beds*
$7.00	34	$4.00	256
6.50	37	3.60	174
6.00	17	3.50	204
5.50	69	3.00	237
5.00	69	2.50	50
4.50	143		

Of the single rooms for which the rate is $10.00 and upwards, 160 are in Manhattan, 14 in Brooklyn and only one in Queens; of the single rooms for which $5.00 or less is charged, 116 are in Manhattan, 174 in Brooklyn, 37 in Queens, 5 in the Bronx, and 4 in Richmond. The rates for semi-private room accommodations are more uniform throughout the City and the same applies to ward rates. Of the 5,969 ward beds in the private general hospitals, 87% range from $2.00 to $3.00 inclusive, per day.

Ward Rates.

The following table gives a summary of the ward rates in the City:

Price per day	*Number of beds*
$4.00	88
3.50	377
3.00	1,400
2.50	2,167
2.25	114
2.00	1,554
1.25	40
1.00	68
.75	77
.50	84
	5,969

The rates from 50 cents to $1.25 are for children.

Rates in Special Hospitals.

The rates in special hospitals for acute conditions do not lend themselves to as simple tabulation as the rates in general hospitals, because many institutions in this group reported only the range of rates, without specifying the number of rooms at each rate. The following table gives the rates as listed in the special hospitals in Manhattan:

RATES FOR ROOM ACCOMMODATIONS IN MANHATTAN

Price per day	*Number of rooms*
$16.00	3
15.00	2
14.00	9
13.00	3
12.00	16
10.00	10
9.00	9
8.00 to 14.00	24
8.00	25
7.50	15
7.00	32
6.00	17
6.00 to 12.00	98
5.00 to 14.00	17
5.00 to 9.00	16
5.00	6
4.50	5
4.00 to 8.00	8
	315

On the whole the rates for private rooms in special hospitals are higher than in general hospitals. The number of private rooms in special hospitals in Brooklyn is very small and the rates are lower than in Manhattan, as will be seen from the following tabulation:

RATES FOR ROOM ACCOMMODATION IN BROOKLYN

Price per day	*Number of rooms*
$7.00	1
6.00	3
5.00	10
4.00	4
3.00	3
	21

Semi-Private Room Charges.

In the special hospitals there are 663 semi-private beds, of which 195 are free and these free beds are distributed as follows:

14 in the former Laura Franklin Free Hospital, now discontinued
48 in the Bedford Sanitarium[1]
52 in Faith Home for Incurables
81 in Brooklyn Home for Consumptives.

The charges for the remaining 468 semi-private room beds vary from $2.00 to $12.00 per day, but the largest number is in the $3.00 per day category. The following table gives the distribution of charges:

Price per day	*Number of rooms*
$12.00	4
8.00	4
6.00	10
5.00	14
4.50	48
4.00	51
3.50	33
3.00	193
2.50	33
2.00	78
	468

Ward Bed Charges.

Of the 4,329 ward beds in special hospitals, 1,634 are listed as free beds. These are distributed as follows:

380 Montefiore Home
337 St. Anthony's Home (Tuberculosis)
250 St. Giles (Orthopedic)
167 Bedford Sanitarium (Tuberculosis)[1]

[1] Branch of Montefiore Hospital.

151 St. Mary's Free
94 Sloane
87 St. Rose's (Cancer)
75 House of Rest (Tuberculosis)
60 in the former Laura Franklin Free Hospital
20 Brooklyn Home for Consumptives
13 Faith Home for Incurables

Ward charges in the special hospitals are on the whole lower than in the general hospitals. Of the 2,695 beds for which charges are made, over 40% are $1.50 per day, while only 58 beds are over $3.00.

Charges in Proprietary Institutions.

In the proprietary hospitals or sanatoria the rates are somewhat higher than in the endowed hospitals. The following tables give the rates for private rooms per day, semi-private rooms per day, and for accommodations where the rates are made on a weekly basis only.

MANHATTAN PROPRIETARY HOSPITALS

PRIVATE ROOMS

Price per day	*Number of rooms*
$25.00	1
20.00	3
18.00	2
15.00	7
14.00	45
12.00	7
11.00	13
10.00	27
9.00	9
8.00	19
7.50	2
7.00	21

MANHATTAN PROPRIETARY HOSPITALS—*Continued*

PRIVATE ROOMS

Price per day	*Number of rooms*
6.50	17
6.00	6
5.00	14
4.50	15
3.50	3
Total	211

SEMI-PRIVATE ROOMS

Price per day	*Number of beds*
$8.00	14
7.00	7
6.50	2
6.00	21
5.00	44
4.50	8
4.00	5
3.50	37
3.00	12
Total	150

PRIVATE ROOMS ON WEEKLY RATE BASIS

Price per week	*Number of rooms*
$125.00 to 150.00	73
75.00 to 100.00	9
60.00 to 100.00	7
50.00 to 75.00	14
45.00 to 150.00	109
40.00 to 85.00	7
Total	219

Bronx Proprietary Hospitals

PRIVATE ROOMS

Price per day	*Number of rooms*
$18.00	1
7.50	6
7.00	6
6.50	1
6.00	3
5.50	1
5.00	2
Total	20

SEMI-PRIVATE ROOMS

Price per day	*Number of beds*
$9.00	4
8.00	4
6.50	12
6.00	12
4.00	4
Total	36

Brooklyn Proprietary Hospitals

PRIVATE ROOMS

Price per day	*Number of rooms*
$11.00	1
10.00	5
9.00	8
8.00	8
7.50	8
7.00	18
6.50	17
6.00	22

BROOKLYN PROPRIETARY HOSPITALS—*Continued*

PRIVATE ROOMS

Price per day	*Number of rooms*
5.50	11
5.00	23
4.50	4
4.00	4
3.50	1
Total	130

SEMI-PRIVATE ROOMS

Price per day	*Number of beds*
$9.00	20
8.00	12
7.00	38
6.50	8
6.00	17
5.00	55
4.50	6
4.00	19
3.50	42
3.00	32
Total	249

The rates for private rooms in Brooklyn and the Bronx are considerably lower than in Manhattan, while the rates for semi-private rooms are highest in the Bronx. These comparisons are based on the medians of the charges given above.

Municipal Hospitals.

Both the Department of Public Welfare and the Department of Bellevue and Allied Hospitals charge those who are able to pay for hospital accommodations. The

only municipal hospitals that do not make any charges are those of the Department of Health. The charges in the Department of Public Welfare are as follows:

Charges in Municipal Hospitals

Charges in the Department of Public Welfare.

For medical and surgical patients, five years of age and over, except workmen's compensation and maternity cases, $2.00 per day.

In maternity cases, for the care of the mother and child during fifteen days of confinement, $25.00.

For medical and surgical patients under five years of age, except for tonsillectomies and adenoidectomies, in general hospitals, 90 cents per day.

For cases of tonsillectomies and adenoidectomies, $2.00.

For the chronic, incurable or infirm inmates of the homes for the aged and infirm, 80 cents per day.

For patients at Sea View Hospital, $1.50 per day.

For defectives in institutions maintained exclusively for such (New York City Children's Hospital, Randall's Island), $1.10 per day.

In the *Department of Bellevue and Allied Hospitals* the charges are as follows:

BELLEVUE:

All cases, irrespective of age or service, except workmen's compensation cases, $2.25 per day. If the patients are not able to pay this amount a charge of $1.50 is made.

Compensation cases are also charged for X-Ray and operating room as well as board.

FORDHAM:

General medical and surgical cases, except workmen's compensation cases, $1.00 to $1.50 per day (depending on ability to pay and length of stay).

Children $1.00 per day.
Maternity cases $2.25 per day.
Tonsil and adenoid cases, no charge.

GOUVERNEUR:

General medical and surgical cases, except workmen's compensation, $1.50 per day.

Children $1.00 per day.
Maternity cases $12.50 per week.
Tonsil and adenoid cases, $1.00 (a considerable number are able to pay this amount).

Compensation cases are charged $3.00 for X-Ray and $3.00 for special examination.

HARLEM:

General medical and surgical cases $1.50 per day, except workmen's compensation.

Children over 12 years, $1.50 per day.
Children under 12 years, $1.00 per day.
Maternity cases, $1.50 per day.

Laboratory Charges.

There is a wide divergence in the practice of hospitals with regard to charges for laboratory tests. Some do not make any charge whatsoever. Others make a flat charge for all routine laboratory work. Still others make a specified charge for each type of test in accordance with a schedule of prices adopted. In some instances, the charges are only applied to private and semi-private patients; in others, to ward patients as well.

X-Ray Charges in General Hospitals.

Inquiry was made likewise as to the rates prevailing in the general hospitals for X-Ray work. This inquiry was limited to 66 institutions. Of these, 8 reported as hav-

ing no X-Ray outfits; 24 reported as having no definite schedules, in some the charges being made according to the patient's ability to pay; 25 have complete schedules of charges; 9 have fragmentary schedules; and in some instances charges are based on the size of plate used.

There is little uniformity in the rates prevailing in the several institutions, the variations from hospital to hospital being considerable. For example, a dental film costs $1.00 in one hospital and $5.00 in another; charges for a skiagraph of the head vary from $5.00 to $30.00; similar variations are found in the charges for plates of the chest and kidneys. There is even greater variation in the rates for X-Raying the stomach and gastro-intestinal tract—from $15.00 to $75.00. This complete lack of standardization of charges often leads to controversy with patients.

Other Charges.

In the matter of charges for operating room, anæsthesia, surgical dressings, special drugs, special diets, special nurses, and maternity outfits, there is much more uniformity than in the charges for X-Ray and laboratory work, although even in these many variations occur.

Charges for the use of an operating room in the case of private patients vary from $5.00 to $25.00, the most common charge, however, being $10.00, although in 16 institutions it is $15.00; in 4—$12.00; in 1—$20.00, and in 2—$25.00. In the case of semi-private patients the charge for the use of operating rooms is practically the same, although $20.00 is the maximum. In the case of paying ward patients the prevailing charges are $5.00 and $10.00. In one instance only is it $15.00.

Charges for anæsthesia are usually included in the operating room charges although in some instances an extra charge of $5.00 is made, and, when the anæsthetic is ad-

ministered by a special physician, an extra fee is charged by the physician.

Surgical dressings are supplied free in most institutions; in two, however, an extra charge of one-half week's board is added to cover the cost of surgical dressings, and in five other hospitals the dressings are charged to the patient at cost.

In most of the institutions charges for special drugs are at cost price. In several institutions no extra charges are made for special drugs.

In regard to special nurses the prevailing charge is $6.00 per day and board, although in a number of institutions the charge is $7.00 per day and board. In only one institution is the charge $5.50 and board.

In most institutions special diets are not charged for, although seven hospitals reported that they charge for special diets at cost price.

Cost of Hospital Care.

From the foregoing review of the charges, it is apparent that with the increased cost of hospital maintenance and the modern methods in medical and surgical work requiring auxiliary procedures and apparatus, the charges made to patients are bound to be considerable. An analysis was made of the bills paid by private, semi-private and paying ward patients in a few of the hospitals. The tabulation of the data from three hospitals is given in the appendix.

The average cost to a private patient in Hospital No. 1 was $20.00 per day. The cost of special nursing constituted the largest item of expense—47.7% of the total cost. The room accommodation and board amounted to 39.8%, laboratory expenses 3.2%, X-Ray 1.9%, operating room fees 5.2%, special drugs 1.7%.

The 50 ward patients in the same hospital had an aver-

age stay of 18 days and an average expense of $75.00. Of this amount 86.3% was for board, 5.7% for laboratory charges, 3.5% for X-Ray, 4.2% for special nurses and .3% for special drugs and operating room fees.

In another general hospital, 16 private patients paid $6,476.15 or an average of $405.00 per case, 14 semi-private cases paid $586.50 or $42.00 per case, and 14 ward cases paid $150.00 or an average of about $11.00 per case. This low average is due to the fact that 8 of the 14 cases were tonsil and adenoid cases which stayed in the hospital 1 day and paid but $3.00 each for board and operation.

In a third general hospital, the average cost to a private patient was $15.00 a day, to a semi-private patient $7.00, and to a ward patient a little over $4.00. In the case of private patients the cost of room and board constituted 55.1% of the total amount paid, which is a much larger proportion than in the case of private patients in Hospital No. 1. The cost of special nursing, on the other hand, constituted a much smaller proportion of the total expenditure than in the case of Hospital No. 1. The operating room fees and the cost of laboratory tests in both hospitals bore about the same relation to the total cost to private patients. In the case of ward patients, the discrepancies in the relative importance of the item of board were less pronounced than in the cases of private patients, but there was little uniformity in the relative importance of the other items of expense, illustrating the prevailing differences in the method of making charges in the hospitals.

IV. Income in Relation to Illness

The matter of hospital rates is not only a hospital problem, but it is also an important social and economic

problem and should be considered in relation to the income of the patients.

Since Mrs. L. B. More's study of the standard of living of the families of the Greenwich House Settlement in 1903–1905 we have had in New York City a considerable number of economic researches concerning the income, budgets and cost of living of workingmen's families. In 1907 a study was made by R. C. Chapin for the New York State Conference of Charities and Corrections, published by the Russell Sage Foundation, and seven years later another by F. H. Streightoff for the New York State Factory Investigating Commission. In addition, the Bureau of Municipal Research in 1913 made a family budget analysis to determine the basis for adequate compensation of the members of the City Police Department, and the Board of Estimate and Apportionment made a similar study in reference to the salaries of street cleaners. In this inquiry the Bureau of Social Investigations of the then Department of Charities, the Social Service Department of Bellevue Hospital and the Association for Improving the Condition of the Poor cooperated.

Since the inflation of prices incident to the war, the subject has acquired particular importance and, in addition to the comprehensive and painstaking studies on the part of the National War Labor Board and the United States Bureau of Labor Statistics, studies have been made in New York City by the Department of Health on food costs, and by the Bankers' Trust Company and the Bureau of Municipal Research on the cost of living for clerical employees. Other cities have had similar investigations conducted under official and private auspices.

Some of the labor unions have made inquiries of the same kind through the Labor Bureau, Inc.; and the National Industrial Conference Board, representing the

manufacturing interests, publishes periodically information on the cost of living. An index indicating the trend of retail prices has for years been published by the United States Labor Bureau. Finally, an independent committee of economists through their bureau, known as the National Bureau of Economic Research, has recently published the results of an exhaustive inquiry into the distribution of income in the United States. This report shows that 86% of persons gainfully employed earn less than $2,000 per annum and that the average per capita income of the population was $586.00 in 1918.[1]

In the economic literature dealing with the subject of the relation of wages to the cost of living, three standards are usually considered: the poverty level, the minimum of subsistence level and the minimum of comfort level. The last named budget of a family consisting of husband, wife and three children under 14 was estimated by the United States Bureau of Labor Statistics to call for $2,260 on the basis of August, 1919, prices. By December, 1920, it would have required approximately $2,400. The percentage distribution of the principal items of the budget in the Washington, D. C., "minimum of comfort" standard of living was as follows[2]:

Item	*Percent*
Rent, Fuel and Light	18.5
Food	34.4
Clothing	22.9
All others	24.2
	100.0

[1] *Income in the United States—1909–1919*—A Survey under the auspices of the National Bureau of Economic Research, New York, Harcourt, Brace and Co., 1921, Vol. I, pp. 144 and 146.

[2] Paul and Dorothy Douglas, "What Can a Man Afford," Prize essay of the American Economic Association published in the *American Economic Review*, Vol. XI, No. 4, Supplement No. 2, December, 1921, pp. 53–54.

Among the "all others" is contained an item of $82.00 as an allowance for "health." This is considered a fairly liberal allowance; it is much higher than the allowance in "the minimum of subsistence" budgets. The public has become accustomed to relying on subsidized medical service without regarding it as charity and is making altogether too scanty a provision for the contingency of illness. There has been, on the other hand, in the last decade an increasing tendency on the part of hospitals to demand higher payment for accommodations to meet in part the mounting costs of hospital maintenance. While this policy is probably justifiable, the fixing of rates in hospitals not operated for profit should be, and often is, made with a regard for the income of the patient. Various methods of dealing with the economic problem of illness have been proposed and all seem to be fraught with enormous difficulties in their practical application.

The greatest need of change in hospital policy lies, however, in relation to the large group usually referred to as "the middle class." Of the total number of 4,425,114 persons making individual income tax returns in 1918, 1,495,878 or 33.83% reported incomes from $2,000–$3,000 and 932,336 or 21.06% incomes from $3,000–$5,000; in other words, 54.89% of all tax returns were made by persons earning between $2,000 and $5,000 annually. The mode of living and educational standards of this group are such that most of them dread the atmosphere and association of a public hospital ward, and the idea of charity and free medical services is naturally repugnant to them. This raises the question whether in those hospitals which are not operated for profit, the scale of rates for room and board as well as all other charges should not be regulated in accordance with the income of the patients even if the

private pavilion should thereby cease to be a money maker for the hospital.

The need of moderately priced hospital accommodations for people whose incomes range from $2,500 to $7,500 annually is one of the most crying social needs in relation to hospitals. Discussing this matter F. Stuart Chapin, professor of sociology at the University of Minnesota, goes so far as to say that—

"It is worth while mentioning in passing a condition of affairs in which adequate hospital services for the rich are supplied because paid for, and hospital services for the poor are supplied free, but in which it is increasingly difficult for middle class people to meet the expenses of adequate hospital services. It is becoming increasingly evident that social work, as distinct from relief work or charity work, needs to be extended to include the middle classes. If this condition be recognized by hospital executives, I believe that an extension of hospital social service will supply an important auxiliary means of securing the facts to guide the fixing of rates and the determination of patients' ability to pay."[1]

[1] *The Modern Hospital*, May, 1922, page 43.

APPENDIX

ANALYSIS OF PATIENTS' BILLS

HOSPITAL NO. 1

PRIVATE CASES

Diagnosis	*Board*	*Oper. Room Fee*	*Lab. Ex.*	*X-Ray*	*Spec. Drugs*	*Spec. Nurses*	*Extras*	*Total Amt.*	*Length of Stay*
Influenza	$ 57.00	.....	$ 4.00	.....	$ 1.75	.....	.....	$ 62.75	6 days
Colitis—sub-acute	108.00	.....	27.00	.....	2.10	$126.00	$ .59	263.69	18 "
Myocardial insuff. Uræmic coma	72.00	.....	19.00	.....	2.10	112.00	.....	205.10	9 "
Myocarditis, chronic. Myocardial insuff.	522.50	.....	5.00	.....	5.75	623.00	9.30	1,165.55	55 "
Chr. cardio-valvular dis. aortic regurgitation	42.00	.....	22.00	$25.00	.....	.....	.....	89.00	7 "
Broncho-pneumonia rt. Laryngitis ac. lower	207.00	.....	7.00	.....	2.65	168.00	.....	384.65	23 "
Ulcer—duodenal	144.00	$35.00	7.00	.....	1.00	14.00	.....	201.00	22 "
Nephritis—diffuse chr. Anæmia, secondary	575.50	.....	137.00	.....	10.40	917.00	18.15	1,658.05	65 "
Nephritis, interstitial chr.	63.00	.....	2.00	.....	.....	.....	.....	65.00	7 "
Neurasthenia	351.00	.....	14.00	.....	22.25	371.00	35.40	793.65	54 "
Appendicitis, chronic	96.00	35.00	2.00	.....	.25	98.00	.....	231.25	12 "
Carcinoma of breast, left	130.00	35.00	14.00	.....	.50	189.00	.....	377.50	14 "
Cholecystitis chr., cholelithiasis, appen. chr.	135.00	35.00	12.00	.....	2.00	154.00	.....	338.00	15 "
Cholecystitis, cholelithiasis, chr. appendicitis, paralytic ileus	132.50	35.00	29.00	125.00	3.00	56.00	3.00	383.50	13 "
Appendicitis, chr. cholecystitis, fibroid uterus	188.50	35.00	21.00	75.00	3.00	119.00	3.00	444.50	24 "
Fracture internal condyle, left humerus.	24.00	35.00	2.00	.....	.....	63.00	.....	124.00	4 "
Osteomyelitis of femur rt. with amputation	84.50	35.00	17.00	.....	.50	112.00	.....	249.00	13 "

HOSPITAL NO. 1

PRIVATE CASES

Diagnosis	Board	Oper. Room Fee	Lab. Ex.	X-Ray	Spec. Drugs	Spec. Nurses	Extras	Total Amt.	Length of Stay
Duodenal ulcer	$ 84.00	$35.00	$ 2.00	.....	.....	$119.00	.....	$ 240.00	14 days
Varicose veins, left leg and thigh	217.00	35.00	2.00	.....	.....	28.00	.....	282.00	21 "
Ulcer of bladder	266.00	35.00	2.00	.....	$10.50	378.00	.....	691.50	28 "
Carcinoma of urinary bladder, myocarditis, chr. terminal pneumonia	422.00	35.00	2.00	.....	82.45	931.00	$ 8.00	1,480.45	72 "
Tumor of urinary bladder	138.00	35.00	29.00	$25.00	.....	161.00	.....	388.00	23 "
Hypertrophied prostate, vesicle calculus	200.00	35.00	24.00	.....	40.65	322.00	.....	621.65	25 "
Hypertrophic prostate	156.00	35.00	22.00	.....	20.00	168.00	.....	401.00	26 "
Urethral calculus, rt.	199.50	35.00	2.00	.....	24.45	287.00	.....	547.95	21 "
Renal calculi—bilateral	156.00	35.00	15.00	25.00	.70	287.00	.....	518.70	26 "
Mastoiditis, acute, rt. subperiosteal abscess	322.00	35.00	5.00	.....	.30	392.00	.....	754.30	28 "
Mastoiditis, chr. rt.	96.00	35.00	7.00	.....	.....	119.00	.....	257.00	12 "
Sinusitis, maxillary chr. bilateral, ethmoiditis chr. rt.	142.50	35.00	2.00	.....	1.25	168.00	.....	348.75	15 "
Ethmoiditis, acute, rt. antritis, acute, bilateral, arthritis, acute, otitis media acute, rt.	176.00	35.00	.....	.....	.25	147.00	.....	358.25	16 "
Total, 30 cases	5,516.50	735.00	455.00	275.00	237.80	6,629.00	77.44	13,925.74	688 "
Percentage	39.8%	5.2%	3.2%	1.9%	1.7%	47.7%	.5%		23 days average per case

HOSPITAL NO. 1

WARD CASES

Diagnosis	*Board*	*Oper. Room Fee*	*Lab. Ex.*	*X-Ray*	*Spec. Drugs*	*Spec. Nurses*	*Extras*	*Total Amt.*	*Length of Stay*
Pott's disease, cervical	$133.00	$3.00(anæs.)	.....	.....	.....	.....	.....	$136.00	39 days
Hyperthyroidism	80.50	....	$14.00	.....	.....	.....	.....	94.50	23 "
Fistula in ano	31.50	....	2.00	.....	.....	.....	.....	33.50	9 "
Cholecystitis, chr., cholelithiasis, cholangitis, appen. sub-acute	49.00	....	2.00	.....	.....	$35.00	.....	86.00	14 "
Cholecystitis, chr. appen., chr. fibroid uterus, adhesions	94.50	....	7.00	.....	.....	.....	.....	101.50	27 "
Cholelithiasis, vesico-duodenal fistula, appendicitis chr.	59.50	....	4.50	$ 5.00	.....	.....	.....	69.00	17 "
Salpingitis bilateral, ovarian cyst hemorrhagic left, appendicitis, pelvic peritonitis	49.00	....	2.25	.....	.....	.....	.....	51.25	14 "
Tb kidney, left	133.00	....	.75	10.00	.....	.....	.....	143.75	38 "
Tb kidney	28.00	4.00(anæs.)	4.75	10.00	.....	.....	.....	46.75	8 "
Hydrocele, left	38.50	....	.....	.....	.....	.....	.....	38.50	11 "
Tb epididymitis	66.50	....	1.25	5.00	.....	.....	.....	72.75	19 "
Nephrolithiasis	38.50	....	2.00	5.00	.....	.....	.....	45.50	11 "
Urethral stricture	42.00	....	2.00	.....	.....	.....	.....	44.00	12 "
Vesical calculus	262.50	....	5.00	.....	.....	.....	.....	267.50	75 "
Carcinoma of tongue	28.00	....	3.00	.....	.....	.....	.....	31.00	8 "
Carcinoma of larynx	31.50	....	.....	.....	.....	119.00	.....	150.50	9 "
Empyema, rt., with necrosis of ribs	52.50	2.00(anæs.)	3.00	5.00	.....	.....	.....	62.50	15 "
Varicose veins, both legs	49.00	....	2.00	.....	.....	.....	.....	51.00	14 "
Lacerations of cervix and perineum	52.50	....	.....	.....	.....	.....	.....	52.50	15 "

HOSPITAL NO. 1

WARD CASES

Diagnosis	*Board*	*Oper. Room Fee*	*Lab. Ex.*	*X-Ray*	*Spec. Drugs*	*Spec. Nurses*	*Extras*	*Total Amt.*	*Length of Stay*
Salpingo-oophoritis rt., appen. sub-acute	$ 49.00	....	$ 1.00	.....	.....	.....	.....	$ 50.00	13 days
Duodenal ulcer	70.00	....	1.00	.....	.....	.....	.....	71.00	22 "
Double ischio-rectal abscess, blind internal fistula	28.00	....	.....	.....	.....	.....	.....	28.00	8 "
Ext. and int. hemorrhoids	24.50	....	.....	.....	.....	.....	.....	24.50	7 "
Left inguinal hernia, indirect	42.00	....	.....	.....	.....	.....	.....	42.00	
Colitis	24.50	....	11.00	.....	.....	.....	.....	35.50	7 "
Interstitial nephritis, chr. uræmia	38.50	....	5.00	.....	.....	.....	.....	43.50	11 "
Chr. interstitial nephritis, cardio-valvular disease	77.00	....	9.00	$ 5.00	.....	.....	.....	91.00	22 "
Chr. inter. nephritis, hypertension, arterio-scler.	31.50	....	4.00	5.00	.....	.....	.....	40.50	9 "
Bronchial asthma	45.50	....	3.50	.....	.....	.....	.....	49.00	13 "
Pernicious anæmia	91.00	....	6.00	5.00	.....	.....	.....	102.00	26 "
Chr. arthritis, chr. cardio-valvular disease, mitral stenosis and insuff., ulceration of tonsil	49.00	....	3.00	.....	.....	.....	.....	52.00	14 "
Acute arthritis, aortitis, aortic aneurysm	178.50	....	15.50	10.00	.....	.....	.....	204.00	51 "
Acute arthritis, dental abscess	70.00	....	5.50	5.00	$4.00	.....	.....	84.50	20 "
Lobar pneumonia	56.00	....	8.00	5.00	.....	.....	.....	69.00	16 "
Lobar pneumonia, syphilis	98.00	....	5.50	5.00	.....	.....	.....	108.50	28 "
Cerebro spinal lues	24.50	....	.....	.....	.....	.....	.....	24.50	6 "
Arterio-sclerosis, arterio-sclerotic kidneys, hypertension	147.00	....	30.00	.....	.....	.....	.....	177.00	30 "

HOSPITAL NO. 1

WARD CASES

Diagnosis	*Board*	*Oper. Room Fee*	*Lab. Ex.*	*X-Ray*	*Spec. Drugs*	*Spec. Nurses*	*Extras*	*Total Amt.*	*Length of Stay*
Essential hypertension	$ 35.00	....	$ 3.00	$ 5.00	.....	.....	.....	$ 43.00	10 days
Diabetes mellitus, obesity	31.50	....	10.00	.....	.....	.....	.....	41.50	9 "
Diabetes mellitus, cardiac hypertrophy and dilatation, myocarditis and insuff.	129.50	....	9.00	.....	.....	.....	.....	143.50	37 "
Diabetes mellitus, cardiac hypertrophy and dilatation, myocardial insuff.	98.00	....	7.00	5.00	.....	.....	.....	110.00	28 "
Diabetes mellitus	66.50	....	6.00	.....	.....	.....	.....	72.50	19 "
Pleurisy with effusion	73.50	....	2.50	5.00	.....	.....	.....	81.00	21 "
Pleurisy with effusion	49.00	....	2.00	5.00	.....	.....	.....	56.00	14 "
Gastric neurosis	28.00	....	2.00	15.00	.....	.....	.....	45.00	8 "
Cystocele and rectocele	59.50	....	.25	.....	.....	.....	.....	59.75	17 "
Mastoiditis, acute rt	24.50	....	2.25	.....	.....	.....	.....	26.75	7 "
Mastoiditis, chr. left	49.00	....	1.00	.....	.....	.....	.....	50.00	14 "
Fracture of humerus, rt. with osteomyelitis	21.00	....	1.00	3.00	.....	.....	.....	25.00	6 "
Malunion, fracture tibia and fibula, rt.	87.50	....	....	6.00	.....	.....	.....	93.50	25 "
TOTAL, 50 cases	$3,216.50	$9.00	$209.50	$129.00	$4.00	$154.00	.....	$3,722.00	896 "
PERCENTAGE	86.3%	.2%	5.7%	3.5%	.1%	4.2%			18 days average per case

HOSPITAL NO. 2

Type of Patient	No. of Cases	Board			Spec. Nursing		Lab. Test		Elec.		X-Ray		Operating Room Fee		Miscellaneous		Total	Average Cost Per Day
		Days	Amount	Per cent.		Per cent.		Per cent.		Per cent.		Per cent.		Per cent.		Per cent.		
Private.....	55	818	$6,807.25	55.1	$3,226.50	26.1	$333.75	2.7	$89.00	.7	$361.00	2.9	$600.00	4.9	$925.69	7.5	$12,343.19	$15.08
Semi-private	51	758	3,078.00	57.9	490.00	9.2	229.50	4.3	9.00	.1	160.00	3.0	625.00	11.8	725.05	13.6	5,316.55	7.01
Ward.....	100	1,635	4,626.00	68.1	396.50	5.8	323.50	4.8	52.00	.7	395.00	5.8	715.00	10.5	288.28	4.2	6,796.28	4.15

HOSPITAL NO. 3

PRIVATE CASES

Diagnosis	*Total Hospital Bill*	*Length of Stay*
Varicocele	$ 217.50	10 days
Diagnosis not stated	441.00	
Acute gangrenous appendix with abscess	419.00	16 "
Diagnosis not stated	339.00	
Diagnosis not stated	105.00	
Pleurisy, suppurative-secondary thoracotomy	546.00	29 "
Diagnosis not stated	557.50	
Diagnosis not stated	1,029.00	
Diagnosis not stated	371.50	
Diagnosis not stated	424.50	
Diagnosis not stated	90.00	
Hemorrhoids, Fissure in ano, Lipoma of chest wall	250.50	12 "
Mediastinal lympho sarcoma	834.15	28 "
Oblique inguinal hernia	345.00	15 "
Gastric neurosis, Dis. tonsils	334.50	23 "
Pernicious anemia	172.50	6 "
16 Cases	$6,476.15	

SEMI-PRIVATE CASES

Diagnosis not stated	$ 68.00	
Chronic appendicitis	11.00	11 days
Acute appendicitis	10.00	10 "
Thyro-glossal cyst	9.00	9 "
Radiculitis (sciatica)	16.00	14 "
Diagnosis not stated	72.00	
Atresia of nasopharynx	21.00	21 "
Chronic appendicitis	13.00	13 "
Rt. ovarian cyst, Bilateral hydrosalpinx, Chronic appendicitis	60.00	15 "
Cataract	48.00	12 "
Diagnosis not stated	72.00	18 "
Spondylitis	12.00	8 "
Pulmonary Tuberculosis, Pulmonary Neoplasm	14.00	14 "
Mycosis fungoids	160.50	107 "
14 Cases	$586.50	

HOSPITAL NO. 3

WARD CASES

Diagnosis	*Total Hospital Bill*	*Length of Stay*
Vomiting	$ 8.00	4 days
Chronic appendicitis	24.00	12 "
Tonsils and adenoids	3.00	1 "
Tonsils and adenoids	3.00	1 "
Tonsils and adenoids	3.00	1 "
Tonsils and adenoids	3.00	1 "
Tonsils and adenoids	3.00	1 "
Tonsils and adenoids	3.00	1 "
Tonsils and adenoids	3.00	1 "
For Bronchoscopy	3.00	1 "
Hypertension, Pulmonary edema	24.00	12 "
Hypertrophied tonsils	6.00	3 "
Cholelithiasis, Chronic appendicitis, Chronic cholecystitis	42.00	21 "
Acute suppurative appendicitis	22.00	11 "
14 Cases	$150.00	

CHAPTER IV

HOSPITAL FINANCES

CHAPTER IV

HOSPITAL FINANCES

THE hospitals of New York City—private, municipal and proprietary—spend about $35,000,000 annually. This is an expenditure of about $6.00 for every man, woman and child in the City. An analysis of hospital expenditures and revenues is presented in this chapter.

Sources of Information.

The data which have formed the basis for this section of the study have been taken from the annual reports of the hospitals, the figures compiled by the United Hospital Fund of New York and from the reports of the State Board of Charities.

The United Hospital Fund requires hospitals which are beneficiaries of the Fund to report their income and expenditures, as well as certain facts regarding the work done by these hospitals. The figures submitted by the 56 member hospitals are tabulated annually and constitute a very valuable source of information. The tabulation permits the making of comparisons of the per capita costs, the amount of free work and various other items; all comparisons must, however, be made with

certain reservations because of the variety of accounting systems used by the hospitals.

About fifteen years ago, the first attempt to secure uniformity in hospital accounting was made by representatives of a small group of hospitals in the City. A form of presenting expenditures and of prorating charges was prepared. Since that time and as a result of this effort, some progress toward uniformity has been made. Five New York hospitals follow the outline in every detail, twelve others with certain modifications; the remaining hospitals use classifications of their own.

The State Board of Charities collects information from hospitals which are either fully or in part supported by public funds. There are 83 such hospitals in New York City and these are required by law to report in accordance with a form prescribed by the State Board of Charities. Comparative statistics which are of considerable value are published in the annual reports of the Board. As these reports include a very considerable number of hospitals and as the figures pertaining to maintenance expenses are given in greater detail than in the other reports, they have been used in this chapter as a basis for certain analyses and discussions.

The Finance Department of the City requires an accounting from hospitals which receive City funds for patients treated. The figures which are collected are not published and, therefore, are not available for general use.

The hospitals reporting to the United Hospital Fund are private institutions, while the State Board of Charities receives reports from municipal hospitals as well. The two tabulations supplement each other but cannot be merged because of a different form of presentation and because the figures of the United Hospital Fund are based on the calendar year while those of the State Board of

Charities refer to the fiscal year of the State, ending June 30th.[1]

I. Costs of Maintenance

The table herewith presented shows the expenditures for maintenance of 75 hospitals for the years ending June 30, 1919, 1920, 1921 and 1922. The amounts expended for operation of these hospitals increased from sixteen and one-half millions in 1919 to over twenty-three millions in 1921 and 1922.

In considering the expenditures of hospitals and the comparisons given below, certain facts should be borne in mind to avoid erroneous conclusions, such as the relative importance of the various items of expenditures in large and small, private and municipal, and general and special hospitals. For instance, the per capita food cost in a municipal hospital with no private patients would naturally be lower than in a private hospital. When the small hospital purchases modern essential equipment, the outlay would show up as proportionately greater than in the large hospital. Dispensary work in special hospitals as a group is relatively greater than in the general hospitals, as very many of the neurological, orthopedic, skin, eye, ear, nose and throat patients are ambulatory and can be treated in the dispensary. Before final judgment can be passed in making comparisons, something of the accounting methods and how the figures were derived must be known. A high per capita may mean a higher quality of care and treatment, more extensive

[1] Through the efforts of the State Board of Charities, The Committee on Dispensary Development and the Hospital Information Bureau of the United Hospital Fund a bill passed the New York Legislature in 1923 which enables the State Board of Charities to collect information using the calendar year as the fiscal year. This will save considerable labor for the hospitals and will mean much to those who are interested in comparative hospital finances.

DISTRIBUTION OF MAINTENANCE EXPENSES OF NEW YORK CITY CHARITIES (INCLUDES ALL MUNICIPAL HOSPITALS AND

FOR THE YEARS 1919, 1920, 1921

	Group of Hospitals		Total Salaries and Wages	%	Food, Ice and Water	%	Clothing	%	Fuel, Light and Power	%	Supplies, Medical and Surgical	%
Voluntary	General	1919	2,807,294.86	35.6	2,609,789.66	33.1	45,520.87	0.6	682,610.24	8.6	586,599.58	7.4
		1920	3,164,706.73	33.5	2,965,139.88	31.5	23,419.57	0.2	789,893.37	8.4	835,169.81	8.8
		1921	3,683,259.89	37.2	2,775,663.45	28.	31,163.89	.3	822,872.60	8.3	925,899.98	9.3
		1922	3,935,805.15	40.9	2,342,528.14	24.2	14,960.54	.2	753,216.37	7.8	872,925.45	9.1
	Special	1919	988,321.65	41.9	604,738.32	25.6	11,020.68	.5	197,213.93	8.4	165,748.06	7.
		1920	1,176,379.78	40.3	742,814.45	25.8	13,199.03	.5	219,554.32	7.5	249,239.42	8.2
		1921	1,887,373.78	42.5	1,095,299.90	24.5	30,094.56	.7	361,357.38	8.1	298,210.51	6.8
		1922	1,481,255.10	49.3	635,623.37	21.1	45,287.37	1.6	221,651.08	7.4	225,087.17	7.5
Municipal	Bellevue and Allied	1919	813,528.08	35.9	669,994.36	29.5	84,662.02	3.7	265,197.99	11.7	138,137.49	6.1
		1920	1,036,188.07	41.2	693,594.83	27.6	97,566.53	3.9	257,623.76	10.2	159,348.51	6.3
		1921	1,344,853.72	44.7	692,682.96	23.2	33,167.78	1.1	253,894.22	8.4	174,877.42	5.8
		1922	1,432,480.80	51.0	515,167.38	18.4	58,427.75	2.0	245,804.47	8.8	177,177.51	6.3
	Department of Public Welfare	1919	1,075,061.90	39.8	962,112.69	35.5	53,973.33	2.	293,693.38	10.8	117,413.57	4.3
		1920	1,339,095.31	42.1	1,055,234.71	33.1	47,377.87	1.5	328,891.47	10.3	143,922.66	4.5
		1921	1,867,142.61	44.4	1,145,780.78	27.3	55,643.09	1.3	350,296.74	8.3	166,399.42	4.
		1922	1,995,122.78	48.7	944,409.06	23.1	38,212.57	.9	374,218.39	9.2	168,844.82	4.1
	Department of Health	1919	531,181.79	42.	465,265.97	36.7	20,710.78	1.6	139,206.80	11.	16,148.35	1.3
		1920	678,901.44	45.3	508,846.02	34.	23,441.93	1.6	152,336.33	10.2	28,392.73	1.9
		1921	872,093.72	49.3	493,188.18	27.9	24,346.96	1.4	175,085.57	9.9	36,424.47	2.1
		1922	1,006,048.13	59.6	352,951.96	20.9	19,486.41	1.2	151,255.38	9.0	18,137.36	1.1
	TOTALS	1919	6,251,388.28	37.7	5,311,901.00	32.2	215,887.68	1.3	1,577,922.34	9.5	1,024,047.05	6.2
		1920	7,395,271.33	37.8	5,965,629.89	30.5	205,004.93	1.	1,748,299.25	8.9	1,416,073.13	7.2
		1921	9,655,623.72	41.5	6,202,615.27	26.6	174,416.28	0.7	1,963,506.51	8.4	1,601,811.80	6.9
		1922	9,850,711.96	45.9	4,790,679.91	23.0	176,374.64	0.9	1,746,145.69	8.3	1,462,172.31	6.7

42 General
16 Special
17 City

75

HOSPITALS ACCORDING TO THE REPORTS OF THE STATE BOARD OF SUCH PRIVATE HOSPITALS AS RECEIVE PUBLIC FUNDS)

AND 1922, YEAR ENDING JUNE 30

Office Expense	%	*Household Furnishings and Equipment*	%	*Traveling Expense*	%	*Insurance and Taxes*	%	*Ordinary Repairs*	%	*Other Maintenance Expense*	%	*Total Maintenance Expenses*	%
152,302.30	2.	369,370.20	4.7	4,343.39	0.0	101,735.40	1.3	244,964.78	3.1	283,938.57	3.6	7,888,469.85	100
172,236.25	1.8	563,672.17	5.9	6,720.96	0.1	112,516.68	1.2	319,439.26	3.4	486,155.30	5.2	9,439,069.98	
182,413.40	1.8	483,716.98	4.8	4,438.26	0.1	95,490.07	1.	375,744.69	3.8	544,572.89	5.4	9,925,236.10	
177,938.31	1.9	403,975.60	4.2	5,671.12	0.1	108,199.34	1.1	360,947.16	3.8	647,530.82	6.7	9,623,698.00	100
55,022.41	2.4	98,474.12	4.2	966.01		15,054.28	0.6	131,002.88	5.5	92,244.25	3.9	2,359,833.64	100
71,298.05	2.5	137,548.26	4.7	699.59		19,923.84	.7	145,466.50	5.	140,932.40	4.8	2,916,805.68	
72,069.16	1.6	178,247.69	4.	2,299.76	0.1	28,661.40	.7	256,926.97	5.8	232,659.64	5.2	4,443,200.75	
72,735.47	2.4	94,471.06	3.1	412.72	.0	28,791.97	.9	113,403.45	3.8	86,297.48	2.9	3,005,016.24	100
13,508.38	.6	79,931.35	3.5	1,410.26				108,362.46	4.8	94,791.61	4.2	2,269,524.06	100
12,970.79	.6	67,796.22	2.7	1,474.09				83,198.54	3.3	105,048.51	4.2	2,515,403.85	
8,162.46	.3	169,634.83	5.6	1,587.22			.1	195,555.29	6.4	134,605.14	4.4	3,009,021.04	
18,441.35	.7	140,320.39	5.0	1,590.97	0.1			208,112.96	7.4	8,377.87	.3	2,805,901.45	100
1,952.18	0.1	98,201.18	3.6	31,375.64	1.1			1,519.48	0.1	74,443.61	2.7	2,709,746.96	100
10,784.40	0.3	118,461.26	3.7	36,379.00	1.1			68,430.42	2.1	41,216.69	1.3	3,189,792.79	
13,404.32	.3	127,581.31	3.1	63,998.43	1.5			336,751.45	8.	76,518.06	1.8	4,205,516.21	
14,260.01	.3	99,452.99	2.4	53,769.74	1.3			288,483.11	7.1	116,586.89	2.9	4,093,360.36	100
5,009.96	.4	56,097.53	9.4	4,768.20	0.4	5,350.20	0.4	22,869.17	1.8			1,266,553.75	100
298.40		56,352.65	3.8	3,787.93	.3	2,728.40	0.2	32,208.31	2.2	6,772.70	0.5	1,494,075.82	
6,049.59	.3	69,742.74	4.	20,729.64	1.2	7,427.09	.4	36,236.56	2.1	25,061.74	1.4	1,767,296.26	
5,137.98	.3	41,177.58	2.4	31,296.61	1.8	3,289.17	.2	24,748.50	1.5	32,851.20	2.0	1,686,380.28	100
227,795.23	1.4	702,074.38	4.3	42,863.50	.3	122,139.88	.7	508,718.77	3.1	545,418.04	3.3	16,494,128.26	100
267,587.89	1.4	943,830.56	4.8	49,060.57	.3	135,168.92	.7	648,743.03	3.4	780,125.60	4.	19,555,148.12	
282,098.93	1.2	1,028,923.55	4.4	93,053.31	.1	131,578.56	.6	1,201,214.96	5.3	1,013,417.47	4.3	23,348,260.36	
288,513.12	1.4	779,397.62	3.8	92,741.16	.4	140,280.48	.7	995,695.18	4.7	891,644.26	4.2	21,214,356.33	100

research work, low utilization of the available hospital accommodations, or uneconomical administration; it may sometimes be due to the accounting method.

The distribution of operating expenditures for the 75 hospitals as a group for the four years is presented in the table on pp. 106–107. The following is a recapitulation:

Item	Percentage of total expenditures *Year ending June 30th*			
	1919	1920	1921	1922
Salaries and wages	37.7	37.8	41.5	45.9
Food, water and ice	32.2	30.5	26.6	23.
Fuel, light and power	9.5	8.9	8.4	8.3
Medical and surgical supplies	6.2	7.2	6.9	6.7
Household furnishings and supplies	4.3	4.8	4.4	3.8
Miscellaneous	3.3	4.0	4.3	4.2
Repairs	3.1	3.4	5.3	4.7
Office Expenses	1.4	1.4	1.2	1.4
Clothing	1.3	1.0	0.7	.9
Insurance and Taxes	0.7	0.7	0.6	.7
Traveling Expenses	0.3	0.3	0.1	.4

a. Personal Services.

Salaries and wages constitute the largest item of maintenance expenditure of hospitals—over two-fifths of the whole budget. This emphasizes the importance of the hospital employment problem, the selection of the personnel and rates of compensation. Hitherto, however, there has been little or no study of this phase of hospital work.

The table below indicates that there has been a steady increase in the relative importance of salaries and wages in the total bill of hospital maintenance.

No ready explanation can be given for the high relative percentages in the Bellevue and Allied, and the Department of Public Welfare Hospitals, which are considerably above the private general hospitals.

Hospital Group	Percentage of total for personal service, Year ending June 30th			
	1919	1920	1921	1922
Private General Hospitals	35.6	33.5	37.1	41.3
Private Special Hospitals	41.9	40.3	42.5	45.6
Bellevue and Allied Hospitals	35.9	41.2	44.7	51.0
Department of Public Welfare Hospitals	39.8	42.1	44.4	48.7
Department of Health Hospitals (Contagious)	42.0	45.3	49.3	59.6
All Hospitals	37.7	37.8	41.5	45.9

It may be of interest in this connection to give statistics of the ratios of employees to patients as well as the range of salaries and wages paid to the several types of employees in hospitals.

Ratio of Employees to Patients.

The figures for the number of employees and nurses were taken from the reports to the United Hospital Fund and are presented in tabular form in the appendix to this chapter.

The ratio of total employees (including nurses) to patients in general hospitals during 1922 was somewhat higher than that which prevailed in 1921, and particularly so in the smaller hospitals with a capacity of less than 100 beds. The ratios remained practically the same in the special hospitals.

For 1921, the average for the general hospitals was one and a half employees per patient. The variations in the prevailing ratios are seemingly not influenced by the size of the institution, but by some other factors, since in hospitals of comparatively the same size the ratio varies considerably. The largest ratio of employees

to patients is reported for the Presbyterian Hospital—2.48 for each patient. The lowest are in Wyckoff Heights and in the Misericordia hospitals—in the latter this is probably due to the fact that the Sisters perform many functions which in other hospitals are performed by hired help. In 1922, among the small general hospitals the highest ratio of employees to patients prevailed in the Broad Street and Beekman Street hospitals.

In the special hospital group, only hospitals engaged in the same type of work can be profitably compared. Among the hospitals for women, the highest ratio of employees to patients is reported at the Woman's Hospital, and the lowest at the Jewish Maternity Hospital. The New York Infirmary for Women and Children shows a higher ratio than the New York Nursery and Child's Hospital. The New York Orthopedic Hospital shows a much lower ratio than either the Hospital for the Ruptured and Crippled or the Hospital for Joint Diseases. The Hospital of St. Giles the Cripple, however, is much below all the other orthopedic hospitals, which is accounted for by the fact that the Garden City branch of the Hospital, which is devoted entirely to convalescent work, is included in the average. The Hermann Knapp Memorial Hospital shows a lower ratio than the New York Ophthalmic, the New York Eye and Ear, and the Manhattan Eye, Ear, and Throat hospitals.

The hospitals for tuberculosis and chronic ailments have the lowest ratio of employees to patients, averaging a little less than one-half an employee per patient.

When the ratio of employees is figured on a bed basis similar variations occur between hospitals as when figured on a per patient basis.

The general conclusion that can be drawn from a study of these comparisons is that there is no standardization

with regard to personnel. Yet this is one of the most important administrative problems and could in a measure be met, both as regards the number of the various types of employees needed as well as with regard to the compensation paid.

Compensation.

An examination of the schedules of compensation paid to officials and other employees disclosed a complete lack of any uniformity. As has been mentioned, this is a phase of hospital administration which has not received the attention which its importance warrants. The problem of relating compensation to competence and efficiency of employees is not limited to hospitals alone. It is a problem of the entire industrial world. It is of great practical moment to the hospitals and has not as yet been subjected to the study it deserves. The salaries and wages paid in the hospitals vary considerably. The following summary of compensation scales of the several grades of employees may be of interest and of some value.

Interns. Many of the larger hospitals, especially the general hospitals, do not pay any salaries or give any bonus to interns, as the opportunities which they offer are very much sought after by medical graduates. The hospitals which give compensation, and these as a rule are the smaller institutions, usually pay from $10.00 to $25.00 per month, although in a few of the special hospitals a larger salary is paid. All hospitals provide maintenance, and many supply uniforms as well.

Nurses. The salaries of supervising nurses vary from $75.00 to $125.00 per month with full maintenance. The salaries of operating room nurses range from $85.00 to $125.00 per month and maintenance. Salaries of in-

structors in dietetics vary from $75.00 per month and full maintenance to $2400.00 per year and meals.

Housekeeping Department. Here again, the salaries vary considerably. Matrons usually command a salary of $100.00 a month and maintenance. Maids receive from $30.00 a month and maintenance to $70.00 a month and meals; porters, $35.00 a month and maintenance to $75.00 a month and meals; elevator men, $31.50 to $50.00 per month and maintenance; cleaners, $30.00 to $40.00 per month and maintenance.

Kitchen. The steward's compensation ranges from $60.00 a month and maintenance to $300.00 per month and maintenance; bakers', from $50.00 to $100.00 a month and maintenance, and so with the other grades of help.

Laundry. The head laundress receives from $60.00 to $100.00 a month and maintenance and the other laundresses from $35.00 to $80.00 a month and maintenance.

Other help. Wages paid to seamstresses range from $25.00 a month and maintenance to $70.00 a month and partial maintenance. Storekeepers' wages range from $45.00 a month and maintenance to $80.00 a month and three meals. The salaries of clerks and assistant clerks range from $32.00 a month and maintenance to $100.00 a month without maintenance.

Since various estimates show that at least $15,000,000 is spent annually by all the hospitals of New York City for salaries and wages, the significance of the problem is evident.

b. Food Costs.

Estimates show that about $10,000,000 is spent annually for food, water, and ice by the New York hospitals. The percentages for the various groups in the 75 hospitals listed in the table on pp. 106–107 are as follows:

Hospital Group	Percentage of total for food, water and ice — Year Ending June 30th			
	1919	1920	1921	1922
Private General Hospitals	33.1	31.5	28.	24.1
Private Special Hospitals	25.6	25.8	24.6	24.
Bellevue and Allied Hospitals	29.5	27.6	23.2	18.4
Department of Public Welfare Hospitals	35.5	33.1	27.3	23.1
Department of Health Hospitals	36.7	34.0	27.9	20.9
All Hospitals average	32.2	30.5	26.6	23.

As will be seen from this table, the private special hospitals show the lowest relative expenditure for food during 1919 and 1920, and have maintained a fairly constant percentage. The municipal hospitals have made considerable decreases in their proportion of expenditures for food in 1921 and 1922. There has been a steady decrease during the four years, in the relative percentages spent for food, ice and water in all groups of hospitals.

c. Medical and Surgical Supplies.

The percentage distribution of expenditures for medical and surgical supplies by hospital groups is as follows:

Hospital Group	Percentage of total for medical and surgical supplies — Year Ending June 30th			
	1919	1920	1921	1922
Private General Hospitals	7.4	8.8	9.3	9.
Private Special Hospitals	7.0	8.2	6.8	6.0
Bellevue and Allied Hospitals	6.1	6.3	5.8	6.3
Department of Public Welfare Hospitals	4.3	4.5	4.0	4.1
Department of Health Hospitals	1.3	1.9	2.1	1.1
All Hospitals average	6.2	7.2	6.9	6.7

For medical and surgical supplies the private hospitals expend a larger percentage of their total funds than do municipal hospitals. Among the latter group, Bellevue and Allied showed the highest relative expense for this purpose, in 1922 reaching a higher percentage than the private special hospital group.

d. Other Expenses.

For fuel, light and power the private general hospitals and the private special hospitals show a relatively lower expense than the municipal hospitals of the three groups.

Miscellaneous expenses in the private hospitals are considerably higher than in the municipal hospitals, except for 1919 in the Bellevue and Allied group. This difference is probably due to differences in accounting methods and the failure by the private hospitals to classify the expenditures in detail.

Office expenses in the municipal hospitals constitute on the average less than one-half of one per cent of the total expenses, while in the case of private hospitals these range in the neighborhood of 2%.

In the expenditures for equipment and household furnishings, the private hospitals spend relatively more than do the municipal hospitals, except in 1921 and 1922, in which years the Bellevue and Allied group outstripped the private hospitals. In 1921 and 1922, the Department of Public Welfare and Bellevue and Allied groups spent relatively more than any other group for repairs.

e. Per Capita Per Diem Costs.

In looking over the financial reports of hospitals, one is struck by the wide range in the costs of maintenance of patients per day, some of which in many cases can only be explained by the different accounting methods used.

For example, in the Presbyterian Hospital, the per capita per diem cost for a private patient is over $15.00, while St. Luke's reports but $6.00. These figures have been taken from the annual reports of the hospitals for the year 1921. In the per capita cost of the Presbyterian Hospital is included an item of over $6.00 for special nurses, whose services are paid for by the patients. There are likewise differences in the compensation of the staff. Unless the component parts of the per capita cost are analyzed, one is apt to draw wrong conclusions. When the statistical summary sheet of the United Hospital Fund is consulted, the figures for the same institutions for the same year are often at variance with those found in the annual reports of the hospitals. This is due to the fact that the United Hospital Fund, for the purposes of comparison, recomputes all maintenance expenses in accordance with a uniform plan which it has adopted.

The per capita costs based on the reports of the State Board of Charities show other differences, but whichever set of figures be used, the wide differences in the per capita cost per patient are discernible. The costs are the lowest in the Catholic institutions where a great deal of labor is done by the Sisters of religious orders. Outside of the Catholic hospitals, those with the lowest per capitas are some of the smaller institutions such as St. John's of Brooklyn. There seems to be no relation between size of institution and per capita cost, because so many elements other than large scale economy enter into the making of the per capital.

The special hospitals, as a rule, show a lower per capita than the general hospitals, although there are several exceptions to this generalization.

The per capita expenditure of the municipal hospitals is lower than that of the private hospitals, with the exception

of Coney Island Hospital, which has a more or less seasonal patronage. One of the reasons that municipal hospitals show a lower per capita is that they do not maintain facilities for private patients whose maintenance cost is higher than that of ward patients.

In the Bellevue and Allied group, the per capita cost is reported highest at Gouverneur Hospital.

Per capita costs have been increasing in all of the municipal hospitals in the last three years. The highest per capitas in the Department of Public Welfare, aside from Coney Island, are in Greenpoint Hospital and Cumberland Street Hospital.

Of the four hospitals for contagious diseases of the Department of Health the highest per capitas are recorded for Queensboro (the smallest of the group) and Riverside Hospital on North Brother Island, except in the year 1919. Kingston Avenue Hospital has the lowest per capita cost.

Among the general private hospitals the highest per capita costs per diem for salaries and wages have been reported for Lenox Hill, the French, the Flower, the Knickerbocker, New York and Presbyterian. In 1922 Mt. Sinai likewise reached a high figure. The highest per capita costs for food were reported for Post-Graduate and Flower Hospitals for certain years. With regard to medical supplies and equipment, the highest per capitas were reported for Lenox Hill, Flower, Presbyterian and the Jewish Memorial Hospital. The figures for equipment to be conclusive, however, should cover a longer period of years.

In the special hospitals, the highest per capitas for salaries and wages were reported for the Memorial, the Manhattan Eye, Ear and Throat, New York Orthopedic, the Hospital for Joint Diseases and the New York Ophthalmic. The highest per capitas for food were credited to

the Memorial, Babies', the Lying-In and the Woman's Hospital.

For medical supplies, the special hospitals showing the highest per capitas are the two hospitals dealing primarily with cancer—the New York Skin and Cancer and the Memorial. Other hospitals having a high per capita for medical supplies are the Woman's Hospital, the Manhattan Eye, Ear and Throat, the New York Eye and Ear, the New York Ophthalmic, the Hospital for Joint Diseases and, in 1920, the Hospital for Ruptured and Crippled.

In the municipal general hospitals, the highest per capitas for salaries and wages were recorded in the case of Coney Island, Cumberland Street and Greenpoint Hospitals. In these institutions, the per capita per diem for this item ranged from $2.00 to over $3.00, Coney Island Hospital showing the highest figure.

The food item on the basis of per patient per day was highest in Coney Island, Cumberland Street and Gouverneur Hospitals.

The per capita cost for medical supplies in these hospitals was the highest in the same four hospitals which had high per capitas in other respects, namely,—Coney Island, Cumberland Street, Greenpoint and Gouverneur Hospitals.

In the Health Department hospitals, the Queensboro Hospital had the highest per capita cost for salaries and wages and for food, as well as for medical supplies.

A detailed study of the per capitas by items of expense is of practical value to the institutions and stimulates inquiries. There are, of course, many reasons for variations between hospitals. The liberality of an institution toward its patients and professional staffs has already been mentioned; the physical excellencies and deficiencies of

the hospital plant likewise have a bearing on the various items of expense as has also the administrative efficiency and methods of bookkeeping; also the extent of utilization of the hospital.

f. Mounting Costs.

The reports of the United Hospital Fund for the last decade show a continuously mounting cost for the maintenance of hospitals In the group of 56 hospitals for which comparative statistics are available, the general hospitals have shown an increase from $2.46 per day per ward patient in 1911 to $4.72 in 1921 and $4.64 in 1922. The per capita costs in special hospitals have risen from $2.09 in 1911 to $3.92 in 1921 and $3.90 in 1922. The hospitals for women and children show a lower per capita than the other two groups of special hospitals, but these, too, have risen from $2.03 in 1911 to $3.61 in 1921 and $3.58 in 1922. This rise was concomitant with the rise in the general level of prices. The U. S. Department of Labor index number was 147 and 149 respectively for the years 1921 and 1922, as against 101 in 1910.

The least expensive hospital group embraces the institutions for chronic and convalescent cases and in these the costs have risen from $1.10 in 1911 to $2.42 in 1921 per patient per day.

The financial summaries of the United Hospital Fund show the expenditures of hospitals under six main divisions as follows: (1) administration; (2) professional care of patients; (3) departmental expenses; (4) general house and property expenses; (5) out-patient department; (6) corporation expenses. A comparison of the figures of 1921and 1922 with those of 1911 indicates that the relative proportion of most of these divisions remained practically stationary during the decade. It has decreased

somewhat in the service departments and has increased in the out-patient departments.

The figures show that in the 56 hospitals which are beneficiaries of the Fund the cost of administration constituted 7% of the total expense in 1921 and 1922. Comparing this with 1911, we find that the percentage has remained the same. The proportion varies from institution to institution but averages in each group of hospitals from 7 to 8% of the total maintenance expense.

The cost of professional care of patients for all institutions amounted to 24% of the total in 1921 and 25% in 1922. Here again variations in individual hospitals are marked, but the group of general hospitals in Manhattan and the Bronx averaged exactly 25% in 1922; the Brooklyn hospitals, 28%; the hospitals for women and children, 25%; other special hospitals, 21%; and the hospitals for chronics and convalescents, 24%. The average proportion for professional care in 1911 was 26% of the total expense.

Expenditures listed under departmental expenses such as housekeeping, kitchen, laundry, etc. for 1911 constituted 41% of the total in the general hospitals, 37% in 1921 and 36% in 1922; the special hospitals falling below the average of the general hospitals, but the hospitals for women and children, for chronics and convalescents and the majority of Brooklyn hospitals were above the average. The highest in this respect were the hospitals for chronics and convalescents, which reported 49% of all expenditures under the head of departmental expense in 1921 and 46% in 1922; in 1911, the average for this expenditure was 41%.

General house and property expenses constituted 17% of the total in 1921 as well as in 1922. They were lowest in the special hospitals, being only 13% and highest in

those for chronics and convalescents amounting to 24% in 1921 and 27% in 1922. In 1911, the average expenditure under this head was 16% of the total.

The out-patient department is reported as being responsible for 11% of the total expenditures in 1921 and for 12% in 1922. Here the variations in different institutions and groups of institutions are quite marked, due in large measure to differences in accounting practice. In 1922 the out-patient departments of the general hospitals are credited with 12%, while those of the special hospitals are credited with 26% of the total annual expenditure. The out-patient departments of hospitals for women and children show a low average of 10%. The Brooklyn institutions (including general and special hospitals) likewise report a low rate of expenditure in this department—only 5% of their total expenses being apportioned to this work.

Corporation expenses amounted to 3% of the total in 1921 and 1922 and averaged 4% in 1911.

II. Hospital Revenue

Depending on the control and the policies of hospitals, the income is derived from different sources and is obtained by different methods. The municipal hospitals are supported entirely by city appropriations. Proprietary hospitals secure their entire income from earnings. Private or voluntary hospitals receive their income from earnings in the form of patients' payments for private and semi-private rooms, ward beds, X-Ray and laboratory services, and from payments by the City for the care of patients. Other income is derived from voluntary gifts, contributions from individuals and organizations, bequests and endowments, special funds, interest on investments

and on bank accounts, from rental of properties, et cetera.

According to the report of the United Hospital Fund for the year 1922, covering 45 hospitals in Manhattan and the Bronx and 11 in Brooklyn, 67% of all income of these hospitals is derived from payments by patients and from the City for care and treatment of public charges.

The percentage of income derived from receipts from patients has increased considerably in the last ten years. This increase in collections from patients has been due in a large measure to the increasing proportion of paying patients in the wards. While in 1911, 18% of the total number of patients were ward paying patients and 39% absolutely free, in 1921 the corresponding proportions were 45% and 21%; in 1922 these proportions remained exactly the same as in 1921. The proportion of private patients was 20% in 1911 and 24% in 1922. On the other hand, the "public charges," or patients for whose maintenance the City pays in part, has decreased by over one-half; while in 1911, 23% of all patients were "public charges," in 1921 11% and in 1922 only 10% were so designated. The total amount which the 56 hospitals received from the City in 1921 was but $880,092 or 7% of the $15,309,710 expended by these hospitals in that year; in 1922 the hospitals received from the City $885,733 or less than 6% of the $15,641,369 which constituted the current expenses of these hospitals for the year.

Due to general economic prosperity and to the greater insistence on the part of the hospitals that those able to pay should do so, the amount of free days' treatment has been greatly reduced. This condition has diminished the relative importance of voluntary contributions, because of the much larger expenditures of the hospitals, although in actual figures these amounts have increased.

The amounts from dividends, rentals, and interest vary considerably from institution to institution, depending on endowments and real estate properties, but in the aggregate these contributed 16% of the income of the hospitals in the United Hospital Fund in 1922. It is of considerable interest and practical importance that this added to the amount collected from the patients constituted 83% of the total income, leaving only 17% to be raised by the hospitals from voluntary contributions. Only several years ago, the hospitals were compelled to seek from outside sources about one-fourth of their budget to make up the deficit.

Workmen's Compensation.

Another form of income is from workmen's compensation cases. The workmen's compensation law of the State provides for compensation to be paid by the employer, or his insurance carrier, to physicians and the hospitals for the care and treatment given to workmen injured during the course of their occupation, or suffering from diseases of an occupational origin.

Ever since the law went into effect there have been misunderstandings between the physicians and hospitals on one hand, and the employers and insurance carriers on the other. The law provides that the charges "shall be limited to such charges as prevail in the same community for similar treatment of injured persons of a like standard of living." Before the enactment of the law, the hospitals treated such injured workmen free of charge or on a nominal pay basis. Many insurance companies have interpreted the law as meaning that the hospitals should continue to treat the beneficiaries of the act at charges as low as those made previous to the law's enactment. The intention of the law was to insure the work-

man against the contingency of an accident and to eliminate the need for charity during his disability. The hospitals are gradually realizing this purpose of the law and are beginning to make charges which are more in accordance with the actual cost than they were in the past, although the prevailing rates do not include their proportion of such charges as depreciation of building, interest on investment, etc., which should legitimately be incorporated in order to eliminate philanthropy completely on the part of the hospitals in dealing with the workmen insured under the Compensation Act.

At the present time the prevailing charges are $3.00 and $3.50 per day for compensation cases. The majority of hospitals receive these cases in the general wards, but some institutions which receive large numbers of compensation cases have set aside special wards for this type of case. A few hospitals have arrangements with employers whereby a ward is set aside for their cases only. Some hospitals will receive compensation cases in the semi-private wards at $4.00 per day instead of in the general ward, if the patient agrees to pay the difference between this and the ward rate. In the majority of the institutions, the compensation cases are admitted as any other ward cases and assigned to the members of the attending staff on duty at the time, except that the attending physician is allowed to collect a fee, which is generally contrary to the rules with regard to any other ward patients. Some hospitals do not accept compensation cases; the majority, however, accept the patients as they are brought in. In some hospitals, attending physicians are allowed to make their own arrangements with employers or insurance companies for the care of their cases in the hospitals with which they are associated.

The municipal hospitals do not make any effort to

receive compensation cases, but take them if brought in by ambulance. In the Bellevue and Allied group of hospitals they are not segregated as workmen's compensation cases. The charges at Bellevue are $3.25 per day on the surgical services and $2.50 per day in the medical service, but there are very few medical cases. In the Department of Public Welfare, the charge is $2.50 for all kinds of compensation cases, surgical as well as medical. With regard to physicians' fees, the two departments have a varying practice; in the Bellevue group, the fees of physicians are collected by the hospital and turned over to the City, and in the Public Welfare group the physicians are allowed to collect and retain the fees. In all the municipal hospitals, the cases are assigned to the visiting physicians on service.

In most of the hospitals, the attending physicians are allowed to charge for their services in accordance with an established scale of compensation, but all of the charges have to be approved by the Compensation Board. In some instances the hospital collects the fees for the physician, while in other cases the physicians collect the fees directly. One hospital collects the fees and puts them into a fund to help pay the salaries of the surgeons of the hospital who are on salary.

The charges for laboratory and X-Ray work in both private and municipal hospitals are usually similar to those paid by other ward paying patients, although in some institutions extra charges are made.

The outstanding fact revealed by the inquiry is that the relationship of the hospitals to the workmen's compensation cases has not been satisfactorily worked out nor properly standardized.

With regard to the ambulatory patients, the practice in the several hospitals likewise varies; some out-patient departments will give the first treatment only and then

refer the patient to some other institution or a private physician, while in others the hospital provides for the treatment of such cases. The usual charges are $2.00 for the first visit and $1.00 for subsequent visits. In some institutions, the physicians are allowed to retain fees from ambulatory patients in full or in part; in others, the full fees are retained by the hospital and are applied to hospital purposes such as the work of the social service department or the payment of out-patient department physicians' salaries.

The treatment of compensation cases in out-patient departments and dispensaries has raised the question as to whether it is legal for the dispensaries to treat such cases. Under the dispensary law, only such patients can be treated as are unable to pay or who can pay only a fee which bears no relation to the value of the service rendered. In view of the fact that medical treatment could be obtained for the compensation cases outside of institutions, at the rate which is being paid for them at the dispensaries, the question arose whether these patients come within the definition of a proper dispensary case. The matter has been before the State Board of Charities and on March 8, 1921, the following resolution was adopted by the Board:

"*Resolved.*—That it is the opinion of the State Board of Charities that under the provision of its rule, cases paid for under the Workmen's Compensation Law are not suitable for treatment in dispensaries, unless emergent."

Free Hospital Days.

The largest percentage of gratuitous or free hospital days' treatment as recorded among the general hospitals of Manhattan which report to the United Hospital Fund is 65% at Presbyterian; 64% at Beth Israel; 62% at St.

Luke's and 59% at Mt. Sinai. The lowest in this group are the Community, 25%; Hahnemann (now the Fifth Avenue Hospital), 30%; Post-Graduate, 34% and Broad Street, 28%. In the group of hospitals for women and children, the highest is St. Mary's where 100% of the work is free and Babies' Hospital with 72%. The lowest are the Jewish Maternity with 34% and the Nursery and Child's with 36% of free work.

Of the special hospitals the highest percentage of free work is done at the New York Orthopedic which reports 77% and the Skin and Cancer Hospital, 57%. The lowest amount of free work is done at the Reconstruction Hospital, 23% and the Neurological Institute, 24%.

Among the hospitals for chronics and convalescents, the Isabella Home reports 100% of free work; the House of Rest for Consumptives, 96%; St. Andrew's Convalescent Home, 85% and the House of the Holy Comforter, 70%. The lowest in this respect are the Home for Incurables, 34%, and the Montefiore, 45%.

Among the Brooklyn general hospitals, the largest amount of free work is done at the Long Island College Hospital where 41% of the hospital days is given free. The smallest amount of free work is given by the Norwegian, 17% and Prospect Heights, 25%. Of the two special hospitals reporting, St. Christopher's for Children (recently closed) gave 78% of its days' treatment free, and St. Giles the Cripple, 57%.

Income from Voluntary Gifts.

The figures of the United Hospital Fund indicate that in the last few years about 20% of the income of the member hospitals came from voluntary gifts. It was 21% in 1920, 19% in 1921 and 17% in 1922. Various methods are used to solicit contributions. Some hospitals have

financial secretaries responsible to the administrative board who give their entire time to this work. Others have various forms of membership and collect dues. Annual donations are sought by others. Many hospitals have no systematic method of presenting their work and needs to friends and the public except through the annual report.

The establishment of the United Hospital Fund has made it possible for those who wish to make contributions for current expenses of hospital work to send their contributions to that Fund, which in turn apportions the contributions among its beneficiaries on a basis of free work done. This is calculated in terms of days and not of individuals. The ward rates are in almost every hospital below the ward per capita cost, and, therefore, almost every hospital gives a certain amount of free work to every ward patient, including those who pay the full ward rate. The amount in each instance varies with the difference between the amount paid by the patient and the per capita cost. Each hospital sharing in the United Hospital Fund is requested to prepare a statement annually indicating how many free days of care it has given. This is ascertained by dividing the total amount received from ward patients by the ward per capita cost, which gives the number of days for which payment was received. By subtracting this from the total number of ward days' service, the number of free days is obtained. On this number, are based the credit units for purposes of allocation.

It is significant that the share which the contributions of the United Hospital Fund bear to the total hospital income has been increasing annually, indicating a slowly growing disposition on the part of the community toward supporting hospitals through an agency that, because of its close

contact with hospital work, is particularly well fitted to distribute money for hospital needs. In the last few years the collections of the Fund were between $500,000 to $600,000 per year.

Endowment of Beds.

The extent to which endowment of beds is a source of revenue to the hospital, and incidentally a disturbing force in its administration, is another element of this phase of the study. Fifty-three hospitals, 27 general and 26 special, were selected for this analysis. The total bed capacity of these 53 hospitals is 10,000 beds; of these, 2.255, or 22%, were endowed. Of the endowed beds, 2,012 were endowed in perpetuity, 150 for life, and 93 for a period of years or the period of one year. This indicates that the prevailing tendency is to endow in perpetuity.

Endowments in Perpetuity. For ward beds for adults, the prevailing amount required for an endowment in perpetuity is $5,000, although in the Home for Incurables it is $15,000; at the New York Post-Graduate and Presbyterian Hospitals, it is $10,000; in St. John's of Brooklyn, $8,000; and in 8 other hospitals, $7,500.

The endowment of a bed in a private room is $15,000 in the Brooklyn Hospital and $20,000 in the Methodist Episcopal Hospital. The new Fifth Avenue Hospital requires the highest amount to endow a bed in perpetuity —$30,000.

Semi-private rooms may be endowed for the sum of $10,000 in the two institutions which have such endowments, namely the Methodist Episcopal and Brooklyn Hospital.

In some of the hospitals, the amount required for the endowment of a ward bed for a child is relatively less in proportion to the cost of maintenance than for an adult.

The average amount is $5,000. In 3 hospitals only $3,000 is required, while in 1 hospital, the Ruptured and Crippled, it is $7,500.

Endowment of Beds for Life. The amount required for endowment of a bed during the life of the donor is considerably less than for endowment in perpetuity. Only 3 hospitals in the group studied required as much as $5,000; one, $4,000; two, $3,000; three, $1,500 and two, $1,000. The endowment requirements for beds for children are in some instances the same as for adults and in some instances less than that.

Annual Endowments. The annual endowments on the part of industrial and commercial concerns as well as on the part of fraternal orders and other similar organizations, amount to annual arrangements with the hospitals for the care of designated patients. In some instances endowments by the year are made by charitably disposed persons who prefer this type of donation to the ordinary undesignated contributions. The sums charged for annual endowments vary from as low as $100 per year to $750. In the case of children, the maximum charge is $300.

The Use of Endowment Privileges.

As has been stated above, the bulk of the endowed beds is on the perpetuity basis and the question is raised whether or not the prevailing amounts required for an endowment are sufficiently large in cases where the donor exercises his or her privilege to designate the patients for the endowed beds. In such cases, interest earned is obviously too small to yield more than a fractional part of the cost of maintenance of a patient for a year. In actual practice it works out to the advantage of the hospital, because there are very few donors who use their

privilege to any great extent. This tacit understanding that the hospitals may consider the endowment as an unrestricted donation or legacy frees the hospital from any inconvenience of a medical or administrative character. It can easily be seen that a practice on the part of the endowers of sending many patients would not only embarrass the hospital financially, but would also interfere with the selection of the type of medical and surgical cases, particularly in institutions which, like Presbyterian and St. Luke's, have as many as 85% of their beds endowed in perpetuity. A wise policy for all hospitals to follow in order to fortify themselves against continuous use of an endowed bed throughout the year, would be one like that of St. Luke's which provides that: "The annual income (of an endowment) shall be applied to the cost of maintaining a patient upon the bed endowed so far as such income will suffice to pay such cost."

Annual Surpluses and Deficits.

Comparing the income and expenditures of the 56 hospitals, one finds that 23 or 41% report surpluses. This fact is surprising, particularly as the surplus in some of the institutions is considerable and has been reported annually for a number of years. The Roosevelt Hospital for the year 1921 showed a surplus of $239,259 and of $200,901 in 1922. The voluntary gifts constituted only 2% of the total income, viz.—$2,052.00 were received from various contributors and $14,261 from the United Hospital Fund. The surplus, however, did not come wholly from earnings, as the dividends from the $2,620,208 of investments are included in the income of the hospital.

The other hospitals do not show such large surpluses, although in 1921 the Lying-In Hospital reported a surplus of $84,378; Presbyterian Hospital, $48,371; Jewish

Hospital in Brooklyn, $29,705; Misericordia, $25,583; Norwegian, $18,530; Manhattan Maternity, $16,834; New York Neurological, $12,294; Manhattan Eye, Ear and Throat, $11,820; Herman Knapp Memorial, $11,760; Jewish Maternity, $11,062. In 1922 some of the hospitals having surpluses in 1921, like Lying-In and Presbyterian, reported deficits, while others, St. Luke's, St. Mark's, the N. Y. Eye and Ear Infirmary and the Jewish Hospital of Brooklyn reported considerable surpluses. Some of these hospitals were able to report surpluses in spite of the fact that a considerable number of the hospital days' treatment were given gratuitously.

A surplus does not necessarily indicate superior management of an institution nor more economic administration, as so many features enter into the situation that it is difficult to assign any one definite cause. The elements that affect the situation are the size of the endowment, the character of the care given to patients, and the upkeep of the physical properties, i.e.—whether or not a hospital allows the physical properties to deteriorate for lack of repair or replacement; as well as the relatively increasing demand for private service, the increase in the number of ward paying patients and the relative decrease in the demand for free service.

APPENDIX

RATIO OF EMPLOYEES TO HOSPITAL BEDS AND PATIENTS IN GENERAL AND SPECIAL HOSPITALS

1921 AND 1922

Name of Hospital	*Bed Capacity*		*Average Daily Census*		*Total Number of Employees including Nurses*		*Ratio of Employees (including Nurses) to Beds*		*Ratio of Employees (including Nurses) to Patients*		*Number of Employees excluding Nurses*		*Ratio of Employees (excluding Nurses) to Beds*		*Ratio of Employees (excluding Nurses) to Patients*	
	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922	1921	1922
GENERAL HOSPITALS																
300 Beds and over																
Mount Sinai	483	582	401	424	720	791	1.49	1.36	1.79	1.86	396	439	.81	.76	.98	1.04
Long Island College	445	456	280	273	313	312	.70	.68	1.11	1.14	205	200	.46	.44	.73	.73
Post-Graduate	391	383	322	307	528	572	1.35	1.49	1.64	1.86	273	371	.69	.97	.84	1.21
St. Lukes	404	404	348	348	448	465	1.10	1.15	1.28	1.34	264	270	.65	.67	.75	.78
Lenox Hill	305	304	250	266	440	453	1.44	1.49	1.76	1.71	260	272	.85	.89	1.04	1.02
	2,028	2,129	1,601	1,618	2,449	2,593	1.20	1.21	1.52	1.60	1,398	1,552	.68	.72	.87	.95
100–300 Beds																
New York	303	303	255	261	451	458	1.48	1.51	1.76	1.76	262	270	.86	.89	1.02	1.03
Roosevelt	281	256	227	212	395	410	1.40	1.60	1.74	1.93	197	200	.70	.78	.86	.94
Brooklyn	294	294	213	207	341	340	1.16	1.16	1.60	1.64	206	210	.70	.71	.96	1.01
Presbyterian	255	255	215	225	534	559	2.09	2.20	2.48	2.48	330	339	1.29	1.32	1.53	1.50
Methodist-Episcopal	272	272	195	199	268	288	.98	1.06	1.37	1.45	132	152	.48	.56	.67	.76
Jewish, Brooklyn	263	285	219	224	282	287	1.07	1.01	1.28	1.27	155	170	.58	.60	.70	.76
St. John's, L. I. C.	102	102	72	75	72	86	.70	.84	1.00	1.15	42	51	.41	.50	.58	.68
Lincoln *	242	350	213	280	257	287	1.06	.82	1.20	1.03	151	153	.62	.44	.70	.54
Flower	179	224	133	191	238	266	1.32	1.19	1.78	1.39	172	197	.96	.88	1.29	1.03
Misericordia	196	196	145	143	119	127	.60	.65	.82	.89	68	73	.34	.37	.46	.51
Lebanon	185	186	132	129	205	206	1.10	1.11	1.55	1.59	113	119	.61	.64	.85	.92
Norwegian-Lutheran	186	200	117	140	133	150	.71	.75	1.13	1.07	73	82	.39	.41	.62	.59
Wyckoff Heights	178	178	131	140	112	141	.62	.79	.85	1.01	69	81	.38	.46	.52	.58
St. Mark's	168	168	146	136	160	181	.95	1.07	1.09	1.33	87	105	.51	.63	.59	.77
Beth Israel	144	144	114	112	135	135	.93	.94	1.18	1.20	102	100	.70	.69	.88	.90
Fifth Ave., formerly Hahnemann	137	200	104	102	140	198	1.02	.99	1.34	1.94	99	144	.72	.72	.95	1.41
French	107	107	91	86	159	154	1.48	1.44	1.74	1.79	105	102	.98	.95	1.15	1.19
Community	101	101	80	73	103	122	1.01	1.21	1.28	1.67	51	74	.50	.73	.63	1.01
	3,593	3,821	2,802	2,935	4,104	4,395	1.14	1.15	1.46	1.49	2,414	2,622	.67	.68	.86	.89
Under 100 Beds																
Broad Street	91	101	66	74	136	165	1.49	1.63	2.06	2.23	91	114	1.00	1.13	1.37	1.54
Beekman Street, formerly Volunteer	68	50	44	30	60	67	.88	1.34	1.36	2.23	43	50	.63	1.00	.97	1.67
Williamsburgh	67	69	46	46	56	56	.83	.81	1.21	1.22	36	36	.53	.52	.78	.78
Knickerbocker	56	99	35	58	61	106	1.08	1.07	1.74	1.83	40	72	.71	.73	1.14	1.24
Prospect Heights	72	104	58	51	60	100	.83	.96	1.03	1.96	26	44	.36	.42	.44	.86
	354	423	249	259	373	494	1.05	1.16	1.49	1.90	236	316	.66	.74	.94	1.22

* In 1922 Lincoln Hospital was credited with 350 bed capacity.

SPECIAL HOSPITALS																
300 Beds and over																
Montefiore	776	812	687	775	480	548	.61	.68	.69	.71	391	446	.50	.55	.56	.58
100–300 Beds																
N. Y. Nursery and Child's	283	283	201	189	303	305	1.07	1.08	1.50	1.61	167	171	.59	.60	.83	.90
Sloane	279	229	180	183	199	197	.71	.70	1.10	1.08	112	112	.40	.40	.62	.61
Lying-In	277	275	195	227	264	278	.95	1.01	1.35	1.22	171	180	.61	.65	.87	.79
Woman's	248	248	185	190	334	343	1.34	1.38	1.80	1.81	197	194	.79	.78	1.06	1.02
Ruptured and Crippled	242	219	173	183	219	232	.90	1.06	1.26	1.27	161	171	.66	.78	.93	.93
Man. Eye, Ear and Throat	183	183	140	141	210	240	1.14	1.31	1.50	1.70	150	150	.81	.82	1.07	1.07
N. Y. Eye and Ear	175	173	125	124	166	168	.94	.97	1.32	1.36	111	112	.63	.65	.88	.90
St. Mary's, Children	121	121	99	99	85	90	.70	.75	.85	.91	53	56	.43	.46	.53	.57
N. Y. Infirmary for Women and Children	123	123	56	59	103	110	.83	.89	1.83	1.86	70	71	.56	.57	1.25	1.20
Jewish Maternity	106	106	99	96	69	69	.65	.65	.69	.72	37	37	.35	.35	.37	.39
N. Y. Orthopedic	230	230	219	218	214	214	.93	.93	.97	.98	165	165	.71	.72	.75	.76
St. Giles the Cripple	101	101	82	75	40	44	.39	.44	.48	.59	31	34	.30	.34	.37	.45
	2,368	2,341	1,754	1,784	2,206	2,290	.93	.97	1.25	1.28	1,425	1,453	.60	.63	.81	.81
Under 100 Beds																
N. Y. Skin and Cancer	99	98	67	64	106	116	1.07	1.18	1.58	1.81	81	82	.81	.84	1.20	1.28
Hospital Joint Diseases	90	90	75	75	188	162	2.08	1.80	2.50	2.16	151	125	1.67	1.39	2.01	1.67
Memorial	93	93	81	82	136	145	1.46	1.56	1.67	1.77	91	97	.97	1.04	1.12	1.18
Neurological	83	83	70	71	139	124	1.67	1.49	1.98	1.75	92	77	1.10	.93	1.31	1.08
Babies	83	80	62	57	71	75	.85	.94	1.14	1.32	32	37	.38	.46	.51	.65
Manhattan Maternity	62	66	50	56	86	70	1.38	1.06	1.72	1.25	45	33	.72	.50	.90	.59
St. Christopher's	55	55	45	35	45	47	.81	.85	1.00	1.34	25	25	.45	.46	.55	.71
Herman Knapp	50	50	34	35	40	41	.80	.82	1.17	1.17	29	27	.58	.54	.85	.77
N. Y. Ophthalmic	44	44	23	17	31	32	.70	.73	1.34	1.88	23	22	.52	.50	1.00	1.29
Reconstruction	43	62	41	51	75	84	1.74	1.36	1.82	1.65	65	71	1.51	1.14	1.58	1.39
Total	702	721	548	543	917	896	1.30	1.24	1.67	1.65	634	596	.90	.82	1.15	1.09
Home for Incurables	300	300	296	298	150	150	.50	.50	.50	.50	120	120	.40	.40	.40	.40
House of Holy Comforter	100	100	60	78	30	35	.30	.35	.50	.45	20	33	.20	.33	.33	.42
House of Rest for Consump-	75	75	72	74	27	29	.36	.39	.37	.39	21	23	.28	.31	.29	.31
Isabella Home [tives	78	79	40	60	16	22	.20	.28	.40	.37	...	...	...	...	...	...
St. Andrew's Convalescent *Tuber. & Chronics*	31	31	15	14	6	7	.19	.23	.40	.50	5	6	.16	.19	.33	.43
	584	585	483	524	229	243	.39	.41	.47	.46	166	182	.28	.31	.34	.34

CHAPTER V

HOSPITAL ADMINISTRATION

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I. Organization

Governing Boards.

WITH the exception of two groups of municipal hospitals for which the Commissioner of the Department of Public Welfare and the Commissioner of the Department of Public Health are respectively responsible, hospitals are managed by boards known as the board of trustees, governors, directors or managers. Upon such boards devolves the ultimate responsibility for policies, procedures and administrative efficiency. In the majority of hospitals these boards are composed entirely of lay members, but in a few institutions, physicians as well as laymen are on the board. Sometimes these physicians are also members of the medical staff of the hospital, as in one institution where 11 out of 15 or 73% of the board of directors are physicians and surgeons who are also members of the medical staff, the majority of them serving as heads of departments or services in the hospital.

The work of the boards is done through committees. Of the 33 hospitals for which details of organization were obtained, 31 have executive committees; 25 finance

committees; 11 auditing committees; 2 finance and auditing committees; 10 visiting committees; 5 house committees; 7 committees on conference and medical matters; 5 hospitals have supplies committees; 1 a purchasing committee; 7 have committees on legal matters; 7 committees on social service; only 5 have committees on dispensary; 4 inspection committees; 15 have nominating committees, but the by-laws do not specify what is the scope of such committees, whether the nominations are only for membership on boards of trustees, or whether they are also for the medical and other appointments. Some hospitals have a joint conference board which consists of representatives of the board of trustees and of the medical board who jointly pass on the candidates for medical appointments. This has been the practice at Bellevue and also at Mount Sinai.

The Executive.

Usually the executive officer of the hospital, who is known as the Superintendent, or as the Director in some hospitals, carries out the policies of the institution as outlined by the governing board, and administers all details of the administrative work. Superintendents are appointed by the boards of trustees in practically all of the private institutions. In 16 institutions, or 15% of the 106 general and special private hospitals from which information was obtained, the superintendent is a physician. In the four hospitals which are affiliated with Protestant denominations the superintendent is a member of the clergy in conformity with the requirement of these institutions. In the Catholic hospitals the superintendent is appointed by the Superior of the religious order to which the hospital belongs.

Usually the work of the executive officer is largely of an

administrative character, since medical matters and all questions having to do with the treatment of patients are dealt with by the medical board. In some institutions this responsibility, which ordinarily devolves upon the medical board, is vested in an individual who is known as the medical director. In the smaller hospitals the superintendent of nurses often serves in the capacity of superintendent of the hospital.

Appointment of Other Officers.

The assistant superintendent is appointed by the board of trustees in the majority of the institutions; the appointment is usually made on the recommendation of the superintendent. The director of nurses is appointed by the board of trustees, the appointment in practically all the hospitals being made on the superintendent's recommendation or in consultation with him. The assistant to the director of nurses is appointed by the board of trustees in some institutions, while in others she is appointed by the hospital superintendent on the recommendation of the director of nurses.

There is considerable variation in the number of appointments to the administrative staff which are made by the superintendent. In certain hospitals all appointments are made by the superintendent; in others, some are made by the board of trustees, some by the executive committee of the board and some by the whole board. In one of the hospitals the appointment of almost all departmental heads and their assistants must be approved by the board of trustees. In some hospitals, especially the larger ones, the heads of administrative departments hire and discharge all members of their departments, while in others this is done only with the approval of the superintendent.

Hospital Organization not Standardized.

From this brief analysis it may be seen that there exists no single mode of administrative organization or of delegating executive responsibility. Even the terms designating the various officers common to all institutions are not standardized. Persons bearing the same titles often perform different duties in different hospitals and are charged with varying degrees of responsibility. This statement does not imply that it is desirable that all hospitals follow one rigid system of organization. Nothing could be more detrimental in any system than the quashing of initiative by an inflexible pattern. Hospital functions vary with the size and type of organization, the relative proportions of its component parts, and the emphasis placed on the special objectives of which there are many that are appropriate to hospital effort. What the statement aims to point out, aside from the mere recording of facts, is that business principles of efficiency have not in full measure been applied to the organization of hospital work and its administrative personnel. The complete lack of standardization of salaries often causes dissatisfaction to the personnel and is partly responsible for the large labor turnover in the hospitals. Few institutions have a purchasing agent. Generally this important and responsible duty is discharged by the superintendent in person; in a few hospitals it is delegated to an assistant superintendent. The purchasing of food is oftentimes a function of the steward or matron; in nine it is the function of the dietitian. Hospital authorities state that effective hospital buying has quite as much to do with hospital usage and consumption as with market conditions. An officer whose duty is exclusively that of a purchasing agent and who has nothing to do with the use of the things that

he buys is apt to magnify the importance of price and to disregard the element of service value.

The complaints arising in connection with the care of the patients or the administrative routine are usually attended to by the superintendent. In only one institution, as revealed by this survey, are the complaints brought directly before the board of trustees as a routine matter.

In nearly all hospitals the board of trustees or its executive committee hold regular monthly meetings; in the majority of the hospitals for which the information was obtained monthly reports are made to the boards of trustees with regard to the several departments of the hospitals.

In 55 of the 88 private hospitals for which information was obtained it is the custom for the superintendent to attend the meeting of the board of trustees. In three hospitals his attendance is optional. In 30 hospitals the superintendent is called in only when the board wishes to have a report presented or some explanation made. Otherwise, he is outside the pale of discussion pertaining to the institution of which he is the executive head. Generally it is only in the smaller institutions that such an arrangement prevails, although this was the custom in three large hospitals at the time the inquiry was made. Needless to say, the arrangement neither clothes the superintendent with the required dignity nor is it conducive to administrative efficiency. It is pertinent to remark, however, that the influence of a hospital superintendent cannot be measured by his attendance or non-attendance at board meetings.

In 61 of the 88 hospitals inspected, the superintendent is reported to hold regular conferences with the heads of the administrative departments.

II. Control of Personnel and Procedures

Attendance Records.

The record of attendance of the professional staff of the hospital is maintained by fulfilling the requirement that the time of arrival and departure be noted in a book devoted to this purpose. In some institutions the records are analyzed and if an attending or other member of the professional staff is negligent in his duties, his attention is called to the fact by the superintendent. In the event of his disregarding this warning, the matter is brought up before the board of trustees for disciplinary action. In a few hospitals only is there a strict control of attendance, and in the majority there is a decided laxity in this regard.

The clerical staff and other hospital employees are in some instances controlled by time recording devices and other methods, but in many hospitals there exists no proper system.

Control of Procedures.

There exists no standardization with regard to control of procedures. Aside from those of a purely medical character, which are discussed in the next chapter, one may say that the efficiency methods of modern business and industrial concerns have not been generally adopted in the hospital field. One reason for this is the antiquated precedent which was handed down from the old-time administration of eleemosynary institutions. Another reason is that modern methods of control require expenditures for mechanical devices and clerical labor which some hospitals, particularly the smaller ones, believe they cannot readily afford.

In very few hospitals does the admission office ever make an analysis of the sources of reference of patients. A study of these data in the hospitals where they were available showed that in some hospitals as many as 90% of the patients were referred by members of the visiting staff, while in one 78% were referred by outside physicians. In one hospital 8% of the patients were referred by welfare agencies and philanthropic societies. A systematic analysis of this kind might be of interest to the trustees of the institutions and would supply the community at large with information which could be used in abolishing certain abuses purported to have grown up in connection with the admission of patients to hospitals.

In very few instances are data available showing comparisons of the amounts of medical and surgical supplies or drugs utilized in the several wards of the hospitals. In some of the English hospitals this information is charted from week to week, and numerous inquiries are made as to the cause of marked variations. When the comparative statement shows a much higher consumption of gauze or drugs of a certain kind in one ward than in another, or in one period than in another, or a greater utilization of electricity and gas, detailed analyses are instituted to find out the causes. Such careful observation stimulates care and economy. Control of procedures is a highly desirable feature of administration but it has not been very widely applied in our hospitals.

Studies might profitably be made of the time elapsing between the admission of the patient and the sending of specimens to the laboratory or between the latter and the receiving of the laboratory report; also of the rapidity with which requisitions for various articles are filled; also of the time that elapses between the admission of a patient to a ward and the time that he is seen by the attending

on the service. Such time studies are likely to lead to marked improvement in service.

III. Methods of Purchasing and Food Control

The Requisition System.

As has been shown in the preceding chapter, about one third of the money expended for maintenance goes for the purchase of food supplies. Because of the importance of this item in the hospital budget, an inquiry was made as to administrative methods of food control. With one or two possible exceptions, there seems to be no complete requisition system in operation in the hospitals.

All prevailing food requisition systems are on a quantitative basis irrespective of the caloric and nutritive value of the articles requisitioned. It was demonstrated some years ago in some of the New York State Hospitals, and subsequently in the New York City Department of Public Welfare, then known as the Department of Public Charities, that a scientific basis for food utilization can be worked out on a large scale. Since that time several institutions outside of New York City, particularly during the period of the war, have adopted this basis for requisitioning.

Inquiry also showed that no systematic methods have been developed for ascertaining the amount of waste or for prevention of it by proper rules of procedure. Likewise, the practice of seeking the best market in which to buy is not characteristic of all New York hospitals. Because of limited storage facilities, many hospitals cannot buy in large quantities or at the most propitious time and thus effect economies. They do not invite competition among dealers, and the prevailing practice is to buy

year after year from the same selected individuals. This results in giving practically a monopoly to certain dealers.

In only two of the hospitals for which definite information is available, do agents of the institution go to the market to buy fresh vegetables. In one of these, the steward uses an old ambulance for the purpose and drives to the market twice a week to buy vegetables and fresh fruit from the farmers. The time consumed in this trip is estimated as three hours per week, but the saving is considerable not only because of the lower prices paid but also because of the personal supervision of the things bought. In the other hospital the dietitian goes to market several times a week in a delivery truck donated for the purpose by a member of the board of trustees.

When goods are purchased on a large scale it is essential that a considerable amount of time and thought be devoted to the problem of how to buy most advantageously. Government reports and trade journals offer some guidance but good sense and acumen are needed to make the best of a bargain. Considerable loss must be incurred by hospitals living a hand-to-mouth existence so far as their purchases are concerned and in not entrusting (particularly in the case of large hospitals) the duty of making purchases to some one especially fitted for the work.

Advantages of Cooperative Buying.

The advantages of cooperative buying naturally suggest themselves. In several cities, charitable institutions are planning to follow the example of hotel syndicates and buy on a cooperative basis.

In 1910 a Hospital Bureau of Standards and Supplies was organized in New York City by a representative group of hospitals, the functions of which are to supply the member institutions with information and quotations

on goods, and also to secure agreements from dealers and manufacturers to supply the goods at prices much below the average level. The Bureau often has as many as 55 agreements current; these cover various kinds of canned goods, tea, coffee, crackers, household supplies, drugs, chemicals, rubber goods, and medical and surgical supplies. The Bureau, because of its rating as a jobber, is able also to secure short term options which are very advantageous. Manufacturers and distributors generally give certain discounts to customers but the jobbers receive a discount which is still larger, sometimes even two or three times larger than that given to ordinary customers. It has been stated that no individual hospital, irrespective of its size, can obtain a discount as large as that which the Bureau is able to secure.

The membership of the Bureau is open to the hospitals on the basis of an assessment of $120 for every $50,000 of their annual maintenance expense, which dues are payable in monthly installments. A hospital having an annual current expense of $150,000 for example would pay an assessment of $360 per year or $30 per month. These assessments supply the funds necessary for the operation and maintenance of the Bureau.

In 1920 the Bureau had a membership of 21 hospitals in the City of New York and 29 outside of the city limits. Some of the outside memberships comprise hospitals in Pittsburgh, Cleveland, Detroit, Rochester and elsewhere; the Johns Hopkins Hospital in Baltimore, Md., is also a member. In 1924 the New York membership increased to 24, while the out-of-town membership is 53.[1]

Many of the hospitals expressed themselves as being pleased with the operations of the Bureau. The Lincoln

[1] Among the out-of-town members, the Cleveland Council is counted as one; it includes, however, 21 hospitals.

Hospital, for instance, in its printed report expresses annually a grateful acknowledgment of the services rendered. Yet the number of New York hospitals participating as members is very small. The Bureau is unable to give exact figures as to the amount of goods bought by the hospitals through its mediation because most of the buying is direct between the hospital and the seller and in relatively few cases does the Bureau buy in its own name and re-invoice to constituent members. It has been estimated that something like $1,000,000 worth of goods is bought by the hospitals through the Bureau's good offices. The total expense of the Bureau amounts to about $15,000 per year.

Obstacles in the Way of Cooperative Buying.

There are several reasons for the small participation of hospitals. In the first place, as in many other human affairs, inertia is an element of considerable importance. Secondly, many institutions find their present trade arrangements satisfactory and do not desire to make a change. Thirdly, a considerable proportion of a hospital's purchases of food consists of perishable products and it is claimed that these can be bought more advantageously from local dealers. Moreover, the storage facilities in many hospitals are inadequate for large stores of goods. Fourthly, in many instances members of the boards of trustees are connected with certain businesses and are able to offer the hospitals their products as cheaply as the Bureau would be able to secure them. Lastly (this being the most important reason usually advanced) no two hospitals use the same kind or grade or standard of materials. Individual preferences and prejudices are the arch foes of cooperative buying. As an illustration of the difficulties encountered, this extreme

case might be mentioned: two hospitals could not agree on the specifications for bed sheets because of the different widths which the training schools require to be tucked under the mattress.

Standardization in hospitals cannot, and should not, be carried to extremes; individuality should be encouraged for the best interests of all concerned. Nothing is more stifling to best results than a machine-like, stereotyped system, but at the same time care should be taken that false conceptions of individuality do not impede application of proven businesslike procedures.

IV. Cost Accounting

Causes of Cost Inequalities.

In the preceding chapter attention has been called to the wide variations in the per capita per diem costs in the hospitals in the city.

No one has made a detailed analytic study of the reasons for these large variations in institutions which are similar in size and type as well as in the calibre of work. The usual explanations given for the existing differences in costs are not based upon a definite study of facts, but merely on general impressions; the most common one is that the variation is due to differences in the type of care which the patients receive. Some claim that they do much more laboratory and X-ray work than other institutions; that they serve a better grade of food; that they include in their per capita per diem costs certain items which are excluded by other hospitals; that they pay compensation for work which in other hospitals is being done gratuitously; that in their accounting some hospitals often do not include the value of articles of daily consumption which are donated to them, though other

institutions which must purchase these articles include the cost in their operating expense. While all these explanations are undoubtedly true, at the same time they suggest first, that there are no definite minimum standards of hospital work and, secondly, that there is no uniformity in financial accounting or any accepted rule of procedure which would serve as a guide to the hospitals.

A Uniform Method of Cost Accounting Needed.

From the community point of view, the lack of accepted administrative standards of hospital work is most regrettable. If the very high standards involving large costs are necessary for the welfare of the patients treated, the question arises whether hospitals not coming up to this level are able to give the proper type of care and service. On the other hand, if the lower standards do meet the needs of the patients, the institutions showing a much higher per capita cost are seemingly engaged in activities which are unnecessary and to that extent extravagant.

Cost accounting in most hospitals is inadequate because it does not analyze the items of expense minutely enough to make it possible to discover extravagance in any one department, and, furthermore, even that which is done is not uniform in all the hospitals and to that extent invalidates otherwise valuable comparisons. These two facts alone justify a joint attack on the problem by trustees of hospitals, who are responsible for the expenditures of the funds of the institutions.

The correlation between the total per capita costs and the per capitas of the individual items of expense could not be undertaken in this study, first, because of the limited means at our disposal, and second, because of the inadequacy and lack of uniformity of existing accounts. Before such a study can be attempted, in the interests of the

contributing public as well as that of hospital administration, a uniform method of detailed cost accounting must be agreed upon, and carried out for a certain period of time.

The King Edward Fund in London has made considerable progress in this direction. The United Hospital Fund of New York City strives to induce the hospitals which are its beneficiaries to adopt uniform methods of bookkeeping. The Finance Department of the City of New York as well as the State Board of Charities require certain uniform reporting by the hospitals which receive public funds. A much more complete system of detailed accounting is required of those institutions which depend for their income on the Federation for the Support of Jewish Philanthropic Societies.

There are several hospitals in the country where cost accounting is practiced in fairly minute detail. The City Hospital of Worcester, Mass., an institution of 360 beds, has a bookkeeping system whereby the per patient per day costs are figured for each item of expenditure such as food, kitchen and dining room expenses, housekeeping, laundry, medical, nursing; by services, such as medical, surgical, children's, maternity, laboratory and pharmacy. Incidentally, the hospital has a comparatively low per capita per diem cost. This hospital is also one of the few hospitals in the country which give the distribution of the various items which comprise the cost of the nursing staff. In 1919 the maintenance of a nurse per day was $2.72, of which $1.10 was for food and $.25 for supervisory services; in 1920 the total cost was $3.28 per nurse per day of which $1.10 went for food and in 1921 the cost was slightly lower —$3.13, of which only $.85 went for food.

The method of control in apportionment of charges in the several departments of this hospital is by means of a

system of requisition checks as well as by the pro-rating of certain of the items which cannot be figured minutely. The clerical force of the hospital is small and the administrative expense per patient per day is reported to amount to a little over $.30.

A similarly, if not more, minute system of detailed analysis of cost per patient per day by items of expense is in practise at the Hamot Hospital, Erie, Pa., a hospital with a total annual service of about 47,000 hospital days of which almost one-third were days given in the private and private ward service. For the year 1921 a total per capita per diem maintenance cost of $4.07 was reported, of which $.27 was for salaries of officers and clerks, $.26 for nursing care, $.055 for house staff, less than one cent for pharmaceutical supplies and less than $.02 for X-ray supplies.

The Lakeside Hospital of Cleveland, Ohio, likewise publishes a per capita cost analysis by departments. For the year 1921 the per capita in this hospital was $6.11. The per capita of the X-ray department amounted to $.125, or six times as much as at the Hamot Hospital. It is only on the basis of detailed comparisons based on a uniform accounting method that sound deductions can be made.

Comparison of Food Costs.

Information concerning items of dietary costs has been analyzed for a selected group of hospitals which publish such facts in their annual reports. The information was not available in detail in every instance. The food costs per meal as given in the subjoined table were figured on the basis of both patients and employees.

The value of these figures would be greater if they represented quantities of foods consumed instead of costs;

RAW FOOD COSTS PER MEAL FOR PATIENTS AND EMPLOYEES IN SELECTED HOSPITALS IN NEW YORK CITY FOR 1920 AND 1921

Hospitals	*All Provisions Cost Per Meal*		*Bread Cost Per Meal*		*Milk and Cream Cost Per Meal*		*Groceries Cost Per Meal*		*Butter and Eggs Cost Per Meal*		*Fruits and Vegetables Cost Per Meal*		*Meat, Poultry and Fish Cost Per Meal*	
	1920	1921	1920	1921	1920	1921	1920	1921	1920	1921	1920	1921	1920	1921
General, Private	$	$	$	$	$	$	$	$	$	$	$	$	$	$
French Hospital	.168	....	.042	....	....	....	.037	....	.024	....	....	....	.063	....
Lenox Hill Hospital	.245	.216	.009	.010	.030	.028	.040	.032	.057	.042	.033	.035	.076	.069
Lincoln Hospital	.161	.159	.013	.012	.028	.026	.023	.020	.020	.020	.009	.010	.068	.071
Methodist Episcopal Hospital	.172	.160	.011	.011	.031	.032	.038	.032	.032	.030	.013	.016	.047	.039
Mount Sinai Hospital	.221	.185	.011	.008	.032	.029	.043	.034	.046	.033	.026	.024	.063	.057
New York Hospital	.156	.125	.010	.009	.025	.020	.025	.021	.029	.020	.020	.015	.047	.040
Presbyterian Hospital	.163	.134	.009	.008	.028	.026	.025	.019	.028	.022	.022	.018	.051	.041
St. Luke's Hospital	.190	.160	.004	.006	.030	.028	.027	.018	.037	.028	.024	.020	.068	.060
Roosevelt Hospital	.203	.161	.010	.006	.031	.029	.018	.012	.034	.026	.030	.024	.080	.064
Special, Private														
Lying-In Hospital	.199	.180	.011	.008	.029[3]	.026[3]	.015	.014	.050	.039[4]	.031	.029	.063	.064[5]
Manhattan Maternity Hospital	.188	.182	.012	.012	.025	.024	.039	.032[2]	.027	.027	.015	.019	.067	.068
Woman's Hospital	.221	.197	.010	.010	.033	.031	.038	.032	.041	.038	.035	.023	.064	.063
Manhattan Eye, Ear and Throat Hospital	.179	.157	.010	.008	.030	.031	.017	.012	.033	.027	.031	.028	.056	.051
New York Eye and Ear Infirmary	.188	.164	.012	.010	.024	.024	.035	.027	.034	.025	.022	.019	.059	.059
Hospital for Ruptured & Crippled	.165	.134	.011	.009	.019	.017	.032	.023	.029	.023	.015	.012	.057	.050
Hospital for Joint Diseases	.127	....	....	....	....	....	....	...	....	....	....	....	....	....
Home for Incurables	.188	....	....	....	....	....	....	....	....	....	....	....	....	....
House of Rest for Consumptives	.225	.204	.012	.014	.039	.032[6]	.067	.059[8]	.042	.036[7]	....	....	.064	.063
General, Municipal [1]														
Bellevue Hospital	.150	.112	....	....	...	....	....	....	....	....	....	....	....	
Harlem Hospital	.143	.115	....	....	....	....	....	....	....	....	....	....	....	....
Fordham	.155	.116	....	....	....	....	....	...	....	....	....	....	....	....
Gouverneur	.184	.145	....	....	....	....	....	....	....	....	....	....	....	....
														....
Special, Municipal [1]														
Neponsit Beach Hospital for Children	.162	.147	....	....	....	....	....	....	....	....	....	....	....	....

[1] No figures available for the different kinds of provisions.
[2] Includes table water.
[3] Includes ice cream.
[4] Includes cheese.
[5] Includes salted and canned fish.
[6] Includes milk only.
[7] Eggs only; butter under "Groceries."
[8] Includes vegetables and butter.

moreover, the comparisons of separate items should be made with reservation because of the lack of uniformity in the method of recording. Some hospitals, for instance, bake their own bread and charge the cost of the flour to "Groceries," while hospitals which buy their bread charge it under "Bread"; some hospitals charge "cakes and crackers" to "Groceries," and others to "Bread"; canned fruit may in one instance be included under "Fruit and Vegetables" and in another under "Groceries." Even with these differences in recording, the comparisons have a certain value. It may be that the actual food cost per meal is a little higher than the computed figures indicate because of the method of computation applied, but the ratio of the costs between institutions remains the same as the same basis of figuring has been employed in all instances. The averages are presented here more as an illustration of the service that may be rendered by detailed cost accounting than for the immediate purpose of precise comparison between institutions. Such statistics, when accurately ascertained, may prove to be of inestimable value to hospital administrators and trustees.

Comparing the figures for 1921 with those for 1920, the first fact which is apparent is that the costs of raw food per meal have decreased considerably. The difference in the per meal costs in the general hospitals in the two years was from three to four cents. The difference was less marked in the case of the special hospitals. Among the general hospitals, Lenox Hill Hospital showed the highest cost per meal, closely followed by Mt. Sinai Hospital. The lowest figure was reported for New York Hospital.

The Bellevue and Allied Hospitals, as a group, showed a lower average cost per meal than the general private hospitals. In the Bellevue and Allied group of hospitals,

Gouverneur Hospital and Neponsit Hospital showed the highest food cost per meal.

Of the several groups of the special hospitals, the highest cost per meal was found in the hospitals caring for consumptives and chronics, and the next highest in the maternity hospitals; the lowest cost was in the orthopedic hospitals.

An analysis of the several component parts of the expenditure for food showed that the largest item of cost was that for meat, poultry and fish, which in 1921 averaged from 4 to 7 cents per meal in the general hospitals. The next largest item was butter and eggs, which in 1921 varied from 2 to 4 cents per meal. The next three items of almost equal importance were "Milk and Cream," "Groceries," and "Fruit and Vegetables," each of which contributed from 2 to 3 cents to the cost of a meal.

V. Equipment

In order to save the large amount of labor and time involved in an inspection of the existing equipment in hospitals, an application was made to the State Board of Charities for permission to examine the reports of the investigators of that Board as to the condition of the plants of the hospitals and their equipment. This permission was granted by vote of the Board.

Throughout this report attention has been called to the lack of standardization of hospital terms and methods. It seems quite relevant to suggest here that the work of inspection of hospital conditions also requires uniformity. Before the reports of the inspectors of the State Board of Charities or of any other body are accepted as authoritative, there ought to be developed clearly defined standards which should be publicly expressed and generally

acknowledged. In perusing this summary of physical conditions and arrangements in our hospitals, the reader should bear in mind this existing lack of precision and uniformity.

Conditions of Hospital Buildings.

The reports of the State Board inspection were available for seventy hospitals. Twenty were considered as having their buildings in good condition; 13 were rated as fair; 15 were regarded as old and unsuitable for hospital purposes; 11 had some new buildings and some old and unsuitable ones; 11 were reported as having buildings which were good but inadequate for the demands made upon them. In the 70 hospitals for which the information is available, the elevator service is considered adequate in 49 and inadequate in 16; 3 have no elevators.

Wards.

The wards vary greatly in size, light and accommodations. In 3 hospitals, medical and surgical cases were reported as being in the same wards, and in one there was no special ward for maternity cases. With regard to separate rooms or wards for special cases, 3 hospitals are reported as having special pneumonia wards; one has porches for pneumonia cases; 3 have "septic" wards; one has special rooms for metabolism; 3 for venereal diseases; 2 for typhoid cases; 2 for eye cases; and one has wards for specialties.

In 2 hospitals the mattresses were found to be in bad condition; in 4, the supply of linen was inadequate; in 3, the bed springs were sagging; in 2, flies were found in the wards, and in 1, bedbugs and ants were found.

Accessory Rooms.

Only one of the seventy hospitals is credited with having the accessory rooms excellently arranged; 52 have all the

necessary rooms in connection with each ward; 4 have all the necessary rooms on each floor; 4 have small and poorly equipped ancillary facilities, while in one, they are dark and utterly unsuitable. In 2 hospitals an inadequacy of toilet rooms was noted; in one, the children's ward had no diet kitchen, and in 4, the accessory rooms were inconveniently located.

Twenty-nine of the hospitals are reported as having well equipped reception wards, but in 34 hospitals no reception wards at all are available and patients are taken directly to the wards. In one hospital, the reception ward is inconveniently located; in 4 this ward is for children only, while in one it is reserved for men only.

Forty-five are reported as having well equipped isolation rooms and 23 as having none whatever, thus violating the regulations of the Sanitary Code. In one the report states that they are inadequate for the purpose.

Twenty-three of the hospitals have well equipped emergency rooms, 27 have no emergency rooms whatever and 20 other hospitals use the dispensary for emergency cases.

Operating Rooms.

The operating rooms are reported well equipped and located in 51 institutions, and unsuitable in 13. In one hospital, the operating room is in the main building and patients from the other buildings are carried back and forth for operations. In another hospital the operating room is considered too small; in 2 there are no scrub-up rooms; in one there is no anæsthetizing room; in another no accessory rooms.

Laboratories.

In 46 of the hospitals the laboratory is considered well equipped; in 2 others it is well equipped but poorly located;

in 13 it is equipped for simple tests only; in one of the hospitals there is no laboratory whatever. Our own investigation lists 6 of the minor hospitals in the city as having no laboratories.

The X-ray equipment is considered adequate in 41 of the hospitals; in 9, it is regarded as adequate in equipment but poor as far as the location is concerned; in 3 the equipment is reported as only fair, and in one as totally inadequate; 12 hospitals have no X-ray facilities whatever.

Drug Rooms.

In 55 of the hospitals the drug department is reported well stocked; in 4, adequate for simple prescriptions only, and in 3 of the hospitals there are no drug rooms at all.

Therapeutic Equipment.

With regard to special equipment, 7 of the hospitals are reported as having complete facilities for electrical therapy; 1 has special equipment for cardiac cases; 4 for hydrotherapy; 13 have electric baking outfits; 17 have facilities for corrective gymnastics; 5 have radium departments and 1 has a well equipped neurological department. The lack of facilities in the hospitals for thermo-mechano-electrical therapy has been emphasized in a study made by Dr. A. B. Hirsh.[1] His table, supplemented by facts ascertained in our own survey, is herewith reproduced and indicates the extent of available facilities in this important branch of modern therapy.

Kitchen and Dining Rooms.

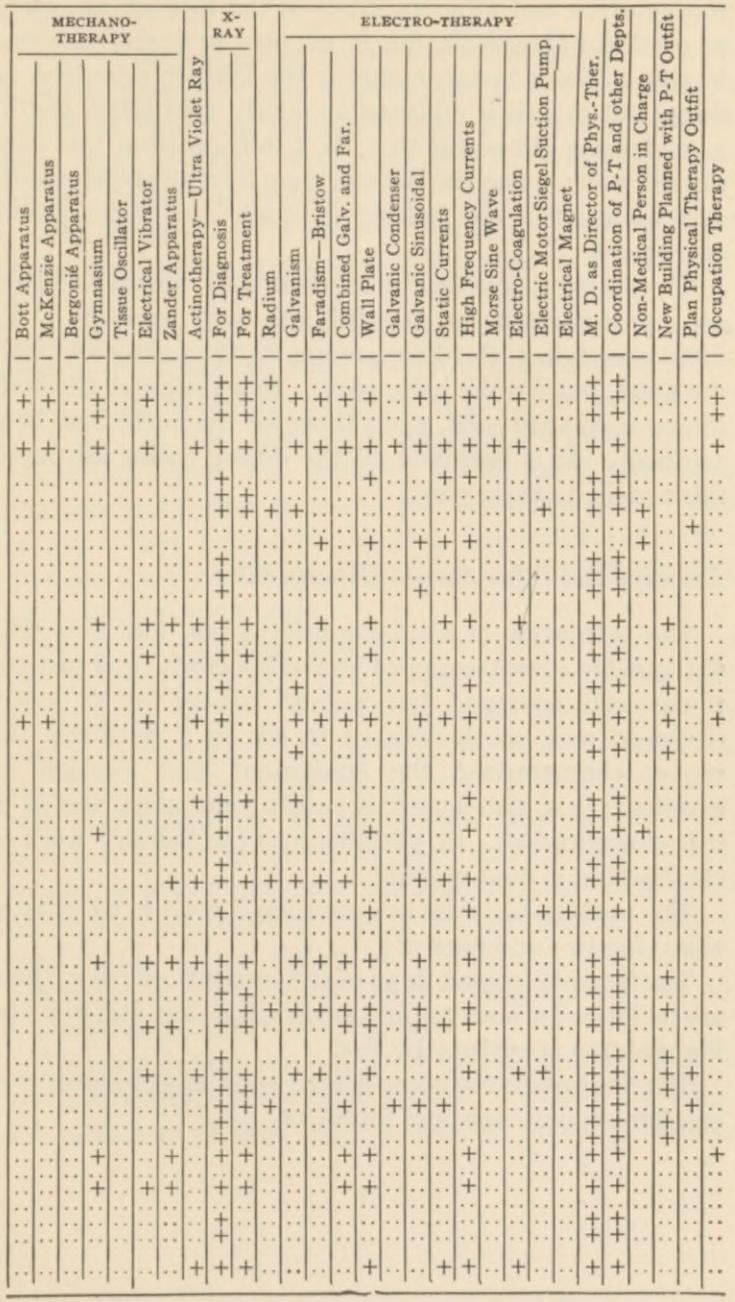
The kitchen is located in a separate building in only 3 of the hospitals covered by the report; in 37, it is in the

[1] *Medical Record*, April 30, 1921.

FACILITIES FOR PHYSIO-THERAPY IN

Title of Hospital	Massage	Correctional Exercises	HYDROTHERAPY: Continuous Bath	Nauheim Bath	Shower, Etc., with Control Stand	Whirlpool for Arm	Whirlpool for Leg	Seat Bath	Plinth for Body Wrapping	RADIANT LIGHT AND HEAT-ELECTRIC: Cabinet for Entire Body	Half-Length Body Lamp	Quarter-Length Body Lamp	Hand Lamp	High Wattage Lamp	Solar Ray Lamp	Convective Heat Thermotherapy: Electric Baking: Body Length	Arm and Leg	Joint Size	Body Baker—Steam Radiator
Memorial																			
U. S. Naval, Brooklyn, N. Y.	+	+	+	+	+	+	+	+		+	+	+	+	+			+		
New York Orthopedic	+	+																	
U. S. P. H. S., Fox Hills, Staten Island, N. Y.	+	+			+	+	+			+	+	+	+	+			+	+	
Community Hospital in the City of New York													+	+					
Woman's																			
Roosevelt	+									+							+	+	
Sloane Maternity																			
Vanderbilt Clinic					+			+		+									
New York Nursery and Child's		+											+						
French			+		+														
St. Vincent's	+																	+	
Hospital for Deformities and Joint Diseases	+	+	+								+	+	+	+			+	+	
St. John's																			
New York	+	+			+					+									+
Metropolitan Throat																			
People's					+					+									
St. Elizabeth's																			
Reconstruction	+	+	+		+	+	+	+		+	+	+	+	+	+		+	+	
Booth Memorial																			
St. Mark's	+										+		+						
St. Mary's Free Hospital for Children																			
Skin and Cancer			+	+	+			+											
Harlem																			
Bellevue	+	+	+	+	+			+			+	+					+	+	
Lying-In																			
Knickerbocker	+	+									+	+							
Postgraduate	+	+	+		+				+	+	+		+				+	+	
St. Andrew's Convalescent																			
New York Ophthalmic																			
Woman's Infirmary																			
Hospital for Ruptured and Crippled	+	+	+		+			+	+	+	+	+	+			+	+	+	
Columbus																			
Presbyterian	+	+	+		+					+	+	+	+		+				
Beth Israel	+	+														+	+	+	
Neurological Institute	+	+	+		+					+		+		+		+	+	+	
St. Bartholomew's Clinic and Hospital	+	+	+		+														
Mount Sinai	+	+	+					+			+	+		+		+	+	+	
Hahnemann	+												+				+		
St. Luke's	+	+	+	+	+			+					+			+	+	+	
Sydenham																			
Beth David																			
Montefiore	+	+	+	+	+			+	+	+	+	+	+			+	+	+	+
St. Ann's Maternity																			
Lenox Hill	+	+	+	+	+			+	+	+	+	+	+			+	+	+	
New York Foundling																			
Lincoln	+												+						
Fordham													+						
Manhattan State Hospital, Ward's Island	+	+	+		+			+	+										

THE HOSPITALS OF NEW YORK CITY



basement; in 22 above the first floor. The ratings for refrigeration and other facilities in the kitchen are given as good in 49 hospitals; fair in 10; poor in 8; and excellent in one. In one instance only is the kitchen described as dirty; but in 4, it is reported as poorly ventilated, and in 3, as having old equipment; in 5, refrigeration was considered poor; in one, the butcher shop is small and crowded, and in another the bakery is small and lacks power equipment.

The dining rooms for the resident staff, nurses and help are characterized as cheerful and well located in 53 institutions; in 5, the dining rooms for the nurses and staff are good, but for the help, poor. In 2 instances the staff dining rooms are good, while those for the nurses and help are poor. In 5 hospitals all the dining rooms are rated fair and in 3 others poor.

Laundry and Other Service Departments.

The tabulation of available information indicates that the laundry is well equipped and well located in 31 institutions; well equipped but poorly located in 5; poorly equipped and poorly located in 20; in 2 instances the report characterized the equipment and location as excellent; in 3 instances it is poorly ventilated, and in 8, it is overcrowded. In 5 institutions the laundry work of the hospital is done outside.

The heating facilities are considered good in 64 institutions; fair in 1 and poor in 3.

The lighting is good in 59 of the institutions; in 8, there are facilities for both gas and electric lighting, and in 1, the illumination is entirely by gas.

The fire protection is considered good in 55 institutions, excellent in only one, and fair in 12.

Living Quarters.

The information on house accommodations for the superintendent has been ascertained for only 58 of the 70 hospitals. Of these 58 institutions, good living quarters have been provided in 52, and in 6 the superintendent resides outside the hospital.

The living quarters for internes are considered good in 62 institutions; overcrowded in 2, fair in 2, and poor in 1.

As regards living quarters for nurses, the analysis shows that in 3 institutions both the living quarters and recreation facilities are excellent; in 29 good; in 14 crowded; in 3 fair; in one, the living quarters are good but the recreation rooms are missing; in 18, both the living quarters and recreation rooms are considered poor. In 2 of the nurses' homes the heating was considered inadequate at the time of inspection, and 2 homes were classified as insanitary and unsafe.

As far as the other employees are concerned, in 5 of the hospitals they have to live outside of the institutions. In those for which the rating has been given, 26 are regarded as having good living quarters; 10 fair; 4 crowded; and 24 poor. No hospital is reported as having adequate rest and recreation for employees, and yet there are hospitals in this group which have reading and smoking rooms for male employees, and rest and recreation rooms for dances and entertainments for the domestic help of both sexes. Here again, as throughout this section, subjective opinion constitutes the basis of judgment and the need of definition is apparent.

To what extent the adequacy or inadequacy of living accommodations for various classes of employees affects the efficiency of their work is another phase of hospital

administration the study of which the present inquiry could not well undertake.

VI. Measures of Efficiency

Most of the hospitals realize the importance of utilizing methods designed to check waste and to provide controls for expenditures; but in many instances the personnel is insufficient to do the additional work which a system of efficient management requires. Some institutions are loath to spend funds contributed for the care of the sick on labor or mechanical devices which are indispensable in a system of this kind. Others, although they constitute a small number, regard the application of business principles to hospitals as impractical or, perhaps, undesirable. None of the hospitals has heretofore utilized its facilities for the training of future hospital executives except through a system of apprenticeship, a method which has been abandoned in almost every other line of professional work.

Hospital Administration—An Art and a Science.

A recent study by a committee appointed by the Rockefeller Foundation has outlined the vast opportunities for service in the hospital field, and sketched the essentials of a course for hospital executives. The recommendation was that such a course should be given under university auspices with actual practical experience in the hospitals. If such a course of training were instituted in New York City the hospitals which would offer their facilities as training ground might, in return, utilize the services of these students in the efficiency studies suggested throughout this report.

Hospital administration requires not only a high degree

of executive ability, but a knowledge of numerous technical matters in the realms of medicine, public health, engineering, economics and sociology. It is, in other words, both an art and a science, and as the community and the boards of trustees of hospitals come to realize the responsibilities and opportunities inherent in hospital administration, higher standards will be insisted upon. Unfortunately, in many institutions the boards of trustees do not take the amount of interest necessary in the proper discharge of their duties as policy shapers of the institutions, nor are many of them fully conversant with the problems of the hospital outside of the financial realm.

The primary demand for efficiency in hospitals is a board of trustees selected on the basis of their interest in the hospital and of intelligent understanding of the problems and of relationships of the hospital to the community. In very few instances does the board meet often enough to make the members sufficiently well acquainted with the functioning of the institution of which they are governors. The usual practice is for an executive committee or one or two trustees to take an active interest. In some instances this takes the form of an attempt to discharge executive functions and thus interferes with the administrative responsibilities of the hospital superintendent.

In connection with this study an effort has been made to ascertain in an objective way the interest which the boards of trustees take in the affairs of the hospitals as judged by the frequency of attendance at meetings, by the number of sub-committees and the problems dealt with by them. The result was disappointing because, with the exception of the meetings of the whole board, minutes are seldom kept of the deliberations of the sub-committees. Many of the special committees meet outside of the hospi-

tal and no record of their work is available. The frequency of the meetings of the boards of trustees likewise varies from institution to institution. The boards of trustees as a rule meet regularly at stated times. In 13 of the 33 hospitals studied, the board meets monthly; in 7 it meets monthly except July and August; in 3, meetings are held monthly with the exception of three summer months; in one, monthly with the exception of four summer months; and in one, semi-annually.

Another requisite of efficiency which has not been generally followed is that of investing the superintendent with sufficient authority and power to make him fully realize his responsibility. In the words of the Committee on the Training of Hospital Executives above referred to, "much of the present confusion in hospital administration arises from a failure to recognize the position and responsibility theoretically devolving upon him. When this is true, or alleged to be true, all manner of substitute devices are used, often with compromising results."[1]

As has been said in another part of the chapter, the appointing power of the superintendent varies in different hospitals. In some instances rather minor appointments in the administrative service are made by the boards of trustees and not by the superintendents. Very few hospitals in which inquiries have been made reported regular conferences of the superintendent with the heads of the various departments of the hospital, and in only a relatively small number are the responsibilities of the several agents of the institutions so clearly defined that the individuals, upon whom these devolve, can be held accountable for lapses in administrative procedure.

[1] *Principles of Hospital Administration and the Training of Hospital Executives.* Report of special committee of the Rockefeller Foundation —1922.

Annual Reports.

Another feature of hospital articulation which may be mentioned in this connection is the annual report. As published by the majority of the institutions these are peculiarly uninforming and uninteresting products. It does not seem to be clear to those responsible for the reports as to just what purposes the reports are to serve. If they are to carry a message to the general public of the work of the hospital, they are not couched in language clear enough and interesting enough to attract the attention of the average reader or hospital contributor. Moreover, they contain a great deal of matter of the nature of a name index. If, on the other hand, they are designed for those particularly interested in hospitals, they do not contain enough. The statistics, financial and otherwise, are not standardized and are often haphazard. Any one endeavoring to obtain a picture as to what is being done in hospitals of this city—what types of cases are being treated, what surgical operations are being performed, what are the immediate and end results, how many of the cases in certain types of diseases receive medical or surgical treatment, what are the occupations, ages, and sexes of the patients treated for certain conditions—will be sorely disappointed if he tries to obtain it from the annual reports. Some hospitals issue reports of a more instructive nature than others. One prominent hospital in this city in its annual report gives many kinds of information, but does not publish reports from any of the medical or surgical departments. In other words, that which constitutes the core of hospital work is omitted.

Value of Hospital Morbidity Statistics.

Very few hospitals publish morbidity statistics. It has been argued that the publication of medical statistics

in annual reports is a waste of time and money and that no one is particularly interested in them. This is probably true so long as the statistics are unstandardized and do not follow a uniform nomenclature. The popular annual report may not be a proper place for the publication of such statistics, but carefully edited, scientifically arranged medical statistics of hospitals are of capital value to medical science, public health administration, and community understanding of hospital needs. If individual medical or surgical experience constitutes a basis for deductions, how much more valuable would be the statistics of hospitals when properly edited! Illustrations of the type of informing hospital statistics are those published from time to time by the Mayo Clinic, the Johns Hopkins Hospital, the Massachusetts General Hospital and, particularly, the Peter Bent Brigham Hospital of Boston, as well as Dr. E. A. Codman's reports.

In his stimulating and informative reports, Dr. Harvey Cushing from year to year publishes the surgical statistics of his service at the Peter Bent Brigham Hospital and urges that other hospitals publish statistics in some uniform standard manner so that comparisons of value may be made. In the 1920 report he says, "Competition of the proper sort is a good thing in sport or in other affairs and may stimulate to redoubled efforts, but unless the scores when turned in have been computed on the same basis, there can be no actual comparison made."

The American College of Surgeons should before long take an active interest in the keeping, preparation and publication of hospital medical statistics.

The available statistical information in a hospital could be rendered really valuable if handled by a trained worker. Take, for example, the importance of industrial diseases in modern society. The hospitals have in their possession

all the facts necessary for correlation between occupation and disease and yet they never make use of this information in a really scientific manner. They give the occupations of patients but these are entirely uncorrelated with the illnesses from which they suffer. In the 1919 report of the Peter Bent Brigham Hospital the failure to utilize these statistics has been pointed out by Dr. Cushing in the following words:

From the administrative point of view, hospital reports in general agree fairly closely in their manner of presenting the business affairs of the institution, together with the inclusion of tables representing the occupations, places of birth, of residence, and so on, of the patients. These, it seems to me, in their present form are quite useless, and in some reports, like the elaborate one from the Massachusetts General Hospital, the mere tabulation of occupations, carried into subheadings occupies eleven pages. Though amusing it is of no great interest to know that 1 umbrella mender or 1 gill box tender in a worsted mill, 1 strap finisher in an artificial limb factory, entered the hospital or that out of 66 shoe factory operators, arranged in 31 subdivisions there was 1 bottom finisher, 1 welt beater, and so on. What might be of value, in view of our present interest in industrial medicine, is to know what ailments these various people presented—the 20 barbers, the 84 carpenters, the 99 clerks, and 970 people without occupation—to see whether their tasks, or absence of tasks, had any possible bearing on their disorder, but even this would hardly be worth while when numbers rarely run over two figures. There is one thing further in which these reports all agree; namely, in making an appeal for bequests and endowments; and I cannot escape the feeling that possible readers would be much more influenced in this direction by greater emphasis laid on the results of clinical investigation and less on the dry bones of housekeeping and the hotel register.

CHAPTER VI

MEDICAL ORGANIZATION

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It is needless to say that the medical staff is the most important functional group of the hospital, its alpha and omega. This statement is made solely to emphasize the fact that the selection of the medical staff constitutes the greatest responsibility of hospital management. Unless the staff be competent and conscientious in the performance of its duties, and filled with a spirit of service and devotion to its work, the purpose of the hospital is frustrated.

As in all other domains of collective effort, the medical personnel of a hospital must be definitely organized in order to function most effectively. There must be a division of labor and a fixing of responsibility. Medical organization has undergone considerable evolution during the period of the development of the hospital into the modern institution. As hospitals increased in size, as medicine differentiated into specialties, and laboratories became integral parts of the medical and surgical work, and as the responsibility of the hospitals to the community, to teaching, and to medicine crystallized, medical organization of necessity underwent many changes. At the present time, no one type of organization exists to the

exclusion of all others. Tradition, exigencies of one kind or another, "personalities" and human inertia have made for variety.

I. Forms of Organization

There are three outstanding types of medical organization. In one, all the attending physicians have alternating services, that is, all are of equal rank and serve in rotation for a certain number of months in the year. All of them are entitled to membership on the medical board, and each one conducts his service and manages his subordinates in his own way during his term of office. Although this is the least satisfactory form of organization, it is the most prevalent. It affords slight opportunity for consecutive work and research and interferes with the strict application of the principle of fixed responsibility. It is also prejudicial to medical teaching and to the proper training of interns and may operate to the disadvantage of patients in that it often interferes with continuity of treatment and renders clinical follow-up work and the checking up of end-results ineffective. It has the advantage, however, of permitting a larger number of men to be associated with one hospital. The attendings and assistant attendings serve without compensation. Many hospitals of this type as well as those with other types of organization have consulting physicians and surgeons who are seldom consulted and yet have a vote in the medical board of the hospital in many instances.

The second type of organization is usually found in institutions devoted to the care and treatment of special conditions. At the head of such an organization is a director with broad powers. He selects his assistants and assigns tasks to them for the performance of which

they are responsible to him. This type of organization has the advantages of centralization of authority, definiteness of responsibility, uniformity of records and proceedures, and economy of time of the intern and nurse personnel. The disadvantages are in proportion to the limitations of the director in his capacities as a scientist, leader and executive officer.

The following five hospitals in New York City may serve as illustrations of the type of organization just described: Lying-In Hospital, New York Orthopedic Hospital, Hospital for the Ruptured and Crippled, Sloane Maternity Hospital and Woman's Hospital. There are several other institutions with this type of organization.

The medical organization of the Lying-In Hospital is under the direction of a surgeon-in-chief who alone is responsible to the board of governors for the medical and educational activities carried on in the institution. He is appointed by the board of governors, and the attendings, adjunct attendings and heads of special departments are nominated by him for election to the board. Seniority in service is taken into consideration when promotions are made. The services of the attendings are alternating, but while on duty they serve in both the out-door and in-door departments.

In the New York Orthopedic Hospital all medical assistants are appointed on the recommendation of the surgeon-in-chief who is alone responsible for the work of the hospital. The members of the staff receive compensation.

In the third hospital of this group, the Hospital for the Ruptured and Crippled, the surgeon-in-chief is the general director of the hospital and is responsible to the board of managers for the care and treatment of the patients. There are two departments, the Orthopedic and Hernia,

and the surgeon-in-chief is the active head of one of the departments and ex-officio in the other.

In the Sloane Maternity Hospital the director is appointed by the board of managers of which he himself is a member, with the approval of Columbia University, as the director of the hospital is professor of obstetrics and gynecology in the College of Physicians and Surgeons of the University. The director of the hospital has complete control over both the medical and administrative activities. All appointments, promotions and dismissals of the entire staff, both medical and administrative, are made by the director subject to the approval of the board of managers. The organization in this institution is unique in that the director has full charge of the entire hospital and the administration of every department. The superintendent of nurses is nominally the superintendent of the hospital; her powers, however, are delegated by the director. The attending staff in this hospital receives honoraria. A unique plan of compensation has been put into effect here, according to which the highest salaries are paid to the younger members of the visiting staff. The basis for this is that the younger members give more time to the institution; when they become older and their income from private practice increases, they have less time for hospital practice and, therefore, their salary is decreased. The other consideration underlying the principle is that it relieves the younger men to a certain extent from their bread and butter worries and makes it easier for them to apply their time to research and study. This hospital stands alone among the others in the City as regards the authority given to the director, and the salary plan of remuneration for the visiting physicians. The director receives a salary from Columbia University in his capacity as professor of gynecology and obstetrics.

The fifth hospital in this group is the Woman's. In this institution, the surgeon-in-chief has full power over all medical and surgical matters, subject to the approval of the board of governors, and all candidates for appointments and promotions are nominated by him to the board of governors. The administrative activities, however, are under the direction of the superintendent. The service of the visiting staff is continuous, and no salaries are paid to any member of this staff.

In the third type of organization the responsibility for the conduct of the medical work is vested in a small group of men, each one in full control of his branch of the service. The services are continuous and each chief maintains a close supervision over his subordinates. As in the preceding form of organization it insures continuity of treatment and control over the work of the attending and resident staff and is well adapted for teaching and research purposes. The close linking up of the out-patient work with ward service is easily accomplished under this form of organization.

In some of the large hospitals, certain services are divided into sections and each section is placed under the control of a chief of equal responsibility with the chiefs of the other sections. These parallel services are frequently not related to each other. This type of service offers an opportunity for a healthy spirit of emulation between services, although it may also give rise to hostile feelings at times.

The parallelism of services may also be found in institutions with other types of organization. Of the 30 general hospitals under the first form of organization, 14 have a single medical and surgical service; 6 have a single medical and double surgical service; 1 has a double medical and a single surgical service; 7 have double surgical and

double medical services, and 1 has two surgical services for men and one surgical service for women; still another has 4 surgical services. Fourteen of the hospitals have a straight gynecological service, and nine have a gynecological and obstetrical service combined, and 20 have a pediatric service. Of the other specialties, several report an independent urological service, several an oto-laryngological service, and several an ophthalmological service; eleven report a dermatological service, with which in three instances syphilis is associated. Several hospitals maintain an orthopedic service, and only two of the hospitals have a neurological service. The greater differentiation is usually found in large hospitals or in those identified with teaching.

The attending and assistant attending physicians in privately endowed hospitals are invariably appointed by the board of trustees, either directly or upon the recommendation of the medical board. In some institutions the appointment is made upon the recommendation of a joint committee representing the board of trustees and the medical board, or the trustees of the hospital and the faculty of the medical school in the case of hospitals associated with medical schools. In the special hospitals having a surgeon-in-chief the appointments are usually made on his recommendation. In the municipal hospitals, the appointments are made by the respective commissioners of the Department of Health and Department of Public Welfare, and in the group of hospitals under the management of the Board of Trustees of the Bellevue and Allied Hospitals the appointments are made by the board upon the recommendation of a committee representing the board of trustees and the medical board.

The matter of staff organization has an important bearing on the control of services. The staff of the

hospital may be restricted to a selected group of attending and assistant attending physicians and surgeons, or may comprise a large number of physicians more or less loosely connected with the hospital. There exists no absolutely "closed" staff, as every hospital (outside of purely research institutions) has a so-called "courtesy" staff consisting of men who are given the privilege of sending in private patients and attending them at the hospital; and with the exception of proprietary hospitals or medical hotels, there are no absolutely "open" hospitals. Even hospitals which have a very large "courtesy" staff exercise a certain amount of discretion in the dispensation of privileges. These privileges refer almost invariably to private or semi-private accommodations and very seldom to public wards. Patients in these wards are, as a rule, attended by the members of the regular attending staff, and in the majority of hospitals physicians are not allowed to charge ward patients for their services. There are, however, several hospitals in the City where this rule does not prevail.

The size of the "courtesy" staff differs from institution to institution. In some instances it is very large and there is very little, if any, control exercised over the cases referred by its members. In most instances the courtesy staff is limited and the relationship of the hospital to the patients of this staff is the same as to those referred by members of the visiting staff. In most institutions the visitings have the first call on available facilities. As a rule the members of the courtesy staffs are approved annually by the boards of trustees on the recommendations of the respective medical boards.

It is sometimes hard to draw the line between the so-called restricted and open staff hospitals because the courtesy staffs in some of the restricted hospitals are very

large, and there is hardly an "open" hospital that has not some staff organization.

In only a few of the hospitals does the board of trustees include members of the visiting medical staff. Such an organization has its good and bad features. One advantage is that it brings about a closer relation between the board of trustees and the medical board. On the other hand, from the point of view of organization, it is undesirable because it makes some members of the medical board stand in a double relationship with undue influence over policies and appointments. The modern tendency seems to be away from having members of the active medical staff on the board of governors. The need of a closer relation between the two boards is met in various ways. In some instances the chairman of the medical board is an ex-officio member of the board of trustees without vote. In other instances, a special conference committee representing the two boards is organized to serve as a liaison between them. In still other instances a member of the medical board is designated as executive member and meets with the executive committee of the board of trustees.

In some hospitals the medical board has an executive committee and also special committees, such as a committee on training school, on laboratories, operating room, therapeutics, interns, et cetera. In the majority of institutions executive committees of the medical board meet monthly; special committees do not meet regularly or function very effectively. At Bellevue, the executive committee is composed of the heads of medicine and surgery of the four divisions. In some hospitals, as Presbyterian Hospital, for example, the entire medical board consists of only four men, the directors of the three main departments of the hospital—medicine, surgery,

pathology, and the executive officer of the hospital. Some hospitals have so-called "efficiency" committees which deal with all the medical problems of the hospital and have supervision over the records and are also responsible for the staff review meetings. In the majority of hospitals the medical board meets once a month, except during the three or four summer months. In one hospital the medical board meets weekly; in two hospitals once every two months; in two, every three months; in another, every four months or on call; and in two, five times a year.

The relation of the out-patient department to the hospital has not been worked out satisfactorily, although a great deal of thought and attention has been given to this matter in recent years. The number of hospitals with unified organizations, that is, where hospital appointments carry with them responsibility for out-patient work, is increasing. In some of the hospitals the head of a hospital service is ex-officio chief of the out-patient service; sometimes he takes an active interest in out-patient service and sometimes it is his assistant who is the active chief of clinic. The minor positions in the out-patient department as a rule do not carry any privileges in the hospital proper, although in some instances the courtesy staff is practically limited to the men associated with the out-patient department, and in a few hospitals, satisfactory service in the out-patient department affords certain prerogatives in case a vacancy occurs on the visiting staff. In no institution is this rule in any way binding.

Among the hospitals studied, only three had an entirely independent staff of physicians for the out-patient department, and of these three, two were contemplating reorganization in order to bring about a closer co-ordination between the hospital and the dispensary work. In

42 hospitals having out-patient departments, the responsibility for supervising the work of the various departments is placed on the attending physicians of the hospital. In 17, this duty devolves upon the assistant visiting physicians; in 8, it is the duty of the adjunct visitings. The modern tendency is toward a closer rapprochement between the work of the out-patient department and that of the hospital proper, and a unified organization. In a study of dispensaries[1] made several years ago, the Public Health Committee of the New York Academy of Medicine pointed out the need of a close relation between the two staffs and suggested a method of organization.

Most hospitals have a rule calling for the retirement of members of the visiting staff at a certain age. It is usually lower for surgeons than for physicians, although in at least one instance the reverse is true. In a considerable number of institutions the age limit is the same for all attendings. In no institution is the age limit lower than 60 nor higher than 69 for both groups of attendings.

With regard to frequency of rounds there is no general rule for any type of hospital organization, although in a large number of private general hospitals the assistant attendings are required to make complete daily rounds, and in 37 hospitals even the chief of service is required to make visits daily.

In only one hospital is the responsibility for inspection of the ward supplies and materials placed on the chief visiting, and in one other hospital this responsibility devolves on a special committee of the medical board. In most institutions this is considered the duty either of the superintendent or of the supervising nurse.

[1] See "New York Dispensaries—Medical Organization." Published in *Modern Hospital*, April–June, 1920.

II. Efficiency Tests.

Although the better hospitals, and particularly the teaching hospitals, have always been interested in the checking up of their diagnoses and the results of therapeutic procedures, a regular and well-defined method for checking up results is the product of the last ten years of hospital development. One of the first physicians in this country to institute an end-result system and publish his findings was Dr. E. A. Codman of Boston.[1] Since that time the idea has been taken up by many others. The practice of an end-result inquiry in every case improves the record-taking and redounds to the benefit of the patient and to medical science. The patients derive great benefit from a periodic examination when they are examined by physicians on return visits and not merely quizzed by nurses or social workers. Moreover, the surgeons and physicians are thus afforded an opportunity to analyze their successes and failures and to determine the causes of failures and whether these were controllable or preventable. Recently published reports of some of the end-results in certain conditions have thrown an interesting light on a number of surgical procedures.[2]

The American College of Surgeons has done a great deal to promote the self-analysis of hospitals as well as many other desirable administrative and scientific procedures. The minimum standard as promulgated in 1918 by the College includes the following five fundamental requirements:

(1) that the hospital should have an organized staff with definite rules for the guidance of its work;

[1] *A Study in Hospital Efficiency as Demonstrated by the Case Report of the First Two Years of a Private Hospital.* Boston, May 10, 1914.

[2] See Dr. Eugene H. Pool, *The Analysis of End-Results*, Bulletin, American College of Surgeons, January, 1923, No. 2.

(2) that the staff should be restricted to physicians and surgeons who are competent in their respective fields and worthy in character and in matters of professional ethics;

(3) that staff meetings should be held at least once a month and that at these meetings a review should be made of the clinical experience of the staff in the various departments of the hospital and analyses made of hospital results. Particular stress is laid on the analyses of casualties, including deaths, infections, complications and the unimproved cases;

(4) that accurate and complete case records should be kept for all patients free of charge and that these records should be filed in an accessible place; and

(5) that clinical laboratory facilities be available for the study, diagnosis and treatment of patients, these facilities to include at least chemical, bacteriological, serological, histological, radiographic and fluoroscopic services in charge of trained technicians.

The great majority of the hospitals of New York City are on the approved list of the College but the extent to which these minimum standards are enforced varies considerably. In many instances the monthly meetings are mere clinical discussions of interesting cases and are not a review of the cases in the "calamity book" as it has been called. The attendance at these meetings in some of the hospitals is far from one hundred percent, and in many institutions the members of the courtesy staff are not required to attend even if they have had casualties in the hospital during the preceding month. It is the exception rather than the rule for members of the courtesy staff to report their cases. Hitherto the review staff meetings have been chiefly concerned with surgical cases, but it is highly desirable that the accounting methods be intro-

duced as a matter of routine for the medical service as well. The procedure in this respect would be very similar to that in the case of surgery, namely, a statistical report of the types of cases treated and the complications, a review of the gravest cases and of the deaths with the autopsy findings summarized a discussion of gross errors in diagnosis, an account of the overstays in diagnosis cases, in prolonged treatment cases, and the end-results in certain types of cases on which there was a follow-up.

Properly kept records are the first prerequisite of an efficiency accounting system. Records serve the fourfold purpose of assisting in the proper management of the case, in serving as a basis for contributions to medical science, for checking up and teaching interns, and for supplying legal evidence in court. The study of records and record rooms revealed a lack of uniformity in nomenclature, in precision and completeness of statement, in the filing systems employed, and the competence of clerks as well as in physical facilities for consulting records.

Not all hospitals have the ambition to carry on their work on a scientific basis, and neither the staff nor the clerical personnel are accustomed to or have the desire to record the procedures in great minutiæ; in some instances this is due to there being insufficient appropriations for the work. Such institutions should frankly recognize their limitations and adjust their record forms to a minimum basis. It is much more desirable to have an abbreviated record filled out properly than to have large volumes of costly paper forms with observations incompletely recorded.

III. Control of Interns

With the increase in the number of hospitals the demand for interns has become more acute and hospitals desiring

to obtain a sufficient house staff must needs pay more attention to giving adequate training and supervision to their interns. In some states where an internship is required for the M.D. degree or for licensure, the appropriate public board designates the hospitals which are approved for intern training. The American Medical Association publishes annually a list of hospitals in the United States which meet the Association's standards for the training of interns. This classification not only stimulates hospitals to adopt higher standards but creates an incentive for teaching and better control of the work performed. One method of control is through the agency of the case record.

In the Massachusetts General Hospital special carbon copies of the records are made, and the interns upon leaving the hospital receive complete sets of the records of cases with which they were concerned while in the hospital. This stimulates the efforts for precision and completeness.

In the Cook County Hospital in Chicago a method of supervision was instituted twelve years ago by the County Civil Service Commission which is said to have worked very well. It was continued until 1917 when it was given up on account of the war and not re-introduced. It was found that the traditions established as a result of the system were being continued and the records were very satisfactory; it was therefore not considered necessary to reinstate the former efficiency system. Under this system ten records from each service were selected by the librarian each month, all these were records of patients who had been discharged from the hospital during this period. A committee consisting of physicians who were not members of the staff went over these records and filled in their report on a properly prepared blank. The marking was based on the completeness with which

the various parts of the history were filled out. In addition to this, the service was marked on the percentage of autopsies secured. These marks on each of these various services and the final average were posted each month at the County Hospital. The method is credited with having produced most satisfactory results and histories became uniform throughout the institution.

In 1920 there was established an efficiency system at St. Luke's Hospital in Chicago which is as follows: The efficiency committee is a standing committee of the staff and consists of five members appointed one from each department. The Committee meets one evening a month at the hospital; and for this meeting the filing clerk assembles five histories from each service, and to each man is assigned one or more services to correct. In order to make the markings fair, they rotate the service which each man on the committee marks, which means that each man in the course of four months or so has an opportunity to mark each service. The chairman of the efficiency committee prepares a final report on the basis of these markings, which he reads at the monthly meeting of the staff. This is then posted in the staff room where it remains during the month, so that the staff or the intern body may become familiar with their shortcomings and make an effort to correct them.

As a result of this system of control, records are reported as having become uniform and the interns feel their responsibility for proper recording. These efficiency records are used as a basis for promotion of interns. They have a six months' rotating intern service at the hospital, and the selection of service at the time of the change is based upon the efficiency record of the intern. The junior intern writes the history, and therefore he is marked on this point alone. The senior intern is responsible

for progress notes, physical examination and description of operations. His monthly marks, therefore, are based on these subjects.

In addition to these marks the intern also receives a mark every three months from two or more of the attendings on service—the senior or one or more of the junior attendings. The average of the attendings' markings, plus the average of the six months' mark on the record, determines his final standing. This method for the rotation of interns is said to have developed a fine spirit among the intern body, because each man feels that his promotion depends upon what he has done rather than the question of influence. The present survey did not disclose any similar systematic method of supervision of interns in New York hospitals.

In the great majority of general hospitals the intern service is mixed, *e.g.*, it is divided into several periods during each of which the intern serves in one of the services of the hospital. The majority of special hospitals have a straight service, the duration of which is usually shorter than in the general hospitals. It is difficult to summarize the arrangement of the services in the hospitals having various periods of intern service, and, even in those which have the same period of service, the division of work is adapted to suit the special need of the institution. In most of the hospitals, however, the services are mixed, and the interns are required to do a certain amount of work in the medical, surgical and laboratory services of the hospital. In some hospitals interns expressing a preference for certain types of service are kept on that service for longer periods of time, and frequently arrangements are made so that this service comes at the end of the term of service. In other institutions specialization is provided for after the completion of the regular internship.

In the 41 hospitals for which information was obtained, the length of service is as follows: 11 hospitals have a one year service; 2, one to two years; 5, twelve to eighteen months; 2, one and a half to two years; 2, twenty months; 1, twenty-one months to two years; 15, two years; 1 requires twenty-six months, and two others require fifteen and sixteen months respectively.

In many of the better hospitals the appointments to the internships are on the basis of a competitive examination. In other hospitals admission is based on credentials.

With the increase in the standards of medical schools and the limitation of students to the available facilities, the annual number of graduates in medicine is not sufficient to fill the vacancies in all the hospitals. The smaller institutions, or institutions where sufficient opportunity for training interns is not given, experience considerable difficulty in obtaining interns. These difficulties are likely to increase in the future, and suggestions have already appeared in current hospital literature for meeting the situation by substitutes of one kind or another.[1]

Organized Teaching

(*a*) *Undergraduate Instruction.*

While it is true that all hospitals afford opportunities for the teaching of the various professional groups, organized medical teaching is limited to a comparatively small number of institutions. So far as undergraduate medical education is concerned, there are two medical schools which are organically connected with hospitals, namely, the Long Island College, connected with the hospital of

[1] See "The Rôle of Non-Medical Clinical Assistants in Hospitals without Interns," by S. S. Goldwater, M. D., Director, and E. M. Bluestone, M. D., Assistant Director, Mount Sinai Hospital, New York, *Modern Hospital*, June, 1923.

the same name, and the New York Homeopathic College, connected with Flower Hospital. The other three medical schools do not stand in the same relation to the hospitals which they use for teaching purposes as the above named institutions, although plans are under way for bringing together the College of Physicians and Surgeons and Presbyterian Hospital under the same roof.

At the present time, the teaching of medical students of the College of Physicians and Surgeons is carried on at the First Division of Bellevue Hospital where medicine, surgery, tuberculosis and pediatrics are taught, and at the Presbyterian Hospital; instruction in obstetrics and gynecology is given at the Sloane Hospital; in ophthalmology at the Knapp Memorial; in orthopedics at the New York Orthopedic, and in general ambulatory work at Vanderbilt Clinic.

The Cornell Medical School uses the Second Division of Bellevue for medical and surgical teaching as well as one of the divisions of the New York Hospital. The other hospitals associated with Cornell for instruction in specialties are the Nursery and Child's Hospital, Memorial Hospital, and Woman's Hospital. The faculty of the Cornell Medical School assumes responsibility for the Neurological Service and half of the Obstetrical Service at Bellevue Hospital, just as the faculty of the College of Physicians and Surgeons is responsible for the Pediatric and Tuberculosis Services. An out-patient service is maintained at the college building, and for the last two years it has been operated as a "pay clinic." The clientele is limited to those who can pay more than the fees ordinarily charged by dispensaries, but whose income is such as not to enable them to command the private services of specialists. It is still in the experi-

mental stage. The last report of the Clinic states that both the quantity and quality of the material at the Clinic have improved and that there is less administrative difficulty in connection with the teaching than formerly.

The New York University Medical College is responsible for the management of the Third Bellevue Division with the special Services of Orthopedics, Gynecology, and one-half of the Obstetrical Service. It likewise has other hospital associations for the teaching of specialties. The College maintains its own out-patient department at the school building.

All of the schools have additional facilities in hospitals where the regular college staff and clinical professors are on duty as attending physicians and surgeons.

(*b*) *Post-graduate Teaching.*

Until recently, no effort at organization of graduate teaching had been made in this City aside from the courses at the Post-Graduate and Polyclinic hospitals and several of the special hospitals, although unorganized teaching has been going on since the establishment of hospitals. Prior to the war, many physicians were in the habit of visiting clinics in the large medical centers of the world. Since the war and the consequent disruption of some of the medical teaching abroad, more thought has been given to the utilization of the enormous medical resources and opportunities in this and other American cities. In addition to the Post-Graduate Hospital in New York City where courses of varying length are offered in many of the branches of medicine and surgery, courses of intensive study and training are now being established in other general hospitals. Such a course has been organized at Mount Sinai Hospital under the auspices of the College of Physicians and Surgeons. A joint committee of the Long Island Col-

lege Hospital and of the Medical Society of the County of Kings has arranged a series of post-graduate courses.[1]

In 1920, an association known as the New York Association for Medical Education was established with a view of bringing together the existing opportunities for the organization of graduate medical teaching on a large and adequate scale. In the three bulletins which the Association published, the plans for developing courses in Ophthalmology, Oto-larynology, Roentgenology, and Orthopedics, have been outlined. The work, however, has not progressed beyond the initial stage, and has recently been taken over by the Committee on Medical Education of the New York Academy of Medicine.

In order to facilitate attendance at clinics held in various hospitals, the Society for Advancement of Clinical Study has been established, which likewise has become a part of the New York Academy of Medicine. The announcements of clinics held daily are sent to members and posted on the bulletin board at the Academy for the information of any who may be interested.

The special hospitals have for many years been giving courses in post-graduate training in their respective specialties. The Knapp Memorial Hospital has been offering a course in Ophthalmology; the New York Ophthalmic Hospital has been conducting courses in the same specialty; the Manhattan Eye, Ear and Throat Hospital and the New York Eye and Ear Infirmary offer courses in the respective fields, and the same applies to several other special hospitals.

Graduate medical education in New York City in the past has been desultory and disconnected, and the existing opportunities have not been properly utilized. It is a field of productive endeavor for the immediate future.

[1] The Long Island College Hospital likewise gives a post-graduate summer course. A summer course has also been announced at the Presbyterian Hospital.

CHAPTER VII

THE NURSING SITUATION

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I. The Training of Nurses in New York City

Nurse Training Schools.

IN the City of New York there are 59 hospitals in which nurses are trained; 53 of them are registered training schools, and 6 accredited for training nurses in their respective specialties in affiliation with other hospitals. Many of these schools have affiliations with out-of-town hospitals, and are thus responsible for much of the nurse training outside of the city and state.

Information has been secured from all of the hospitals with training schools regarding the number of nurses, hours of work, distribution of the work by services, number of supervisors, practical and theoretical education of students, living quarters, cash allowances, vacations, etc. Not all of this information has been definite enough to make possible complete tabular presentation.

In all of these schools the rules and regulations laid down by the University of the State of New York are followed in principle, but with a rather wide range of individual variation as is pointed out elsewhere in this chapter.

Secondary Training Schools.

Even prior to the enactment of the law of 1920 recognizing trained nurse attendants, several hospitals, confronted with the difficulty of obtaining pupil nurses, began the training of attendants to aid in the care of the sick. Among the first to begin this innovation were some of the institutions in the Department of Public Welfare. The superintendent of the training schools in the Department considered it inadvisable to train the new group of women in the same hospitals in which nurses were trained for a period of two and a half years, and arrangements were therefore made to give them instruction in institutions not having training schools, such as the Central Neurological, the institutions for the feebleminded on Randall's Island, Sea View Hospital, and Greenpoint Hospital.

In October, 1919, the Bethany Deaconess Hospital in Brooklyn organized a one year's course for the same purpose. Since the passage of the enabling act, several other hospitals have begun the training of nurse attendants. Among these are St. Peter's in Brooklyn, New York Infirmary for Women and Children, Booth Memorial Hospital and Richmond Memorial Hospital, S. I.

A course in the nursing of infants was established at the Babies' Hospital many years ago; a similar course is also given by the Brooklyn Nursery and Infants' Hospital. In both institutions the course covers a period of nine months. In the latter hospital six months are spent in the hospital, one in the nursery, one in the quarantine building, and one in a private family. Pupils receive maintenance and a monthly allowance of $10.00.

The Young Women's Christian Association has for a number of years maintained in connection with the Bal-

lard School a three months' course of instruction in practical nursing and the care of convalescent patients. The teaching at the school is supplemented by practical experience in dispensary clinics. For those who wish to qualify as registered trained attendants a six months' affiliation with Lawrence Hospital in Bronxville is arranged.

The law as enacted in 1920 provides that no woman shall be registered as a trained attendant if she is less than 19 years of age, has not had a complete grammar school education and if she does not hold a certificate of graduation from a course of at least nine months' training by a school, association, hospital or sanatorium approved and registered by the Regents of the University of the State of New York.

The rules published by the Board contain a statement to the effect that in planning the curricula for schools for trained attendants, it should be borne in mind that these women are to be prepared for personal attendance during a period of convalescence, in cases of minor or chronic illness, for household duties such as the preparation of meals and caring for children, and that their training is not intended to prepare them to care for cases of acute illness, although in such cases they may be called on to render assistance to the registered nurse.

The services which are considered by the Board as peculiarly adapted for this experience are found in hospitals for chronics and convalescents, in sanatoria for tuberculous and neurological patients, in infirmaries, orphans' homes, and day nurseries.

A registered school for nurses may conduct a registered school for attendants only when it is able to provide adequate clinical material for its student nurses in all required services and has a daily average of not less than 200 patients, excluding dispensary cases. With regard to ad-

ministration, the rules provide that each school must have a competent assistant principal who is to be a duly registered nurse and that the number of registered nurses must be sufficient to direct and supervise attendants in training. In institutions where both nurses and attendants are trained, separate living quarters for the attendants are to be provided, and attendants must wear uniforms distinguishing them from the pupil nurses.

II. Standards for Nurse Training Schools

In order that a training school may be registered with the Board of Regents, certain definite requirements which are recognized as a minimum must be met. These are as follows:

1. The hospital must be incorporated;
2. The school of nursing must be connected with a hospital (or sanatorium) having not less than fifty beds and a daily average of not less than thirty patients;
3. Each bed must meet the requirements of the State Board of Charities as to air space;
4. The hospital must provide experience in the following services: medical, surgical, pediatric and obstetrical;
   Schools of nursing connected with hospitals not providing adequate opportunity for experience in all these departments must become affiliated with institutions approved as giving such service;
5. The faculty must include a superintendent and three or more assistants, one of whom shall be in charge at night, and a staff of paid lecturers and instructors;
6. The principal of the school, her assistants and all graduates holding permanent positions in the school must be registered nurses, graduates of recognized schools.
   In addition to these requirements, adequate living conditions for the student nurse are specified.

Schools of nursing registered by the Board of Regents are required to provide instruction, theoretical and practical, in the various branches; a certain number of hours is recommended as the minimum time for these studies. This specified time is, however, not mandatory, and is difficult of enforcement. A representative of the educational department visits the training schools at stated intervals.

The schools are required to provide for a preliminary course of instruction of not less than four months. The schedule as outlined provides for two hours or more of theory daily and from four to six hours in the wards or other departments for demonstration and instruction in household and hospital economics and nursing technique. The requirements further specify that institutions unable to provide properly equipped laboratories for instruction in bacteriology, chemistry, dietetics, drugs, etc., should arrange for such courses in some college or technical school in the vicinity. Experience must be given in the different services specified in the Regents' rules, together with lectures, clinical instruction at the bedside and recitations in conjunction with the services as outlined in the schedule and for a term not less than that specified in the "Division of Service" as given below. The question of accepting as adequate the experience in the different services offered by any institution will be determined by the construction, arrangement, equipment and administration of the departments, the clinical material, and the teaching force.

In order that the pupils may have time for rest, recreation and study, the hours on duty should not exceed 56 a week, except in emergencies, and when possible the number of hours should be not more than 48 in one week. It is intended that hours of class-work shall be included in the hours of duty.

Institutions giving a three years' course should provide

the additional experience in at least two of the special services as outlined in "The Division of Service for the three years' course." They should also provide instruction in at least two of the "electives" recommended in the syllabus.

Schools of nursing may not place their pupils on private cases outside the hospital until they have completed their second year, nor for a period exceeding three months during the course. Schools maintaining a three years' course and wishing to provide experience in private or public health nursing may do so for a period not exceeding three months in the third year.

The following are the divisions of service for practical instruction prescribed by the University of the State of New York.

DIVISION OF SERVICE FOR TWO YEARS' COURSE

	Months		*Months*
Preliminary	4	Operating Room	2
Medical	5	or	
Surgical	4	Operating Room	1
Infants and children	3	and	
(to include infant feeding)		Dispensary	1
Diet Kitchen	1	(to be divided as outlined)	
Maternity	3	Vacation	2
		Total	24

Private patient service to be included in the above and not to exceed 2 months. Night duty to be included in the above services, not to exceed 4 months.

DIVISION OF SERVICE FOR THE 2-YEAR AND 4 MONTHS COURSE

	Months		*Months*
Preliminary	4	Operating Room	2
Medical	5	Dispensary	1
Surgical	4	(to be divided as outlined)	
Infants and children	3	Diet kitchen	1
(to include infant feeding)		Either mental or nervous or	
Maternity	3	contagious	3
		Vacation	2

Private patient service to be included in the above and not to exceed 2 months. Night duty to be included in the above, not to exceed 4 months.

DIVISION OF SERVICE FOR 3 YEARS' COURSE

	Months		*Months*
Preliminary course	4	Obstetrics	3
Medical	5	Operating room	2
Surgical	4	Dispensary	1
Infants and children (including infant feeding)	3	(to be divided as outlined)	
		Diet kitchen	1
Tuberculosis	1	Public health	4
Mental and nervous diseases	3	Vacation	3
Contagious	2		

Private patients to be included in the above and such service not to exceed 2 months. Night duty to be included in the above, not to exceed 6 months.

GENERAL SCHEME OF THEORETICAL INSTRUCTION FOR 2-YEAR AND 2-YEAR AND 4-MONTHS COURSE

FIRST YEAR (PREPARATORY)

1st Semester

	Hours
Anatomy and Physiology	48
Bacteriology	16
Personal hygiene	8
Chemistry	16
Nutrition and cookery	24
Hospital housekeeping	8
Drugs and solutions	16
Elementary nursing (including bandaging)	64
Historical, ethical and social basis of nursing	8
	208—about 12 hours weekly

2d Semester

	Hours
Elements of pathology (including urinalysis)	8
Advanced nursing (including elementary massage)	32
Materia medica and therapeutics	16
Diet in disease	8
Ethics	8
	72—about 5 hours weekly

Recommended

Elements of psychology	8

SECOND OR JUNIOR YEAR

1st Semester

	Hours
Nursing in general medical diseases	16
Nursing in general surgical diseases	16
Nursing in diseases of children (including orthopedics and infant feeding)	16
Gynecological nursing	8
	56—3½ hours weekly

Recommended

Massage	8

2d Semester

	Hours
Nursing in communicable diseases	8
Public sanitation	8
Operating room technique	8
Obstetrical nursing	16
Eye, ear, nose and throat, nursing in diseases of	8
Nervous and mental diseases, nursing in	16
	64—4 hours weekly

Recommended

Hydrotherapy	8

GENERAL SCHEME OF THEORETICAL INSTRUCTION FOR 3 YEARS' COURSE

FIRST YEAR (PREPARATORY)

1st Semester

	Hours
Anatomy and physiology	48
Bacteriology	16
Personal hygiene	8
Chemistry	16
Nutrition and cookery	24
Hospital housekeeping	8
Drugs and solutions	16
Elementary nursing (including bandaging)	64
Historical, ethical and social basis of nursing	8
	208—about 12 hours weekly

2d Semester

	Hours
Elements of pathology (including urinalysis)	8
Advanced nursing (including elementary massage)	32
Materia medica and therapeutics	16
Diet in disease	8
Ethics	8
	72—about 5 hours weekly
Recommended	
Elements of psychology	8

SECOND OR JUNIOR YEAR

1st Semester

	Hours
Nursing in general medical diseases	16
Nursing in general surgical diseases	16
Nursing in diseases of children (including orthopedics and infant feeding)	16
	48—3 hours weekly
Recommended	
Massage	8

2d Semester

	Hours
Nursing in communicable diseases	8
Gynecological nursing	8
Operating room technique	8
Obstetrical nursing	16
Eye, ear, nose, and throat, nursing in diseases of	8
Public sanitation	8
	56—3½ hours weekly

Recommended

Hydrotherapy	8

THIRD OR SENIOR YEAR

1st Semester

	Hours
Nervous and mental diseases, nursing in	16
Occupational, skin and venereal diseases, nursing in	8
Emergency nursing and first aid	8
	32—2 hours weekly

Recommended

Occupation therapy—special therapeutics	16

2d Semester

	Hours
Professional problems	8
Electives from the following:	
Introduction to public health nursing	8–16
Introduction to private nursing	8
Introduction to institutional work	8
Laboratory technique	8

Recommended

Modern social conditions	8

There is so little uniformity among the schools in arranging their work as to make difficult a comparative study of the extent to which they conform to or deviate from the rules laid down by the Board of Regents. In

many instances no schedules of the division of the teaching were available. Evidently it is very often carried out haphazardly and is adapted to the exigencies of the service. This may perhaps account for the high percentage of failures at the licensing examinations, as the following statistics obtained from the State Board of Nurse Examiners indicate:

Year	*Number of candidates Examined*	*Number Passed*	*Number Failed*	*Percentage of Failures*
1917.....	1582	1348	234	14.8
1918.....	1989	1535	454	22.8
1919.....	1176	1006	170	16.9
1920.....	1029	904	125	12.2
1921.....	919	849	70	7.6
1922.....	987	892	95	9.6

The large proportion of failures in the year 1918 is reported as having been largely due to the fact that very many nurses who wished to enroll in the nursing service of the Red Cross took the examinations and that many of these nurses had been out of training for some years. The examinations, therefore, were much more difficult for them than for the more recent graduates. The fact that the proportion of failures shows a considerable decrease in 1921 and 1922 may, perhaps, be an indication of an improvement in teaching methods.

III. Prevailing Requirements and Practices

Affiliations.

A number of hospitals with training schools do not maintain obstetrical or pediatric services and accordingly make arrangements with other institutions for the re-

quired instruction of their students in these branches. Many of the special as well as the general hospitals without training schools have established such affiliations which have proven to be mutually advantageous.

The New York Nursery and Child's Hospital takes pupil nurses from eight out-of-town schools for three months' training in pediatrics, and from seven out-of-town schools for three months' training in obstetrical nursing; in addition, it also gives a combined six months' course in pediatrics and obstetrics to pupils from three out-of-town hospitals. Five New York hospitals—the Post-Graduate, Presbyterian, Roosevelt, St. Luke's and Knickerbocker also send their students to the New York Nursery and Child's Hospital for the combined six months' course in pediatrics and obstetrics.

The Sloane Hospital has affiliations with six of the New York hospitals—the Roosevelt, Mt. Sinai, St. Luke's, New York, Post-Graduate and Presbyterian—each one sending three students at a time for a three months' period of training.

The Manhattan Maternity Hospital takes students from twelve other hospitals and the duration of the course is three months, except in three instances in which it is four months. Four of the twelve affiliated hospitals are New York institutions—Mt. Sinai, New York, Presbyterian and French hospitals.

The Lying-In Hospital has affiliations with fifteen hospitals, of which six are New York institutions—Lenox Hill, New York, Post-Graduate, St. Vincent's, St. Mary's Free, and the Skin and Cancer Hospital.

Bellevue and Allied Hospitals offer training to a large number of out-of-town hospitals. Fordham is affiliated with ten hospitals. Harlem Hospital has affiliations with twelve out-of-town institutions, two of them in Vermont

and one in Ontario. Gouverneur Hospital is affiliated with two out-of-town hospitals. There are a few additional hospitals which offer post-graduate training.

Age Limits.

In eighteen institutions the entrance age is as low as 18 years, which is the minimum age for registration in a nurse training school according to the requirements of the Board of Regents of the Unive sity of the State of New York. In several other institutions no applicant is admitted under 19, and in a few instances not before she is 21 years old. Almost without exception women above 35 years of age are not admitted as student nurses.

All the hospitals require a preliminary education of at least one year of high school for admission to the training schools. In Presbyterian and St. Luke's a complete high school course is required. In some of the smaller schools, however, where a laxity in interpreting the legal requirement has sometimes prevailed, students have been enrolled without having been accepted by the Board of Regents. In one or two instances the registration of the training school was endangered by this practice.

Length of Course.

The great majority of schools have a training course of two and a half or three years, the minimum requirement of the State being two years. Jamaica Hospital gives the shortest course, *i.e.*, two years and two months; seven schools have two years and three months; 23 schools have two and a half years; one school, Bellevue, has a course of two years and nine months; and 20 schools have a full three years' course.

Mt. Sinai and Presbyterian Hospitals make provision for a two years and three months' course for college gradu-

ates; Post-Graduate, two years, and St. Luke's two and a half years if the college graduate has a Bachelor of Science degree.

St. Luke's and Presbyterian Hospitals have affiliations with Teachers' College at Columbia University whereby high school graduates may take a combined five years' college and hospital training course leading to the degree of Bachelor of Science. Under this plan the first two years are spent entirely at the college, the next two years very largely in practical work at the hospitals and the last year is chiefly spent at the college in special training for positions as instructors, executives, public health workers, and industrial nurses.

The Working Hours of the Pupil Nurse.

Ten hours is the daily average of work in connection with training. In seven instances it averages 9 hours; in one instance, 9½ hours; in two instances, 8½ hours, and in seven instances, 8 hours. Even where the eight hour day prevails, there is no arrangement for three shifts of equal duration, except in one or two institutions. One hospital reported the following arrangement: all day nurses report for duty at 7 A.M. Some of these go off duty at 11 A.M. and return at 3.30 to remain until 7 P.M.; the others remain on duty from 7 to 3.30 when they are relieved by those who went off duty at 11. This means that from 7 to 11 A.M. the entire staff of nurses is on duty, but that from 11 A.M. to 7 P.M. only a part of the staff is on duty. The night nurses are on duty from 7 P.M. to 7 A.M., but are relieved for two hours during the night.

At Mt. Sinai the night shift is on duty from 9 P.M. to 7 A.M. This plan was introduced at the request of the pupil nurses themselves, and the two extra hours

on night duty are compensated for by an equivalent number of hours off duty at the end of the period of night work. In the hospitals where the average number of hours is 9 or 10, there are only two shifts of 12 hours each, and nurses are allowed two or three hours off duty during that time. During their period of absence from the wards, the work is done by the other nurses on duty or, in some instances, provision is made for special substitute nurses. The annual vacation varies from two to four weeks.

Cash Allowances to Pupil Nurses.

Most of the training schools give the pupils a monetary allowance as well as uniforms and text-books. In some instances shoes are also provided. The allowance varies from $5.00 a month in two of the schools to $25.00 in five institutions, and is as high as $35.00 in the Broad Street Hospital. In some of the schools the allowance is the same throughout the course while in others it increases with the advance in study.

As to the wisdom of the policy of payment there is a great difference of opinion among the superintendents of the training schools. Some feel that a monetary allowance commercializes the training and is, therefore, undesirable, while others feel that it is an essential inducement in many instances to desirable applicants.

It is of interest to note in this connection that the two hospitals which require a complete high school course and charge an admission fee ($70.00 at Presbyterian and $25.00 at St. Luke's) do not grant allowances to their pupil nurses and have not felt the nurse shortage very acutely. Presbyterian Hospital has not suffered materially, except that after the signing of the armistice many of the students in the junior class left. For this reason, during the following two years, the intermediate

and senior classes have somewhat decreased in size. During the period in which the intermediate and senior classes were below normal Presbyterian Hospital had to employ graduate nurses to make up the deficiency and, as a result, an additional $13,000.00 was used for this purpose. Likewise the amount spent for private nursing in the same hospital was about one-third greater in 1920 than in 1919.

At St. Luke's Hospital the shortage is likewise reported as not having affected the institution to any great extent. Until recently the hospital had affiliation with the Army Hospital Schools and received fourteen student nurses at a time for three months' training. Several students are received from St. Mary's Hospital for Children; graduates from other schools come to the hospital for post-graduate special training and are known as "additional experience nurses." The Presbyterian Hospital has at all times a similar group, many of them from foreign countries.

Bonus to Each Graduating Nurse.

The Wyckoff Heights Hospital has introduced the awarding of a bonus. A sum of $300.00 is to be given to every nurse at the end of her course "so that she may have something to start in the world with." Flushing Hospital gives a cash bonus of $50.00 on the successful completion of the course.

IV. Theoretical Instruction in Registered Schools

The greatest amount of class work was reported at the Post-Graduate, Kings County, Presbyterian, Mt. Sinai, Lenox Hill, Bellevue and French hospitals and the lowest amount of theoretical instruction at Misericordia.

In the municipal group, Bellevue reported 60 hours in anatomy and physiology; City Hospital, 60, and Kings County a total of 80 hours in this subject. In bacteriology, Bellevue reported 24 hours; City, 20 in the preparatory term and 12 hours in combination with pathology in the senior year; Kings County Hospital gives 16 hours to this subject with clinical pathology in the preparatory course and 20 hours for these two subjects in combination in the junior year. In chemistry Bellevue gives 24 hours; City, 30 hours and Kings County 20 hours. Bellevue gives 34 hours to dietetics and cookery; City, 40 hours, and Kings County 76 hours.

Mt. Sinai gives 60 hours to anatomy and physiology, Presbyterian, 66 hours and Post-Graduate, 75 hours.

To bacteriology Mt. Sinai gives 20 hours, Presbyterian 16 hours and Post-Graduate 30 hours.

For chemistry Mt. Sinai and Presbyterian assign 20 hours and Post-Graduate 30 hours.

In cooking and dietetics Mt. Sinai gives 45 hours, Presbyterian 70, and Post-Graduate 75 hours.

The Jewish Hospital, St. Catharine's and St. Mary's in Brooklyn were reported as following the prescribed curriculum. Brooklyn and Long Island College Hospitals give more time to these subjects than is required by the Regents. Long Island College gives 60 and 30 hours to chemistry and bacteriology respectively, most of the theoretical work being given by the college professors, the college class-rooms and laboratories being available for the nurses.

Kings County Hospital devotes 70 hours to a combined course in materia medica and drugs and solutions; Post-Graduate 60, Staten Island 30; Misericordia 22 and most of the other larger institutions 36.

Post-Graduate Hospital gives a total of 150 hours to

elementary and advanced nursing; Kings County 144; Mt. Sinai 132. Carson Peck gives the shortest instruction in this branch.

The time devoted to hygiene and pathology is difficult to estimate, owing to the fact that some training schools group these with other allied branches, as hygiene and household economy, pathology and bacteriology. A comparison, therefore, is impossible.

For operating room technique, gynecology, diseases of the special senses, and communicable diseases eight hours are given in most of the training school schedules, although Kings County reports from 10 to 12 hours and Presbyterian 10 hours for these subjects. Mt. Sinai gives 45 hours to operating room instruction.

From the foregoing account it is evident that while some training schools barely meet the minimum requirements for theoretical instruction, many far exceed them.

V. Practical Instruction in Registered Schools

Municipal Hospitals.

Bellevue with two years and nine months training follows the prescribed requirements very closely. The City and the Metropolitan Hospitals with two and a half years' training give four months to obstetrics, while Cumberland Street with the same length of training course, gives six months of the pupil nurse's time to the obstetrical service. As to the time devoted to the medical and surgical wards, Cumberland Street Hospital divides the time equally between the two, giving five months to each service. At the City Hospital five months are given to the surgical and six months to the medical services. At the Metropolitan Hospital the pupil nurses work 290 days in the surgical service and 242 days in the medical.

A similar subdivision of time obtains at the Kings County Hospital.

Private Hospitals.

In the private hospitals the latitude in the apportionment of time as between the various services is greater than in the municipal hospitals. Brooklyn Hospital (three years' course) gives five months of obstetrical training and the Misericordia (also a three years' course) gives nine months in obstetrics.

Long Island College (three years) assigns the students for eight months to surgical and six months to medical wards. Broad Street (two and a half years) gives six months to operating room service. Prospect Heights (two and a half years) gives fifteen months to surgical and eight months to obstetrical work; the medical and pediatric services are two months each and in affiliation with other institutions. St. Mark's (three years) gives four months operating room experience, seven months to obstetrics and three months to the dispensary. The Community Hospital (two and a half years) gives eight months to surgery and nine months to obstetrics. St. John's, Brooklyn, (three years) gives six months to obstetrics and five months to the operating room. At the Staten Island Hospital six months of the three years' training are given to work in the private pavilion. At the Swedish Hospital in Brooklyn (two and a half years) twelve months are given to surgical service and four months in the operating room. Wyckoff Heights (three years) gives four months in the operating room, and six months in obstetrics.

This review indicates the extent to which latitude has prevailed in the education and training of nurses. Even within the limits of the plan of work as scheduled in various hospitals not all students receive the same amount of training

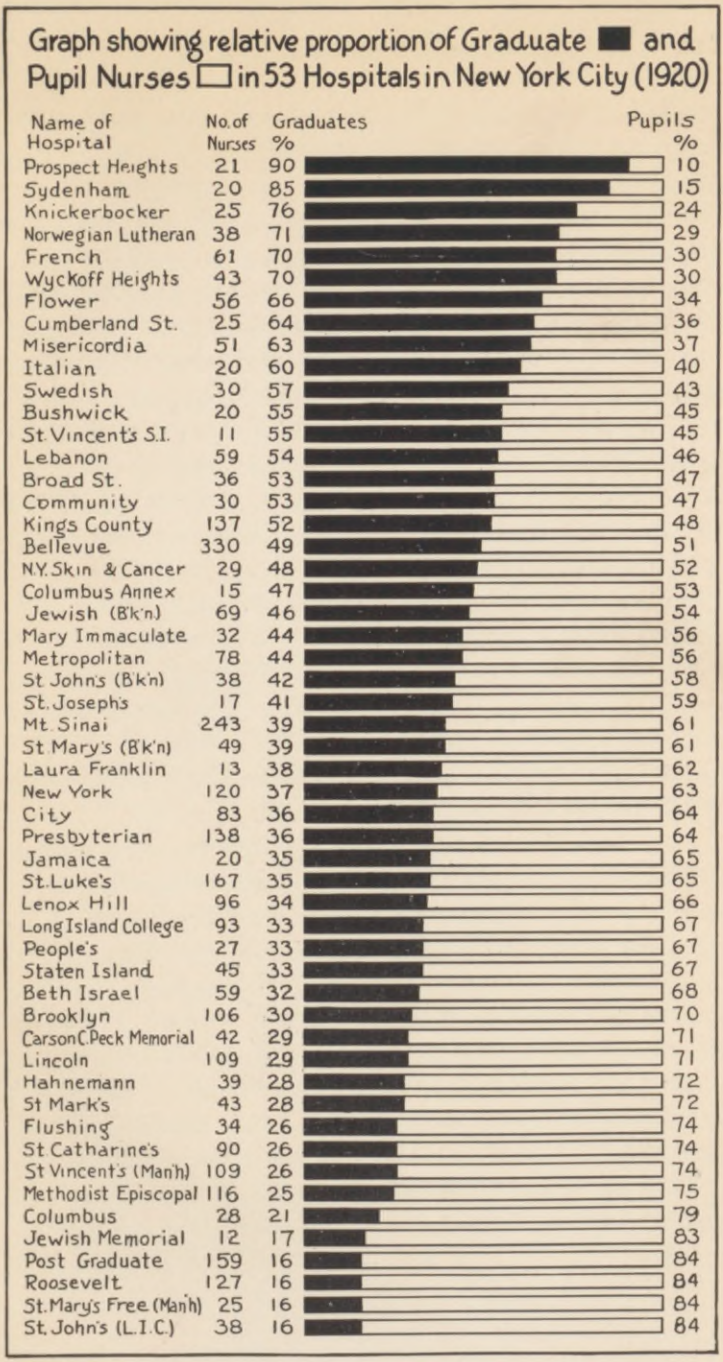
in a given subject. It is reported to be a frequent occurrence that those exhibiting particular aptitude in certain lines of work are kept at it for much longer periods of time than the training schedule provides. Others who show little skill in certain branches are relieved of that work very quickly. In this way some nurses often spend an unduly large portion of their training in one department, such as the operating room, for example, and fail to get an all-round experience. Many of the training schools are not educational institutions in the modern sense of the term. They are departments of hospitals charged with very important duties in the exercise of which training is afforded. It is the "earn-while-you-learn" system of education which in the old craft world was known as the apprenticeship system.

VI. Distribution of Nurses and Ward Help in Hospitals

The total number of women in nursing work in New York City hospitals having training schools or training affiliations was 4,270 in 1920. Of this number 1,556 or 36% were graduate nurses, 2,419 or 57% were pupil nurses and 295 or 7% were trained attendants, ward helpers and so-called "practical" nurses. This does not include special nurses engaged by private patients in the hospitals. The graph herewith reproduced indicates pictorially the extent to which the nursing work in the group of 53 hospitals is carried on by graduate and pupil nurses. The differences are striking: while 84% of the nursing staff of some hospitals consists of pupils, the number drops to only 10% in others; in the best institutions the percentage of pupils averages about 65%.

From 3% to 37% of the nursing staff in hospitals is used

Graph showing relative proportion of Graduate ■ and Pupil Nurses □ in 53 Hospitals in New York City (1920)



for teaching and supervisory work. Most of the training schools have about 15% of their staffs assigned to these duties. The large variation in the percentage of nurses engaged in "supervisory" work is due to the laxity with which this term is interpreted. The highest proportion of nurses in supervisory work is found in the smaller hospitals, where the total number of nurses is not very large and where the supervisory and bedside work often overlaps.

The percentage of nurses on bedside duty varied from 37.5% in one institution to 66% in another, and on bedside night duty from 7% to 28%. A study of the distribuion of the staff showed that Bellevue has 54% of its nurses on day bedside duty; Brooklyn 58%; Lenox Hill 54%; Mt. Sinai 51%; New York 54%; Post-Graduate 64%. The proportion of nurses on night duty was: 18% at Bellevue, 19% at Lenox Hill and Brooklyn; 16% at Mt. Sinai; 14% at New York and Presbyterian; and 15% at Post-Graduate.

There are variations in the proportion of graduate and pupil nurses assigned to the special services but in most cases only senior and intermediate pupils are given special assignments, particularly in the operating room.

The number of nurses per bed in the medical service is much lower in the municipal hospitals than in the private institutions. In the pediatric service there are great variations among the individual private hospitals.

Special nurses, trained attendants and "practical" nurses are used to supplement the work of the pupils and graduates on ward duty. The trained attendant has, on the whole, been found a satisfactory type of worker, but the use of the so-called "practical" nurse is discouraged by the Board of Regents. Special nurses engaged by private patients have not been included in the discussion of this chapter.

The proportion of graduate and pupil nurses in the operating room varies in the several institutions. In the year in which the study was made there were at Bellevue 9 graduates and 12 seniors on duty in the operating room; at Post-Graduate the ratio was 6 graduates to 4 seniors and one intermediate; at New York Hospital 5 graduates to 4 seniors and 4 intermediates; at Mt. Sinai 7 graduates to 7 seniors; at Lenox Hill 3 graduates, 2 seniors and 4 intermediates; and at Presbyterian 4 graduates to 7 seniors. Lebanon Hospital was the only training school in which junior nurses were reported to be assigned to the operating room. In 23 of the schools, pupil nurses were assigned to the diet kitchen; in 9 to social service; in 24 to the dispensary; and in 4 to the X-ray room.

Inquiry was made as to the extent to which the regular nurses are assigned to duty in the private pavilion. In some of the hospitals the bulk of the work in the private pavilion is done by special or private nurses, but in most of the institutions with training schools a certain number of nurses are assigned to duty in these pavilions.

Special nurses were not included in the distribution of the total number of nurses, as analyzed above, but an attempt was made to find out the average number of these nurses employed in twenty-four hours at the various hospitals. Roosevelt Hospital showed the largest proportion of special nurses; the next largest number in proportion to the number of beds was at Methodist Episcopal and Mt. Sinai hospitals. Post-Graduate and Lenox Hill hospitals also had a large proportion of special nurses.

Auxiliary Help Insufficient.

With the exception of some of the municipal hospitals, the amount of auxiliary help of all kinds in the wards of the hospitals is small, and practically all the responsi-

bility for the condition of the wards, except for the heavy manual labor, is placed upon the nurses.

In several institutions, notably Bellevue, Brooklyn, Lenox Hill, Metropolitan and the Jewish Hospital in Brooklyn, ward helpers are employed. This term is used to designate a type of help more skilled and more intelligent than the ward maid. These women relieve the nurses of many of their menial duties. They live outside the hospital and come for day work. At the Lenox Hill Hospital they are paid $60.00 per month; at Bellevue, $45.00 per month for three hours work daily; similar sums are paid at other hospitals. Officials at institutions where ward helpers are employed reported that the arrangement was very satisfactory. The system of ward helpers enables the nurses to spend more time in actual nursing service. The introduction of this type of helper and the nurse attendant may offset some of the effects of the nurse shortage experienced in the majority of the hospitals of the city.

Another type of nursing service which is used in a few of the hospitals, though the practice is discouraged by the Board of Regents, is the so-called "practical" nurse. This type of nurse usually has had some training in a hospital. The Community Hospital, St. Mary's in Brooklyn, and Bushwick Hospital were among the hospitals employing these nurses. In the last named hospital one-half of all the bedside nursing was done by these practical nurses at the time of the inquiry.

VII. Average Time Requirements Per Patient

In view of the fact that there are no standards as to the number of nurses needed in the various services of the hospitals,[1] and as the estimates given by

[1] In the last syllabus for the guidance of nurse training schools published by the University of the State of New York there is a requirement of an

training school superintendents vary considerably, a suggestion was made to some of the superintendents to gauge, by actual experiment, the time necessary for adequate nursing of an "average" patient in the various services. By an average patient was meant one not ill enough to require constant nursing and yet not well enough to be about.

Mt. Sinai was the first hospital which consented to make this study as suggested. Seven cases were selected and a description of them was published by Miss Greener, Superintendent of Nurses, in the January, 1921, issue of the *Modern Hospital.*

Time Periods for Actual Bedside Nursing.

The nursing hours given per patient at the Mt. Sinai Hospital in twenty-four hours ranged from three hours and thirty-two minutes for a six months' old child (a feeding case) to seven hours and fifty minutes for a six-year-old typhoid patient who died at the end of twenty-one hours. The average for the seven patients (including a male and a female medical, a male and a female surgical, and three pediatric cases) was 4 hours and 49 minutes per patient in twenty-four hours.

Nine other hospitals made similar studies; the number of cases in each hospital varied from one to five. Thirty-three cases in all were studied in the following hospitals: Bellevue, Beth Israel, Broad Street, French, Lincoln, Mt. Sinai, Post-Graduate, Presbyterian, St. Mary's for Children and St. Vincent's. It will be noted that in these studies every function of the nurses in attendance on the selected patient was timed.

The total nursing time used for the thirty-three selected patients was 167 hours and 48 minutes or an average of 5

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average of one nurse to five patients on day duty, and to ten patients on night duty. Bulletin 749, p. 22.

hours and 5 minutes was required to do the necessary nursing for an average patient. The longest time required was in the pediatric group. In this group the greatest amount of nursing in a 24 hour period (9 hours and 54 minutes) was required in the case of a three-year-old child on the forty-fourth day of a post-operative empyema. The lowest in this group was a post-operative lung abscess case which required 2 hours and 15 minutes. The average for the pediatric group was 5 hours and 39 minutes.

The variations in the men's and women's medical and surgical services were likewise considerable. The average for the surgical group was 4 hours and 39 minutes; for the medical group 4 hours and 57 minutes. Because of the comparatively small number of cases studied the averages are not conclusive. They do, nevertheless, furnish some sort of measuring rod for the nursing needs in the various hospitals, as well as a means of computing the existing nurse shortage.

There is some variation in the amount of time taken to perform the same service in the several hospitals. In giving the patient his morning bath and toilet the least time consumed was 20 minutes for a patient at St. Vincent's Hospital, and the greatest amount, 50 minutes for some patients at French and at Mt. Sinai hospitals. The average time spent varied from 28 minutes at Presbyterian Hospital to 45 minutes at Mt. Sinai. All such comparisons, however, must be made with reservations, first, because of the small number of cases studied and, second, because of the variations in facilities, degree of preparation of utensils, medicines, distance of utility rooms, etc.

In taking temperatures, pulse and respiration, 3 minutes was the usual amount of time required, though at Mt. Sinai and the French Hospital 8 minutes were required for this service in some cases, while in one instance at the

New York Hospital the time required was but 1 minute for this item of routine. Broad Street Hospital's average was 2 minutes for this service.

Time Required for Records.

An attempt has been made to figure the amount of time consumed by the nurses in charting the records. Bellevue's average was 15 minutes, St. Vincent's 14 minutes, and Presbyterian's 11 minutes per patient in twenty-four hours.

Peak Load of Nursing in the Morning.

One other fact is worthy of note. In studying the thirty-three cases, the nursing period was divided into three equal periods of eight hours, from 7 A.M. to 3 P.M., 3 P.M. to 11 P.M., and 11 P.M. to 7 A.M. In the first or morning period the average amount of nursing required was 2 hours and 23 minutes, in the second or afternoon period 1 hour and 36 minutes, and in the night period 1 hour and 6 minutes or less than half as much as was required for the day period. As Miss Greener pointed out in her study of the seven cases at Mt. Sinai, this varied demand presents a difficult problem in arranging nurses' work schedule, in three consecutive shifts of equal duration.

Nursing Time Seldom Adequate.

An analysis of the total bedside nursing hours given per bed and per patient in the various hospitals of the City showed that in very few institutions does the nursing time per patient approximate the amount needed, as shown by the study of the thirty-three cases just discussed. In the computation of bedside nurse hours the time of special nurses of private patients was not included.

For this reason the average number of nurse hours per patient in the hospitals having large private pavilions is

underestimated. This statistical error should be borne in mind when the accompanying table is studied.

Number of Hospitals	*Hours of Bedside Nursing Per Patient in 24 Hours*
2	4.8
1	4.5
1	4.2
2	4.1
2	3.9
3	3.8
1	3.6
3	3.5
1	3.3
2	3.2
1	3.1
3	3.0
1	2.9
5	2.8
3	2.5
4	2.4
1	2.3
1	2.2
4	2.0
2	1.9
1	1.8
2	1.5
1	1.4
2	1.1
1	.9
2	.8
1	.6

As the percentage of private and semi-private beds in the largest hospitals is relatively small,[1] the statistical error vitiates the averages to a very limited extent. In some hospitals special nurses are employed in the cases of very sick ward patients. This is, however, very rare and, therefore, does not affect the average to any appreciable extent.

Least Nursing in Municipal Hospitals.

The average total nursing hours per patient in a twenty-four hour day was 3.7; that of bedside nursing, 2.7 hours.

The lowest amount of nursing per patient was given in the municipal hospitals. Of the 53 hospitals for which the computation was made, only 6 averaged more than 4 hours of bedside nursing per patient in 24 hours; 16 averaged between 3 and 4 hours; 19 between 2 and 3 hours; 8 between 1 and 2 hours; and in 4 hospitals the patient did not receive even an hour of bedside nursing in 24. Some of these hospitals have a considerable proportion of chronic patients who require less nursing than acutely sick patients.

The insufficiency of nursing service in our hospitals is even greater than these averages indicate, for it must be remembered that in these bedside nurse hours per patient were included all ward duties of the nurse. In many hospitals the nurses in the wards have charge of the counting of the linen, and prepare the trays, carry specimens to the laboratory, take patients to the X-ray and operating rooms, and conduct them to the office on discharge.

In the 1920 annual report of the New York Hospital, Dr. Howell stated that the nurses in that hospital walked 293,300 miles in waiting on patients. Many of these duties could have been performed by other helpers. It

[1] See Chapter II, p. 42.

would seem to be sound economy to prevent the dissipation of skilled service in duties that can be performed by less trained workers or that may be eliminated entirely by good hospital planning and management. At Mt. Sinai and a few other hospitals hall boys and messengers are employed to carry specimens, to direct callers and to perform some of the other functions which formerly devolved upon the nurses. The suggestion has already been made that trained nurse attendants, after graduation from a chronic or similar type of institution, should be employed in acute hospitals as ward assistants, thus relieving the shortage of nurses, and at the same time acquiring experience in handling acute conditions.

The average amount of time of service given by orderlies and other ward help per bed per day varies considerably in various hospitals. The highest average was reported for Knickerbocker—1.5 hours; 1.2 hours for the former Sydenham Hospital and Prospect Heights Hospital; 1.1 hours at Norwegian Lutheran, Bushwick, Community and Brooklyn hospitals, and 1 hour in Cumberland Street Hospital. In some of the institutions the high averages of attendant and orderly hours offset to a certain degree the low nursing average.

VIII. Training School Finances

Strange as it may seem there exists no definite information as to the cost of the nursing personnel in any of the hospitals in the City. No hospital at the time the inquiry was made had an accounting system so organized as to enable it to figure out the maintenance cost of the nursing staff and of the nurses' home. In spite of the controversies existing in regard to the economics of the training schools, no hospital has been able to demonstrate the ex-

tent to which a training school is a financial asset or liability to the institution maintaining it. In the course of this survey several of the progressive hospitals were asked to attempt to secure as close an estimate as could be obtained with the present methods of bookkeeping and cost accounting, but because of the difficulties involved they were obliged to give up the attempt. Only a change in the accounting system will enable them to prepare exact figures for this department of the hospital.

IX. Shortage of Nurses

All but 6 of the hospitals included in this study reported a shortage of pupil nurses. This dearth of nurses is not merely a local but a national problem. The extension of public health activities and the increasing number of hospitals add to the demand for nurses, while opportunities for women in other fields of work diminish the potential supply. Plans for overcoming this shortage have been advanced here and elsewhere.

A survey of Canadian hospitals with training schools made in 1920 by the Bureau of Public Health Information of the Canadian Red Cross indicated a shortage at the time of at least 40 percent in student nurses in the Dominion.

In the United States the shortage has been variously estimated. The public health field alone needs 50,000 nurses[1]; heads of training schools report a shortage of applicants, although in the last year or two the number of applicants has increased; and physicians complain of the lack of competent nurses for bedside nursing in the homes.

Definite estimates as to the actual extent of the shortage cannot be made as the demand for nurses has not been very

[1] M. A. Nutting, *Modern Hospital*, September, 1920.

accurately computed. Data as to the supply are much more definite. There were in the United States in 1920, 1586 accredited nurse training schools, having at all times about 50,000 student nurses in training and graduating annually about 15,000 nurses.

The higher grade of nurses are constantly being sought to fill positions as instructors, executives, and leaders in health work. One of the causes cited most frequently to explain the shortage of nurses was the industrial expansion during and since the war which created many new openings in the commercial and industrial world at a better remuneration and with a briefer period of preparation than nursing.

Many of the superintendents of training schools believe that no factor is more responsible for the decrease of pupil nurses than the long hours required of them while in training. Most hospitals still have a ten hour day and sometimes arrange for a part of the class work to be done outside of the ten hours. Gradually, however, the eight hour day is being introduced in the hospitals, seven in New York City having already adopted it, while several others have an eight and a half or nine hour day. The practicability of the eight hour day has not, however, been fully demonstrated.

Closely bound up with the long hours is the comparatively large amount of time of the pupil nurses required in mechanical routine of more or less laborious menial work. Superintendents state that although a certain amount of experience in dusting, caring for linen, scrubbing beds, etc., is essential in order that the nurse may be able later to direct this sort of work, the experience should be limited to the probationary period, and responsibility for the non-nursing work placed on ward helpers. In shortening the hours, therefore, it is not recommended

that pupil nurses get less practice in nursing procedures and the actual care of the sick, but that they be relieved of non-essential drudgery.

Another deterring influence which keeps down the number of applicants for entrance to training schools, in the opinion of New York training school superintendents, is the length of the course, and therefore a considerable number of superintendents are in favor of shortening the period of instruction. The opinion that two and one-half years is ample time for the training of a nurse is held generally. An additional six months is suggested as optional for those wishing to elect certain specialized branches of nursing.[1] The class of students whom the training schools most desire—high school and college graduates—are the ones who are least willing to give three years to training. It is to meet the desires of this class of applicants that several hospitals have offered a shortened course to college graduates.

Several training school executives place the responsibility for existing conditions on the inadequate educational work of the training schools and the exploitation of the pupil nurses by the hospitals in order to secure nursing service at a very low cost. Other executives stressed the lack of recreational facilities for students. To meet this need recreation is being organized in most of the training schools, dancing and theatre parties being arranged; facilities for outdoor exercise are made available at the Young Women's Christian Association and other clubs; while at Bellevue a social director is in charge of all recreation for nurses, acting as guide on excursions, meeting new students and performing other similar duties. Apparently there is need for this sort of a "personnel" worker because

[1] This essentially coincides with the recommendations of the Committee for the Study of Nursing Education of the Rockefeller Foundation. The Macmillan Co., 1923.

pupil nurses are said to be stressing the loneliness and disillusionment of hospital life, and the brusque manner of some training school officers. It has been stated that students who are now applying for training are much younger and more immature than was the case in the past, and there is, therefore, a greater need of helping them to make the required adjustments, especially during the early period in the new environment.

On the whole, monetary allowances do not seem to play a great part in the situation, although some training school principals think the monthly allowances given are too small. Perhaps a more deterring influence is the current belief that the period of active professional life of a nurse is shorter than that of any other calling, averaging, it is averred, ten years. This statement is challenged in the 21st annual report of the Vocational Guidance Committee of the National League of Nursing Education. The report says, however, that in order to combat the impression (p. 7): "It will require the backing of more data than this preliminary inquiry supplies, but the following figures are interesting at least—out of 395 working members 39 percent have spent from 10 to 35 years in active nursing."

Another cause for the undersupply of pupil nurses is the inflexibility on the part of the Board of Regents in interpreting the equivalent of a year's high school education. Although there is no disposition to have the requirements lowered, many instances have been cited where desirable candidates were prevented from entering training schools because they lacked certain Regents' counts, although their average of education was much higher than that of a high school freshman. Some hospitals, among which is the Swedish in Brooklyn, arrange for the education of some of their candidates so that they may pass the Regents' examinations.

While the reputation of the school is the chief determining factor in attracting students, some hospitals have additional advantages. Lincoln Hospital, for example, has always had an ample student body, due to the fact that the training school draws its supply exclusively from colored women to whom nursing is a new and appealing profession. The school is said to have so many applications from all parts of the country that it continues to raise its requirements. For all practical purposes two years of high school is now the minimum educational requirement; a great many of their pupils are high school graduates.

The Swedish Hospital draws largely from the Scandinavian group, many of whom attain by the training a higher social status than they would otherwise.

There seems to be a general agreement that the training course could be shortened without lowering nursing standards, and this sentiment has found expression in various parts of the country.

In the summer of 1919 the city of Billings, Montana, tried an interesting experiment, both in shortening the course and in centralized teaching. A plan was worked out whereby in the Billings High School an intensive twelve-week, six-hours-a-day, course in the fundamental sciences such as chemistry, anatomy, physiology, dietetics and biology was given to prospective pupil nurses at the expense of the local board of education. The work was standardized sufficiently to justify the Montana State Board of Nurse Examiners, in accepting the twelve weeks as equivalent to the first year of training. These students were then accepted by the Montana hospitals as intermediate nurses requiring but two more years of training.

Our municipal hospitals might try out such an arrangement. It might prove feasible and economical for the

nursing schools of municipal hospitals to affiliate with the Board of Education for their preliminary educational work.

Outside of Billings, Montana, a centralized plan of teaching is in effect in at least three other cities—Kansas City, Grand Rapids and Toronto. Here the fundamental subjects are taught in what is called a junior college for nurses.

In Kansas City this college is under the management of the City Board of Education and in Grand Rapids and Toronto it is under committees of training school superintendents. In Kansas City eight hospitals use the centralized system and give no preliminary teaching. During the first six weeks of training, students from the cooperating hospitals have all their class work at the central school under instructors especially fitted to teach the subjects.

In Grand Rapids the plan is eventually to have classes of not more than eighteen or twenty pupils, although at the time of the last report the average was twenty-four or thirty.

In Toronto a three months' course in chemistry is given for student nurses at the Central Technical School, in a better equipped laboratory and with better qualified instructors than any one of the nine cooperating hospitals could provide alone.

In all three cities the aim has been to give a better and more standardized grade of instruction than is possible in many of the hospital training schools,[1] and incidentally to shorten the period of training.

Many New York training school superintendents maintain that nursing schools should be put on the same

[1] "A Plan for Centralizing Schools of Nursing" was discussed by Miss Goodrich in a paper read before the New York State Nurses' Association in Utica, October, 1921, and published in the *American Journal of Nursing.*

basis as other professional schools, and that the universities should open schools of nursing leading to a college degree. Directly opposed to this policy but in line with the demand for a shorter course, the Health Department of Chicago organized a Training School for Home and Public Health Nursing in which a two months' course in nurse training was offered, with an additional three months' work in a city hospital if the student desired. The course was intended primarily to teach women to care for the sick in their own families, although a considerable number of the graduates of this school entered the field of nursing.

Publicity is urged as an aid in interesting young women in the opportunities of the nursing profession. Regional councils for nursing education have carried on this publicity very successfully. The national nursing organizations—the American Nurses' Association, the National Organization for Public Health Nursing, and the National League for Nursing Education, cooperated with the American Red Cross in a nation-wide publicity program. They published lists of accredited training schools, together with information concerning them as well as striking statistics relative to the nurse shortage. They organized local committees to carry on recruiting work in their respective centers. In the propaganda they employed motion pictures, posters, pageants, newspaper articles and pamphlets.

X. Desiderata

As revealed by the conditions in New York and by the experience in other sections of the country the desiderata with respect to nurse training schools can be summarized as follows:

1. Re-organization of the existing schools in a way to meet the needs of the community. The teaching curricula should be so arranged as to afford well rounded practical experience in the several branches of nursing. These courses of instruction should not be longer than two years. A third year or a part of a third year might be devoted to post-graduate or special instruction, such as public health or industrial nursing. There exist practically no facilities in New York City for the training of nurses in the last mentioned branch of the nursing service;

2. Inspection on the part of the State Board of Regents should be made effective and helpful. The curriculum should be revised with the advice and guidance of the medical profession to meet present day demands. The Nurse Training School Council of the Board should include representation from the trustees of hospitals;

3. The internal organization of schools should be so arranged as to make the training school period less of a hardship than it sometimes is;

4. The elimination of non-nursing duties from the routine of nurses in hospitals could be obtained by assigning such activities to paid ward helpers;

5. A system of cooperation between the schools and the established educational agencies should be worked out, which would eliminate duplication of effort, would standardize and shorten the preliminary course, and would afford a possibility of obtaining specially trained instructors;

6. Efforts should be made to reach those elements of the population that have hitherto contributed little to the supply of nurses;

7. To meet the demands of the large body of people of moderate means, adequate facilities should be provided for the training of nurse attendants. The licensing ex-

aminations of nurse attendants should be conducted by a special board of examiners to be selected by the heads of the training schools for such attendants and the examinations should consist mainly of demonstrations in practical work; and

8. In order that the public may differentiate between the classes of nurses employed, a definite plan of grading the various types of nurses should be employed. The plan should be based on the extent of the individual nurse's training and specialization.

CHAPTER VIII

ANALYSIS OF HOSPITAL MEDICAL RECORDS

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ON the theory that case records constitute the only available foundation for an objective judgment as to the type of work which has been done, the Public Health Committee followed in this study the procedure which was developed in the survey of dispensaries several years ago. Accordingly, 1204 records were selected at random and critically scrutinized in accordance with a standard analysis form devised for the purpose. The matter discussed in this chapter pertains to the 752 case histories from 21 general hospitals, and 177 from 11 special hospitals. The data obtained from the neurological and maternity hospitals are presented in Chapter X.

It is fully realized that under prevailing conditions a great many observations and procedures are not entered on case records, and that the work done for the patient is in many instances much more painstaking and thorough than the records indicate. It is desirable that the reader should constantly bear this in mind while reading the chapter. As far as the records indicate, the following pages reflect the workaday medical experience in our hospitals.

It is assumed, however, that the recording of essential

facts is the standard, and the entry of rather full data is the ideal procedure. Attention is drawn particularly to *omissions* because of a belief in the existence of a general desire on the part of all hospitals to strengthen the weak places. While the showing of our leading institutions is a performance of very high grade indeed, it is important to consider the need of betterment of histories in general, and in those hospitals handicapped by lack of adequate income and personnel, to determine, if possible, what constitutes a minimum requirement for the good of the patient and the best interest of the institution.

It is, for example, of no little import to find that in both complete and incomplete records, only one case history in three is measurably adequate, or that only one record in ten has a statement showing an examination on discharge; that, as far as the records show, two-fifths of the ward patients are examined by no one but the intern; that only 60% of the diagnoses of malignancy are confirmed by laboratory tests, and that in one case out of every four the nurses' entries are the only clue to the progress made between admission and discharge.

Does one fracture out of five need no X-ray? Is it superfluous for eight percent of the admissions to have medical and surgical histories, as they are lacking in this proportion? Is a complete physical examination desirable in only a little more than half of our hospital patients? Should preoperative overhauling be omitted in a considerable number of instances? Do we not care to risk the entry of a working or provisional diagnosis in one case in five? These are some of the questions raised by the figures in the following pages.

On the other hand, perhaps we should congratulate our City on a showing of consultations averaging one to every second patient; that 60% of the consultations have their

decisions recorded; agreement between provisional and final diagnosis in 85%; and that this study points to a final diagnosis on every case history.

I. Case Records in General Hospitals

The 21 general hospitals, in which case records were studied include Bellevue, Brooklyn, City, Cumberland Street, Flower, Fordham, Gouverneur, Greenpoint, Harlem, Kings County, Long Island College, Metropolitan, Mount Sinai, New York, Post-Graduate, Presbyterian, Roosevelt, St. Luke's, St. Mark's, St. Vincent's, Williamsburgh. The study was confined entirely to the records of ward patients who had been in the hospital during the year 1920. The cases studied included many of the more common surgical and medical conditions such as acute appendicitis, hernia, acute cholecystitis, carcinoma of various organs, lobar pneumonia, diabetes, chronic interstitial nephritis, chronic cardiac valvular disease, and syphilis, as well as many less common ones. The more common conditions comprised almost two thirds of all the cases studied; more of these were selected than of the others because they make up a considerable number of the cases cared for in every hospital and would, therefore, be more representative of hospital records. In the matter of individual case records no selection was made other than as to disease and a stay of at least 48 hours; a few cases with a fatal termination were also selected.

The study of each record was made in accordance with a specially devised analysis form. Each record was examined as to History of Patient, Physical Examination by the Intern on Admission, the Provisional and Final Diagnosis, Progress Record or Bedside Notes, Physical

Examinations subsequent to the one on admission, Laboratory Report, Doctor's Orders for Medication and Diet, Nurse's Notes, Consultations, Condition on Discharge and Autopsy Record if one was performed. It must be constantly kept in mind that this study is purely objective and concerned only with what was recorded; there is no doubt that in many instances much more work was done and cases were more carefully studied than the records indicate. The picture presented by the analysis of all the cases studied is not typical of every hospital. In many hospitals, both good and bad records were found, although the percentages varied considerably in the different institutions. Some had good records with reference to histories and physical examinations by the intern on admission and poor ones as to bedside notes or progress notes or record of laboratory work.

Histories.

Eight percent of the 752 cases studied had no history recorded. These cases were not confined to one or two hospitals but were distributed among twelve institutions, although some had a larger percentage than others; for instance, one hospital had 50% of cases with no history while another had only 3%.

Included in the cases with no histories were such diseases as acute appendicitis, syphilis, lobar pneumonia, chronic interstitial nephritis, diabetes mellitus, exophthalmic goitre, malnutrition, hernia, acute and chronic salpingitis, acute cholecystitis, induction of abortion, ulcer of stomach, epithelioma of neck, and arthritis of spine. Three out of four cases of carcinoma of the breast had no history. Two cases of fracture of the skull, one of which was discharged cured, were in the hospital about three weeks but no history was recorded in either case.

Thirty-seven percent of the histories did not record the past personal history and the family history in addition to that of the present illness, in fact many covered only the present illness; all such histories were designated as incomplete. Histories which did not include a menstrual and marital history when such was indicated were also considered as incomplete. In some acute surgical conditions the history of the present illness may be sufficient; incomplete histories were not confined, however, to acute surgical conditions but included many types of medical and surgical cases. Nearly every hospital had a certain percentage of incomplete histories although this varied from 98% in one institution to 7% in another. On the basis of the findings for the total medical and surgical conditions studied, one may say that the medical conditions show a slightly larger number of incomplete histories than the surgical as the former group had 39% incomplete and the latter 32%. The percentage of incomplete histories varied somewhat in the different types of diseases.

Percentages for incompleteness in histories covering a few of the more common diseases were as follows: exophthalmic goitre 52%; fibroma of the uterus 46%; syphilis 54%; lobar pneumonia 42%; chronic interstitial nephritis 31%; diabetes 41%; acute appendicitis 50%; acute rheumatic fever 36%; ulcer of the stomach 50%. Four out of nine cases diagnosed as having malignant tumors had incomplete histories.

As illustrations of incomplete histories several cases of syphilis may be cited in which no familial or past personal history was recorded; this may in part account for the fact that in many of these the syphilitic condition was not diagnosed on admission, at least it was not included in the provisional diagnosis. One patient, a young married woman, who had a diagnosis of syphilis and gave a history of having had a salpingectomy previous to admission, had no marital history recorded.

A history may be complete in the sense that information has been obtained regarding the essential parts of the history, yet the notes may not be full enough to have proper value. For this reason the histories were also examined as to the character of the notes. In 47%, these were full and complete, but in 19% they were only fair and in 34% they were too brief to give an adequate idea of the history of the case. Almost every hospital had some histories with brief notes although these were relatively few in some; two of the 21 hospitals had only 8% with brief notes while two others had over 65%. In one or two instances the condition of the patient is given as a reason for the brevity of the notes on the present illness but as these patients were discharged "cured" this does not explain why a complete and full history was not taken some time before they left the institution. The findings seemed to indicate that brief notes are made more often in certain types of cases than in others, although nearly every condition had some cases with brief notes. Of the more common surgical conditions, acute appendicitis cases had the highest percentage of brief notes—55%; and chronic articular rheumatism the highest of the more common medical conditions—57%. When the results were analyzed the averages for the total medical and surgical conditions showed a striking uniformity as in each group of cases 34% of the histories had brief notes, 19% had fair notes and 47% had full notes.

A few cases are cited as illustrations of brief notes: The history of the present illness in one appendicitis case is briefly recorded as "Present illness began last Saturday with pain in right side, went to bed at home and called a private physician." The past personal history of a woman 65 years of age, diagnosed as syphilitic, is briefly recorded as "Had operation eight years ago for some abdominal complaint." In a case of acute

mastoiditis, the history states that the left ear has been discharging since previous operation and gives no further information as to this operation. The past history of a case of lobar pneumonia is briefly set down as "Had pneumonia and measles." In several cases of malnutrition, under one year, the past personal history does not state whether the child was full term or premature, nor does it give the weight at birth or type of feeding. The history of a ten months old infant states that child was weaned at two months but gives no information as to the character of feeding since that time. The history of one patient—a woman 44 years of age—who had a diagnosis of acute cholecystitis, does not mention any previous operation although the physical examination showed that the patient had a post-operative scar on the abdomen.

Physical Examination on Admission.

Because of the value of the record of a physical examination the recorded findings were studied first as to whether the examination was complete in that it included the entire body as well as any additional special examinations which were indicated by the history and symptoms, or whether it was incomplete in that only a local examination was made or the general examination did not include the entire body.

Ninety or 12% of the 752 patients' records studied contained no record of any physical examination on admission. These cases were not equally distributed among the hospitals whose records were studied; for instance, in one hospital, 38 out of 50 records studied, all of which were ward cases, contained no record of a physical examination on admission, while in nine of the 21 hospitals included in the study every case studied had a physical examination recorded. Both surgical and medical conditions were included in the 90 cases and not all of them can be explained on the basis of their being emergency cases. One case

which was diagnosed as "therapeutic abortion" had no physical examination of any kind although the operation was performed at the hospital.

Of the 662 patients examined only 57% received a complete physical examination.

In no case in which the physical examination was incomplete was there any note by the intern explaining why the examination was incomplete as for instance on account of physical condition of the patient. The percentage of cases which received a complete physical examination varied considerably in the different hospitals; for instance in one hospital not a single case had a complete physical examination, while in two institutions 96% of the cases had a complete examination. Nearly every group of conditions studied showed some cases with incomplete examinations.

For instance, 54% of the 24 cases of malnutrition, under one year, 49% of the 61 cases of syphilis, 49% of 43 cases of interstitial nephritis, 47% of 38 cases of diabetes, 46% of 56 cases of lobar pneumonia, 34% of 35 cases of acute rheumatic fever, 26% of 27 cases of chronic cardiac valvular disease and 52% of the 56 cases of appendicitis did not receive a complete general physical examination. The percentages given are not based on the total cases studied but only on the number of cases which received a physical examination.

Of 14 cases of chronic salpingitis, 9 did not receive a complete examination, and 3 cases of typhoid did not receive a complete examination.

The character of the notes on the physical findings was also taken into consideration as it was realized that a complete physical examination might be made and yet the record of the findings be so brief or uninformative as to be of little value for future reference either for the bene-

fit of the particular patient or for purposes of scientific study; moreover, always keeping in mind the training of the intern, it was felt that the careful and intelligent recording of physical findings is a great aid to clear thinking and the crystallization of thoughts which might otherwise be lost in a haze of dimly outlined impressions. In 46% of the cases the notes were full and complete, in 20% they were fair and in 34% they were considered too brief and uninformative to be of proper value. Individual institutions also showed considerable variation as to the number of cases with brief and inadequate notes; in one institution 72% of the cases had brief notes and in another only 8%. On the basis of the findings one can say that the fullness or brevity of the notes did not seem to depend on the type of case as nearly every condition studied showed some records in which the notes were brief.

For instance, brief notes were found in 29% of the cases of syphilis, 36% of chronic interstitial nephritis, 34% of diabetes, and 61% of acute appendicitis cases; brief notes were also made in 1 out of 3 cases of typhoid fever, 2 out of 7 cases of ulcer of the stomach, and 1 out of 2 cases of acute general tuberculosis. A few illustrations of physical examinations which were incomplete and notes which were brief and in some instances uninformative are cited: One patient, a man 54 years of age, had a final diagnosis of syphilis of the genitalia; there is no record of the genitalia having been included in the examination on admission; this may have been omitted because the "patient denied Gc. and Lues" according to the history. No provisional diagnosis is recorded in this case. Several cases with a final diagnosis of syphilis had no throat examinations recorded. One woman who had a final diagnosis of syphilitic condylomata and gonorrhea had no vaginal examination recorded, though notes on an abdominal examination state that "patient is tender on left side and an enlarged cylindrical mass can be palpated in left iliac fossa

and rolled under fingers." No provisional diagnosis is recorded in this case but the nurses' notes state that the patient was admitted with a diagnosis of left salpingitis. One patient—a man 25 years of age—with a final diagnosis of syphilis, gave a history of a primary lesion on the genitalia and a generalized rash. The record of the physical examination did not include the genitalia or any glands other than the inguinal group; although the provisional diagnosis was syphilis. In one case of a child 8 years old with a provisional diagnosis of acute rheumatic fever, no mention is made of the condition of the joints. Another child 3 years old who was admitted with a diagnosis of otitis media, chronic purulent, and hypertrophy of the tonsils had considerable swelling of the face at lower part of the cheek and extending toward the ears, according to the nurses' notes, yet the intern's notes on the physical findings do not mention this fact; they are very brief and merely state that patient "Has discharging left ear, enlarged tonsils and adenoids and large amount of pus present." Although the patient was to have a tonsillectomy the following day there is no record of an examination of the heart or lungs; the omission is especially significant in this case as the patient developed a bronchopneumonia after operation and died the following day. In a case of acute rheumatic fever the record of the examination includes only heart and knee joints. One child—20 months old—was admitted with a history of fever and aural discharge yet the record does not indicate that the ears were examined. In the case of one patient who had a provisional diagnosis of "acute mastoiditis" and whose chief complaint was pain over the right mastoid region, the findings of the ear examination are briefly recorded as "both show discharge" and no mention is made of the mastoid region. The findings of a physical examination in a case finally diagnosed as diabetes are briefly recorded as: "Inspection": (patient's appearance briefly described) "Palpation: skin tense, hot, dry, and desquamating; Percussion: lungs clear—heart normal in outline; Auscultation: negative." No provisional diagnosis was recorded in this case.

Provisional Diagnosis.

In 168 or 22% of the cases studied no record of a provisional diagnosis could be found although in many of these a history had been taken and a physical examination made; in some, however, both of these were incomplete and the notes brief which may in part explain why no provisional diagnosis is recorded.

Some hospitals contributed more than others to the 22% of cases which had no provisional diagnosis; for instance, 35% of the cases studied in one hospital had no provisional diagnosis recorded while in three hospitals a provisional diagnosis was recorded in every case.

Nearly every type of medical and surgical condition studied showed a certain percentage of cases with no provisional diagnosis although the percentages for certain common medical conditions did not show a wide variation from those of common surgical conditions.

For instance, 31% of acute rheumatic fever and 31% of exophthalmic goitre cases had no provisional diagnosis; 28% of hernia and 28% of syphilis; 18% of chronic cardiac valvular disease and 17% of acute appendicitis had no provisional diagnosis; 13% of chronic interstitial nephritis; 11% of lobar pneumonia and four out of nine cases of acute cholecystitis lacked the recording of a diagnosis.

Likewise when the results were analyzed for the total number of medical and surgical conditions, the percentage did not vary greatly as the medical cases showed 27% with no provisional diagnosis recorded and the surgical cases 21%.

After noting whether a provisional diagnosis was made, the question of whether it was supported by the recorded history and physical findings was considered. Eighty-seven percent seemed to be supported or justified. Some of the remaining 13% may also have been justifiable on

the basis of the actual findings but not on that of the recorded findings which, of course, were the only ones available for the study. In quite a few instances, the history and physical examination findings were too brief and uninformative to justify any diagnosis.

For instance, in one case a diagnosis of "chronic interstitial nephritis and syphilis" was made on a history which merely stated that "patient had an operation eight years ago for some abdominal complaint" and contained but a few brief notes on present complaint; and on physical examination findings which were recorded as "negative." A case in which no physical examination was recorded was diagnosed as "lobar pneumonia." One case of "chronic myocarditis" had no record of a heart examination.

Provisional diagnoses in a number of cases did not include all the conditions which seemed to be revealed by the history or physical examination. While these may not always be essential for proper treatment of the primary condition they are important as a matter of record.

Thirty-one percent of the provisional diagnoses completely agreed with the final diagnoses, 54% partially agreed, that is, complications or secondary conditions were included in one diagnosis and not in the other. In a considerable number of these cases the conditions included in the final diagnosis and not in the provisional developed after admission or were only revealed by laboratory tests, but in some cases a more thorough and complete history and physical examination might have revealed all the conditions included in the final. In one case the provisional diagnosis, which was justified, practically agreed with that on the death certificate which was puerperal sepsis but not with the final diagnosis which was chronic salpingitis.

The percentage of provisional diagnoses which com-

pletely agreed with the final both as to primary and secondary conditions varied from 15% in one hospital to 77% in another.

Fifteen percent of the provisional diagnoses did not agree with the final diagnosis in any respect.

For instance in one case the provisional diagnosis was typhoid fever and the final diagnosis, acute mastoiditis and lateral sinus thrombosis; in this particular case the provisional diagnosis was not supported by either the history or the physical examination findings. In a case of a young married woman the diagnosis was fibroid tumor; no physical examination was recorded and the history read as follows: "Last period three weeks before admission, bleeding at intervals ever since, today has labor-like pains accompanied by hemorrhage"; the final diagnosis was "incomplete abortion." Another case in which the provisional diagnosis was adenitis, axillary and cervical, and the final diagnosis, acute general tuberculosis, is an instance of several in which an incomplete or brief history may have been responsible for the failure to arrive at the correct diagnosis.

Final Diagnosis.

A final diagnosis was recorded in every case. A considerable number of final diagnoses did not conform to the Bellevue system of nomenclature in many of the hospitals using this system. Some instances of non-conformity were, of course, of no importance from a statistical standpoint since it was quite clear what the condition was, but others were not so clear and might readily be wrongly classified; for example, cases designated as "pneumonia" might be included with lobar pneumonia or with bronchopneumonia and those designated as "rheumatism" might be either "acute rheumatic fever" or "chronic articular rheumatism."

In about 27% of the cases the final diagnosis did not include all of the conditions which, according to the record, seemed to be present.

The percentage of final diagnoses which did not include all the findings showed a wide variation in the different institutions—for example one hospital had only 7% and another had 60%. Of the 21 general hospitals one fourth had over 40% and one fourth had less than 20% which means that one half had from 20 to 40% of what one might call incomplete final diagnoses.

For instance, there were several cases found, in as many institutions, of patients who had a 4+ Wassermann while in the hospital, yet there was no mention of syphilis in the final diagnosis; several other patients had positive Gc. fixation tests, yet gonorrhea was not included in the diagnosis. One patient, according to the nurses' notes, was bleeding profusely from two lacerations on right side of head when admitted and an operation sheet dated two days after admission stated that an exploratory operation on skull was performed; the post-operative diagnosis was concussion and shock but this is not included in the final diagnosis which was "pneumonia and septicemia"; incidentally one might mention that this case had no history record or any record of a physical examination at any time, and no bedside notes recorded although the patient was in the hospital 12 days. In two cases a bedside note by the attending physician states that patient has "acute purulent otitis media" but the final diagnosis is recorded as "lobar pneumonia" only. There were several cases in which the existence of an acute purulent otitis media was clearly indicated by the record yet was not mentioned in the final diagnosis; chronic cardiac valvular disease was another condition frequently omitted. In some cases complications such as serofibrinous or suppurative pleurisy and acute local or general peritonitis were not included in the final diagnosis. One patient died from "acute cocaine and

novocaine poisoning" while being prepared for a tonsillectomy operation according to the record, yet this is not mentioned in the final diagnosis which is simply "hypertrophy of the tonsils." One patient had eight urinalyses which were positive for sugar and acetone and four were positive for diacetic acid yet the final diagnosis is only "hernia."

Eighty-seven percent of the final diagnoses seemed to be supported by the record. Of the other 13% the record was too brief and uninformative in some instances to support any diagnoses but in others it seemed to point to a diagnosis other than that recorded. The highest proportion of diagnoses not sufficiently established by the record in any institution was 29%; one had only 2%; while in one hospital every diagnosis was justified by the record. Five of the 21 hospitals had over 20% of unsupported diagnoses; 11 had less than 10%.

A few illustrations of both types of cases may be cited: In one case of an appendectomy "pneumonia" is given as a complication and as a cause of death but there is not a single bedside note or physical examination of chest recorded, subsequent to the one on admission at which time the chest findings were recorded as "normal breath sounds." This case is an illustration of several in which the final diagnosis includes "pneumonia," presumably post-operative, yet there are no notes nor any record of physical examination findings regarding the pneumonic condition. In several cases diagnosed as syphilis neither the history nor physical examination findings suggested this condition; these cases either had no record of a Wassermann having been taken or the report was negative; furthermore there were no bedside notes to give a clue as to why the diagnosis was made. One case in which "gangrene of the lung" is given as a complication had no physical examination recorded subsequent to the one on admission which states that "lungs are O.K." and there are no bedside notes during the 18 day stay in the hospital. An X-ray report on the chest

two days after admission records a diagnosis of "acute pulmonary TB." and the suggestion is made that another X-ray be taken, but there is no record that this was done. The data, as recorded, do not support the diagnosis of gangrene of the lung. One case—a premature infant—was diagnosed as "malnutrition, under one year," but the history, physical findings, clinical course and treatment which consisted of mercurial inunctions seemed to indicate that the diagnosis should also be congenital syphilis as well as malnutrition. One patient—a woman 55 years of age who had an operation for ventral hernia and died the following day, has a final diagnosis of "hernia" and "acute general streptococcic peritonitis." There is nothing on the record to justify the latter diagnosis as there are no bedside notes and the death certificate stub states that patient died of post-operative shock; and the operation sheet contains a note that "at the close of operation patient was seen to develop an acute dilatation of the stomach." One patient had a cholecystectomy but no gall bladder condition is mentioned in the final diagnosis which is "pyonephrosis and shock." The sole basis in one case for a diagnosis of "salpingitis, uterine fibroids" seems to be "tenderness in left iliac fossa" which was found on admission, as there is no record of any findings at operation on the operation sheet and no record of a physical examination subsequent to the one on admission which merely recorded tenderness in the left iliac fossa. A case that might prove very interesting from a legal point of view is one with a final diagnosis of "therapeutic abortion"; the patient had a dilatation and curettage after admission, but no history or physical examination is recorded either on admission or subsequently, nor are there any bedside notes during the eleven days that the patient was in hospital. A post-operative diagnosis of "incomplete abortion" is given on the operation sheet but this does not explain a final diagnosis of "therapeutic abortion." One case in which the post-operative diagnosis is "duodenal ulcer" and the final diagnosis "gastric ulcer" is illustrative of several in which final diagnoses were not corrected to conform to operative findings or autopsy

findings. Another similar case is one in which the post-operative diagnosis, which was corroborated by the pathologist's report, was "fibroma of the uterus," yet the final diagnosis was "carcinoma of the cervix." The pathological report stated that there was "no evidence of malignancy anywhere—is a senile fibrotic uterus and cervix." According to a bedside note this patient developed general peritonitis and died five days after operation but this complication is not mentioned in the final diagnosis. In another case the operative findings were "retained secundines, post-partum" but the final diagnosis mentions only "post-partum hemorrhage." The pathologist's report on tissue removed at operation in another case is "chronic prostatitis" and this diagnosis is supported by the history, but the final diagnosis is "carcinoma of the prostate."

The death certificate stubs were examined in only a few of the cases with a fatal termination but in several of these there were striking differences between the final diagnosis and the death certificate diagnosis.

For instance, in one case the final diagnosis on the case record is "ruptured gangrenous appendix with peritonitis and pyosalpinx" and that on the death certificate stub "sepsis, post-partum." The diagnosis on the bedside card which was looked up in this case, was "subacute general peritonitis on account of post-partum delivery." There is nothing in the record with reference to a possible post-partum sepsis except that the history states the patient had twins five weeks ago and yesterday had a pain which began "Sunday" morning and localized over McBurney's point. There was no operation record filed with the case. In another case the death certificate stub gives "post-operative shock" as cause of death but this is not mentioned at all in the final diagnosis. The cause of death on the death certificate in one case is given as "septicemia" but the final diagnosis is merely "peritonsillar abscess." In another the death certificate gives "chronic interstitial nephritis" as the cause of death but this is not

mentioned in the final diagnosis. In still another case the final diagnosis is "acute salpingitis followed by chronic salpingitis and peritonitis" and that on the death certificate "peritonitis following pelvic abscess after delivery," the latter diagnosis is supported by the record.

Autopsies were performed in 55 cases; in 64% of these the final diagnosis and autopsy diagnosis essentially agreed. In 26% additional conditions were found at autopsy which were not diagnosed before death; many of these were not revealed by the clinical course of the disease as far as the record indicated or by any laboratory reports. About 10% did not agree with the final diagnosis. The important fact is again pointed out that final diagnoses are frequently not corrected to conform to autopsy findings when there does not seem to be sufficient reason for disputing the latter. Autopsies were performed in 24% of the cases studied which had a fatal termination; this average is higher than the general average for all hospitals. The antiquated law of the State pertaining to autopsies acts as deterrent to scientific progress.

Bedside or Progress Notes.

Twenty-three percent of the cases had no bedside or doctors' progress notes whatever. In two hospitals every case had bedside notes but all the other institutions had a certain proportion of cases with no progress notes—the number varying from 60% in two hospitals to 6% in another. Only five hospitals had less than 10% of cases with no progress notes.

Forty percent of the cases of hypertrophy of the tonsils had no progress notes, 33% of hernia cases, 29% of chronic salpingitis cases, 24% of syphilis cases, 22% of acute rheumatic

fever cases, 17% of acute appendicitis cases, 16% of chronic interstitial nephritis cases, 15% of lobar pneumonia cases, 14% of chronic cardiac cases, 13% of malnutrition—under one year—cases, and 7% of diabetes mellitus cases.

The findings seem to indicate that the recording of bedside or progress notes by the physician does not necessarily depend on the type of case or the course of the disease as in many cases this was far from being uneventful and frequently complications and secondary conditions were present. In many cases one had to depend almost entirely on the nurses' notes for information as to what transpired between admission and discharge and when these were not filed with the record the clinical picture of the case was left to the imagination of the reader. A few cases may be cited as illustrations of those in which notes seemed to be indicated yet were not made.

One was a case of perinephritic abscess which was in the hospital 15 days; another, a case of "accidental hemorrhage parturition" also in hospital for 15 days; another, fracture of the pelvis, 33 days in hospital; two cases of acute gastritis, one case of induction of abortion and one case of chorioepithelioma were in the hospital 21 days. In one case of uremia, the patient was in the hospital 15 days but there was not a progress note recorded. One case with diagnosis of chronic interstitial nephritis and carcinoma of cervix was discharged "cured" as to the nephritis and "improved" as to the carcinoma but there is not a single progress note recorded during the 46 days' stay in the hospital nor any operation for the malignant condition which would indicate in what way the patient was cured and improved. One case without notes was operated for acute gangrenous appendicitis and had a secondary operation for evisceration of small gut through wound; this patient died two days after operation but even the short stay does not explain the absence of any progress notes. Another appen-

dectomy case which was in the hospital 97 days and was complicated by peritonitis, pneumonia and empyema, likewise had no progress notes. This is one of several acute appendicitis cases in which post-operative complications developed yet not a progress note was made.

Many of the cases cited illustrate those in which patients were discharged as "improved" or "cured," yet there were no progress notes recorded to give an idea of the nature of the improvement; occasionally laboratory reports threw a little light on the subject but frequently they did not seem to support the statement of "cured" and "improved."

In only 17% of the cases studied were progress notes full enough or recorded at sufficiently frequent intervals to give an adequate idea of the progress of the case.

One patient, 28 years old, who developed bronchopneumonia as a complication and died 24 days after admission had four bedside notes: the first said "no change evident"; the second: "lumbar tap 10 c.c. clear fluid removed under slight pressure"; the third: "no evident change"; the fourth: "died." The most that can be said of these notes is that they are highly stimulating to the imagination. One patient who had an appendectomy and round ligament suspension operation for retroversion of uterus died the day after operation; the cause of death according to the death certificate was acidosis. There are two progress notes on the case; one merely states that patient is very ill and has been given a hypodermic of 1000 c.c. and 1/30 gr. strychnine and also morphine, and the other that patient "died." The last progress note on an appendicitis case complicated by a fecal fistula was made over one month before discharge and stated that "discharge from wound was whitish and not so much fecal"; according to the bedside card this patient was discharged "cured" but as the patient's temperature rose to 101 a few days before discharge

and was 99.2 when she left the hospital, a progress note was needed to explain what had taken place. A case diagnosed as acute suppurative appendicitis and discharged "cured" had an operation which according to the operation sheet consisted only of opening the abdomen and draining. There are no progress notes to give a clue as to how the patient was cured since the record does not indicate that the appendix was removed. One patient who was admitted with a diagnosis of acute tonsillitis and whose lungs were "negative" on admission had a final diagnosis of lobar pneumonia. The only clue to any pathology in the lungs is a single note, undated, by the intern that patient had "consolidation at right apex."

On the basis of the total notes for all cases, the hospital with the highest proportion had an average of 15 notes per case or on the basis of the average days' stay, one note every 1.3 days; three of the 24 general hospitals averaged about one note every 8 days and 7 had one every 4 days. These figures, of course, do not represent the number of notes in individual cases.

In only 44% of the cases was there a progress note on the condition of patient on discharge, or on day of death in those cases which led to a fatal termination, yet in many cases such a record was necessary to explain the condition on discharge or just preceding a fatal termination.

Sixty-seven percent of the progress notes were signed by the intern and not designated in any way as having been dictated by a member of the attending staff, 11% were either signed or dictated by a member of the attending staff, 9% of these were by the attending and 2% by the assistant attending. The remaining 22% had no signature so that there was no way of knowing whether they recorded opinions and observations of the attendings or of the intern.

Physical Examination Subsequent to the One on Admission by Intern.

No doubt every patient is examined by a member of the attending staff at some time during his stay in the hospital but in a large number of cases—38%—there is no record of his having been examined by anyone but the intern and frequently even the intern did not record any examination subsequent to the one on admission. One hospital had as high as 87% of cases which had no physical examinations recorded subsequent to the one by the intern on admission; another had 78% of cases and another 73%. Fifteen hospitals had over 30% and only two had less than 10%. In one institution every case had an examination recorded.

Among the conditions in which no examination is recorded other than the one on admission are acute appendicitis, acute cholecystitis, acute pyelitis, diabetes, acute rheumatic fever, syphilis, acute general tuberculosis, and chronic interstitial nephritis.

The findings indicate that local examinations are made more often than general ones. Many of the patients did not receive a general physical examination at any time during their stay in the hospital. This applies to surgical as well as medical cases, according to an analysis of ten of the more common surgical and medical conditions.

General physical examinations averaged about one to every three cases. Chest examinations stood highest for local examinations with one to every 1½ cases. Abdominal examinations with an average of one to about every five cases were next in order of frequency. These averages are based on the total for all conditions and, of course, do not represent the amount of work done in any individual case.

In an analysis of total examinations recorded by type of condition the findings show that in acute appendicitis cases abdominal examinations were more frequent than any other as these averaged one to every two cases; chest examinations, one to every 2½ cases and general physical examinations one to every three cases. In diabetes, eye examinations were most frequent, averaging one to every six cases; general physical and chest examinations were equally frequent or rather infrequent, each averaging about one to every eight cases. In exophthalmic goitre, local examinations covering the neck region were commonest—one to every two cases—general physical and chest examinations averaged one to every three cases; as might be expected in acute mastoiditis, ear examinations were most numerous with an average of almost six per case. In individual cases of acute mastoiditis, only one out of eight cases had a general physical examination and only three had any chest examinations. In chronic interstitial nephritis, chest examinations, general physical and eye examinations were about equally frequent averaging about one to every one and a half cases; lobar pneumonia cases showed a high average of chest examinations—over two per case, general physical averaged one to every two and a half cases. In syphilis, chest examinations were likewise most frequent with an average of one to every two and a half cases, eye and general physical examinations averaged next—one to every five cases; neurological examinations one to every eight cases.

The findings on examination were recorded in most cases but in some the record consisted of a note on the bedside or progress sheet stating that an examination had been made but no record of what was found; in some instances there was no way of even knowing who had made the examination as the note was not signed. No findings were recorded in 16% of the general physical examinations; in 11% of chest and abdominal examinations and 17% of the vaginal examinations. The highest percentage of findings

were recorded for eye, ear, nose, and throat and neurological examinations which showed findings recorded in from 94 to 97% of the cases. The findings of this part of the study seem to indicate that in many hospitals members of the attending staff do not, as a matter of routine, record their findings when they make a local or general physical examination, nor is this governed by the type of case as all types show a considerable number with no examination and no findings recorded.

Over 50% of the total number of examinations made subsequent to admission in which findings were recorded, were made by the intern. If the attending had recorded his opinions or diagnoses on the basis of his findings the value of the record might have been considerably enhanced in many cases. The proportion made by the intern for the different types of examination varies from 35 to 66%. Vaginal examinations are lowest with only 35% made by the intern, and chest highest with 66%. Thirty-six percent of the eye examinations were by the intern, 38% of nose and throat; 39% of neurological; 56% of ear; abdominal 52% and general physical 50%.

Of all the 752 cases studied only 10% had a record of a physical examination either local or general on discharge; in a large proportion of these the examination was local and was made by the intern. Many of these local examinations in operative cases were merely notes on the appearance of the operation wound.

Laboratory Work.

The findings of the study indicate that there is considerable variation in the method of recording laboratory work —some hospitals file the "laboratory report"; others copy the report findings on a special laboratory sheet; some attempt to do both while in others the record of laboratory

work may be found almost anywhere on the record, on the progress sheet, or laboratory sheet or nurses notes or doctor's order sheet. The amount of laboratory work, both as to routine and special work, varied considerably in the different hospitals—some doing almost none at all and others a large amount. Undoubtedly more work was done than the records indicate but as this was an objective study nothing was taken for granted and work not recorded was not considered as having been done.

In more than half of the cases studied the character of the case seemed to call for more laboratory work than was recorded; in all cases the length of stay of patient was also taken into consideration. In some institutions more laboratory work, either in the way of special tests or greater frequency of routine work, seemed to be indicated in almost every case, while in others this was true of only a few cases. Of course, the pressure of work in a hospital laboratory may be so great that only a minimum amount can be done for each case, but the basis of judgment in this study was what was indicated rather than what was possible under present conditions which may fall far short of what is desirable.

In order to give an idea of the amount of laboratory work done according to the records, the total number of the various kinds of laboratory examinations may be mentioned here: 1870 urinalyses are recorded or an average of 2½ per patient; 480 blood counts or an average of one to every 1½ patient; 278 blood chemical examinations or one to every 2½ patients; 94 smears or one to every 8 patients; 17 fixation tests or one to every 44 patients; 271 blood Wassermann tests or an average of one to every 3 patients; 29 spinal Wassermann tests or one to every 26 patients; 65 spinal fluid analyses or 1 to every 11 patients; 23 gastric analyses or 1 to every 33 patients; 94 sputum

examinations or 1 to every 8 patients; 13 typings of sputum or 1 to every 58 patients; 84 phenolphthalein tests, 69 examinations of feces, 942 blood pressures, 100 blood cultures or an average of 1 to every 7½ patients; 75 nose and throat cultures and 62 cultures of pus; in addition there were 185 other laboratory tests of various kinds recorded.

Tissue Examinations: 116 examinations of tissue removed at operations are recorded or an average of 1 examination to every 3 cases operated (among cases operated for malignant conditions only 60% have a record of a microscopic examination of the tissue removed at operation). One patient whose final diagnosis was chorioepithelioma had no record of any examination of tissue removed at operation on two different occasions. The first operation was a dilatation and a curettage when "retained shreds of placenta" were removed and a diagnosis of "retained secundines" was made, but the tissue removed was not examined. A week later "a friable growth was removed from the anterior vaginal wall" and a tentative diagnosis of "chorioepithelioma" was made at this time, but there is no record of a specimen of the tissue being sent to the laboratory.

Urinalyses: 84 of the 752 cases or 11% had no record of any urinalyses having been made at any time during their stay, although many of them were in the hospital from two to three weeks and in 51% an operation was performed under general anæsthesia. There is nothing on the records to explain why this routine work was omitted. Included in the group were such conditions as chronic interstitial nephritis, diabetes mellitus, uremia, exophthalmic goitre, acute appendicitis, lobar pneumonia, acute rheumatic fever, chronic articular rheumatism and chronic salpingoophoritis.

Only six of the 21 institutions had a urinalysis recorded in the case of every patient. In addition to the cases with no urinalysis there were many which had only 1 urinalysis recorded although their stay varied from two to four weeks.

One patient with diabetes was in the hospital five days before any urinalysis was made according to the record; the findings of this examination showed the presence of sugar, acetone and diacetic acid but no further urinalyses were recorded although the patient was in the hospital two weeks longer. Another diabetic patient was in the hospital ten days before any urinalysis was made according to the record. One case with a diagnosis of lumbar abscess was in the hospital 85 days and had only one urinalysis recorded during that time. Another patient with general arterio sclerosis had only one urinalysis during a stay of forty-three days.

In many operative cases no urinalyses were reported before operation, and in quite a number they were not made for several days afterward, according to the date on the report.

One case diagnosed as toxemia of pregnancy had only one urinalysis recorded during a stay of sixty-seven days in the hospital.

Blood Counts: 410 or 54% of the cases studied had no blood counts recorded; in about one-half of these operations are recorded.

Wassermann Tests: 18% of the 66 cases with a diagnosis of syphilis had no Wassermann examination recorded.

In one case of a man twenty-six years of age diagnosed as syphilis, the doctor ordered that a smear be taken from the eye, but there was no record of this having been done; a note by the ophthalmologist states that in his opinion the condi-

tion is "luetic" but no Wassermann is recorded. One patient with a diagnosis of diabetes had a Wassermann which was reported "doubtful"; no other Wassermann was reported although the patient was in the hospital fifty-six days longer. In one case of acute rheumatic fever the consultant suggested that a luetic infection might be present, but there is no record of an attempt to follow this up with a Wassermann test.

Sputum Examinations: In 47% of the 61 cases of lobar pneumonia which were studied there was no record of any sputum examination during the patients' stay in the hospital.

Four out of six cases diagnosed as chronic pulmonary tuberculosis likewise had no record of a sputum examination and one patient with a diagnosis of acute broncho-pneumonic tuberculosis had no sputum examinations whatever.

Blood Culture: 5 out of 10 cases of septicemia had no record of a blood culture having been made.

Gastric Analyses: 6 out of 10 cases of ulcer of the stomach had no record of gastric analysis.

Blood Chemical: No blood chemical examination is recorded in 12 or 29% of the 41 cases of diabetes.

Blood Pressure: No blood pressures are recorded in 22% or 10 of the 44 cases of chronic interstitial nephritis.

X-ray: 249 X-ray reports are recorded for the 752 cases studied, or an average of one to every 3 cases. In several instances notes by the nurse indicated that an X-ray had been taken but there was no record of any report. In several cases X-ray examinations were indicated and in some were requested by the attending, but there was no record of an X-ray having been taken. About 20% of the fracture cases have no record of an X-ray having been taken.

Doctors' Orders.

The findings of the study seem to indicate that the routine as to recording of doctors' orders varies considerably in the different institutions. In some hospitals the doctor writes the order in a book kept for this purpose and the nurse copies the order on the medication sheet or in the "medication" column on the nurses' sheet which is filed with the record; in other institutions the doctor writes the order on the medication sheet.

Some hospitals do not file the medication sheet with the record when the patient is discharged, and the nurses' record of the administration of drugs ordered is the only record of this part of the treatment; consequently in these cases there was no way of knowing whether all the medication was given as ordered. On the basis of the findings of the study of medication sheets one may state that it is not a general custom for the attending physician or surgeon to write the orders for medication on the medication sheet, as in the majority of instances in which a doctor writes the order on this sheet the signature is that of the intern. This means that there was no way of knowing what medication was ordered at the direction of the attending and what was ordered by the intern on his own responsibility—a matter of no small importance. In a few instances, the intern signed for the attending who ordered the medication per his own initials; this seems to be a practical procedure and undoubtedly adds to the value of the record if the medication sheet is filed with it.

In only 159 of the cases studied was there a record of a doctor's order for the discontinuance of any medication. In a certain proportion of the cases there may not have been any reason for "discontinue" orders but in a con-

siderable number these were indicated and undoubtedly were given although there is no record of this on the medication sheet; otherwise patients would have been taking a dozen or more drugs simultaneously as well as large over-doses of certain drugs.

Presumably there is considerable difference of opinion as to the value of the original record of the doctor's orders for medication after the patient is discharged, as some institutions do not make them a part of the permanent record of the case; however in those institutions which consider them worth keeping their value would be greatly enhanced if the intern who wrote the order indicated at whose direction it was given.

In some cases the medication seemed to be so long delayed, as far as could be ascertained from the record, that one was in doubt as to whether the patient had received proper attention.

In quite a few cases considerable time elapsed between the diagnosis of the condition as syphilis or a positive Wassermann and the administration of salvarsan or other specific treatment. There may have been a good reason for the delay but this is not made clear in the record. For instance, one patient was admitted July 2, with a generalized rash and a history of primary lesion, but there is no record of any specific treatment of any kind until September 9, which was about two months after admission; there is likewise no record of any Wassermann having been taken until two months after admission. In several cases of diabetes there was no correlation between urinary findings and diet orders—for instance, one patient was put on house diet the day after the urinalysis showed sugar + acetone + and diacetic + ; one patient, a nineteen year old male, was on starvation diet when discharged, no urinalysis had been made for seven days before discharge and the last showed the presence of acetone.

In many cases requiring special diets or some variation from the regular routine there was no record of a diet order by the doctor. Such findings may indicate that these orders are given verbally or the written order is not filed with the case record.

Nurses' Notes.

The study of the nurses' notes did not include all of the twenty-one hospitals as some institutions do not make them a part of the permanent record of a case. Among the group for which they were available, considerable differences were found in the character of the notes; in many cases the poor notes could be attributed to the shortage of nurses. By poor notes are meant those which are brief and inadequate with reference to the particular case; in one or two instances the nurses' notes in some cases ceased altogether every now and then. On the basis of the findings, however, one can say that the nurses' notes were good in the majority of the cases and frequently gave more information as to the progress of the case than the progress notes made by the doctors.

Consultations.

It is very difficult to get an idea of the number of consultations held on the cases studied because in many institutions they are not recorded as a matter of routine. Frequently the nurses' notes gave the only clues either in the form of a brief statement that a consultation was held with Dr. —— or by the recording of a visit of an attending on a different service, in which case it was inferred that a consultation had been held. All such records on the nurses' notes were counted as consultations, in fact any record of the patient's having been visited by an attending on a service other than that to which he was assigned

was counted as a consultation; consequently, when the statement is made that 363 consultations were held on the 752 patients whose records were studied or an average of about one for every two patients this does not mean that all of these were designated as such or were recorded by the attending or the intern. In many cases, consultations seemed to be indicated and in several instances were specifically requested by the attending, but there is no record of their having been held.

On the basis of the recorded findings, the average number of consultations per patient varied considerably in the different hospitals; one averaged over 1.5 per patient while in another not a single consultation was recorded. The largest number of consultations by type of consultant were the medical and the next in frequency the surgical; of the specialties, ophthalmological stood highest.

On the basis of the average number of consultations per patient chronic parenchymatous nephritis stands highest with an average of over two consultations per case; acute mastoiditis showed 1.6; acute appendicitis and chronic interstitial nephritis .6; syphilis and diabetes .5; and pneumonia .4; cholelithiasis .6 and exophthalmic goitre .5. On the whole the surgical conditions showed a higher percentage of consultations than medical. For instance, the average number of consultations per case for a group of eight of the more common surgical and medical conditions is 1.4% for the surgical and .5% for the medical. The difference however is not so great if all medical and surgical cases are included.

Even when the consultations were a matter of record by the physician, the findings were not always given nor was a diagnosis always recorded, all of which lessens the value of the consultations for future reference in the particular case and for general scientific study of case records. In

only 59% of the consultations were findings recorded. In some hospitals, findings were recorded in every case while in others they were rarely recorded in any case. Findings, of course, were not usually recorded when the record of the consultation was only made by the nurse in her notes and this type of record formed a considerable part of the 41% which had no findings recorded. On the basis of the findings of this study the inference would be that the matter of properly recording consultations and findings together with the diagnosis, when one is made, is not considered of great importance.

Condition on Discharge.

Some of the more common terms used to designate a patient's condition on discharge are "Cured" or "Recovered," "Improved," "Not improved" or "Unimproved" and in the event of a transfer to another institution "Transferred." The majority of the hospitals use these terms but vary somewhat in their definition or application of them. For instance, a patient whose appendix has been removed would be discharged as "cured" or "recovered" in some institutions and these are in the majority and as "improved" in others; in the former group the removal of the supposedly offending organ constitutes a "cure" or "recovery," while in the latter a disappearance of all the former symptoms is necessary for a "cure" or "recovery" and this they argue can only be determined by follow up work or end result study after the patient has left the hospital, until this is ascertained he is only "improved." One point that might be mentioned in this connection is that of considering only the primary disease in designating the condition on discharge as this may not apply to the secondary condition or other diseases present; for instance one patient who had an appendectomy and

whose final diagnosis included syphilis which had been discovered in the course of laboratory tests and was as yet untreated, was discharged "cured," in another case complicated by diabetes the patient was discharged cured because the primary condition had been so considered. A much more accurate idea of the patient's condition would be given if each diagnosis were considered separately and terms standardized. It might be pertinent to state again that only 10% of the cases studied had a record of a physical examination either local or general on discharge and only 44% of the cases had a progress note on the condition on discharge or day of fatal termination yet in many cases such a record was necessary to throw light on the condition at time of discharge or just preceding a fatal termination.

II. Case Records in Special Hospitals

One hundred and seventy-seven records were studied in a group of 11 hospitals comprising: Babies' Hospital, St. Christopher's, St. Mary's Free Hospital for Children, New York Orthopedic, Ruptured & Crippled, Manhattan Eye, Ear & Throat, New York Eye & Ear Infirmary, Memorial, New York Skin & Cancer, Seaview Hospital and the Tuberculosis Division of Bellevue Hospital.

The general method of procedure in the study of case records in special hospitals was the same as that in general hospitals. In the compilation of the data the hospitals were divided into four groups, the first group comprising orthopedic hospitals and children's hospitals—Babies', St. Mary's Free Hospital for Children, St. Christopher's, New York Orthopedic and Ruptured and Crippled; the second group, two eye & ear hospitals—New York Eye & Ear Infirmary and Manhattan Eye, Ear, & Throat

Hospital; the third group two institutions for tuberculosis cases—Seaview and the Tuberculosis Division of Bellevue and the fourth group, two hospitals for malignant conditions—Memorial and New York Skin & Cancer hospitals. The findings presented in the following section are for the eleven special hospitals mentioned above.

Histories.

Seventeen percent of the 177 records studied in eleven special hospitals had no histories recorded; of the four groups, the eye and ear hospitals had the highest proportion of no histories—52%; the cancer group had 5% and the tuberculosis group 2%. In the children's and orthopedic group, every case studied had a history recorded. Some of the conditions with no histories were: diplobacillus keratitis, glaucoma, gonorrheal ophthalmia, iritis, natural senile cataract, optic atrophy, ruptured cornea, ruptured globe, tuberculosis of bones, pernicious anemia, burns of eyes, hypertrophy of tonsils, mastoiditis, sympathetic ophthalmia.

One-fourth of all the histories were incomplete; that is, they did not cover family history and past personal history as well as that of present illness; a history was also considered incomplete if marital, menstrual or other special history was not included in certain types of cases. In the children's and orthopedic hospitals, 39% were incomplete. Some of the conditions in which complete histories were not taken were: "congenital dislocation of hip," "infantile paralysis," "Pott's disease," "spastic hemiplegia," "osteomyelitis of left tibia," "acute articular rheumatism," "typhoid fever," "chronic intestinal indigestion with malnutrition," "bronchopneumonia." The history in a case of osteomyelitis in a child is briefly recorded as "Small boil first appeared on leg about three

weeks ago. Treated by private doctor for two weeks." The history of a case of acute articular rheumatism was briefly recorded as "pain in right hip and right knee."

The tuberculosis group had the lowest proportion of incomplete histories—12%. The cancer group had 21% or four out of nineteen cases; included in these four cases was one carcinoma of breast and one cystadenoma of breast. Sixty-two percent of the cases had full notes, 1% had fair notes and in 36% they were too brief to give an adequate idea of the history of the case. The tuberculosis group had the highest proportion of cases with full notes—84%, and the eye and ear group, the lowest—15%. Sixty-five percent of the cases in the children's and orthopedic hospitals had full notes and 74% in the cancer group. Brief notes were recorded in some of the cases of "appendicitis with abscess, chorea, osteomyelitis, acute articular rheumatism, typhoid fever, gastrointestinal indigestion, bronchopneumonia, acute mastoiditis, cervical adenitis, interstitial keratitis, carcinoma of breast and epithelioma." In the eye and ear hospitals, 81% of the cases had brief notes, 35% in the children's and orthopedic group, 26% in the cancer group and only 14% in the tuberculosis group.

Physical Examination on Admission.

In 39 or 22% of the cases studied there is no record of either a general or local examination of the patient on admission. Thirty-seven of the 39 cases were in the eye and ear group. Some of the conditions included were: "hypertrophy of the tonsils, ethmoiditis, mastoiditis, retropharyngeal abscess, gonorrheal ophthalmia, iritis, ruptured cornea, specific retinitis."

Thirty-three percent of the examinations were incomplete in the sense that they did not cover eyes, ears, nose,

throat and mouth, heart and lungs, abdomen and extremities, as well as any local or special examination that was indicated by the history or the symptoms. It may be true that the proportion of cases in special hospitals which require a general physical examination is much smaller than in general, but in many cases a general examination is necessary to determine this. For this reason and also because many of the cases studied in general hospitals were of a type similar to those treated in special hospitals, the basis for designating an examination as incomplete was the same as that used for general hospitals. For instance, among the cases in which an incomplete physical examination is recorded were such conditions as: "chronic pulmonary tuberculosis, carcinoma of the bladder, carcinoma of the breast, epithelioma, bronchopneumonia, tuberculosis of the bones, tubercular peritonitis, osteomyelitis, acute articular rheumatism, typhoid fever, and poliomyelitis." The eye and ear group had the highest percentage—84%—and orthopedic and children's the lowest with 16%; the cancer group had 37% incomplete and the tuberculosis group 29%. As an instance of an incomplete physical examination is that of a typhoid fever patient in which there is no record of the appearance or condition of the abdomen.

Fifty-nine percent of the cases had full and adequate notes on the physical findings, in 4% they were fair and in 35% they were too brief to be of value. For instance, in one case of osteomyelitis, the physical findings are briefly recorded as: "Large ulcer on anterior surface of left leg, collection of pus around the ulcer." The proportion of brief notes varied considerably in the different groups: in the eye and ear hospitals, 63% had brief notes recorded while in the tuberculosis hospitals there were

only 20%. The children's and orthopedic hospitals had 39% and the cancer group 32%.

Provisional Diagnosis.

Thirty-one percent of the cases had no provisional diagnosis recorded although in many of these cases a history was taken and a physical examination made. In the eye and ear group 75% of the cases had no provisional diagnoses; in the cancer group 30%, tuberculosis group 9%, and the children's and orthopedic group, 5%.

In 5% of the cases the provisional diagnosis did not seem to be justified by the history and physical examination as recorded. For instance, in one case a provisional diagnosis of "kidney removed" is based on patient's complaint that he has a persistent sinus from a former kidney operation, according to the record.

Almost one-half of the provisional diagnoses did not conform to the Bellevue nomenclature. The eye and ear hospitals were more responsible than any others for the large number, as 93% of their diagnoses did not conform; the tuberculosis group had 57%; the children's and orthopedic group, 41% and the cancer group only 7%.

Seven percent of the provisional diagnoses did not include all the conditions which were revealed by the history or physical examination. By groups, the number varied from 14% to 6%—the eye and ear group had the highest and the children's and orthopedic the lowest. In the cancer group, all findings were included in every case. In one case the physical examination showed the presence of a corneal ulcer but this was not included in the provisional diagnosis.

Only 51% of the provisional diagnoses completely agreed with the final both as to primary condition and secondary condition when present. The cancer group had

the highest percentage—78%—and the tuberculosis group the lowest—22%; the children's and orthopedic group had 67% and the eye and ear group—42%. In addition to those which completely agreed, there were 20% which partially agreed, that is, complications or secondary conditions were included in one diagnosis and not in the other. For instance, in one case the provisional diagnosis included chronic pulmonary tuberculosis and tuberculosis of the hepatic flexure, but the latter was not included in the final diagnosis. In another case of chronic pulmonary tuberculosis, the provisional diagnosis included tertiary syphilis—there is no mention of this in the final diagnosis. In still another case of pulmonary tuberculosis, paralysis of the right side is included in the provisional but not in the final. In two cases of pulmonary tuberculosis a heart condition was included in the provisional but not in the final.

About 13% of the provisional diagnoses did not agree with the final diagnoses in any respect—the proportion of such cases varied from 7 to 18% in the different groups: the children's and orthopedic institutions had the highest —18%—the cancer group—14%—and the tuberculosis and eye and ear group each had only 7%. A few illustrations may be cited of cases in which the provisional and final diagnosis did not agree in any respect. In one case the provisional diagnosis is "mitral insufficiency with decompensation," and the final—"corneal ulcer." Another case—the provisional is "rickets and bronchopneumonia" and the final—"pulmonary tuberculosis, general miliary tuberculosis and tubercular peritonitis." Another case had a provisional diagnosis of "otitis media and pyelitis" and a final diagnosis of—"acute bronchopneumonia." In another case the provisional diagnosis was "severe intertrigo"; and the final diagnosis—"mul-

tiple abscess of the kidney, acute bronchopneumonia and infant feeding." One case had a provisional diagnosis of "osteomyelitis of the femur" and a final diagnosis of "abscess of the thigh." Another case had a provisional diagnosis of "pyrexia of unknown region," and a final of "chronic pulmonary tuberculosis." Still another case had a provisional diagnosis of "osteomyelitis, tb. osteomyelitis, syphilitic gumma, infected sebaceous cyst, trichinosis, echinococcus cyst," and the final was "chronic pulmonary tb." This patient had an abscess on the chest wall according to the progress notes but this was not included in the final.

Final Diagnosis.

In 17% of the cases no final diagnosis is recorded—every group except the tuberculosis had a certain proportion of cases without a final diagnosis although the number varied from 45% in the cancer hospitals to 2% in the eye and ear group; the children's and orthopedic hospitals had 35% of cases without a final diagnosis recorded. A number of cases in one institution, many of which were malignant conditions, had neither a provisional nor a final diagnosis recorded and the latter had to be inferred from the pathologist's report or a note on the operation sheet if one was recorded. Such an omission is of more than academic interest, and good practice, at least, requires that a final diagnosis should be recorded as such in every case.

Over one-half of the final diagnoses did not conform to the Bellevue nomenclature—the eye and ear group had the largest proportion of "non-conforming" diagnoses—80%—the tuberculosis group—63%—and the children's and orthopedic group—40%. In the cancer group, every diagnosis conformed.

All but 5% of the final diagnoses were justified by the

record. In a number of the cases which contributed to the 5%, the record was too brief and uninformative to support any diagnosis. The eye and ear group had more seemingly unjustified diagnoses than any other group—7% —the tuberculosis hospitals had—5%—and the children's and orthopedic—3%. All were justified by the record in the cancer group.

In 20% of the cases the final diagnosis did not include all the conditions which, according to the record, seemed to be present. For instance, in the tuberculosis group which had the largest number of cases with findings omitted—27%, complications such as pleurisy of various types were frequently omitted. In one case there is no mention of an abscess on the chest wall which was present according to the record. Among the 20% of cases in the eye and ear group which did not include all the findings, is one which developed a post-operative pneumonia but this was not mentioned in the final; another patient, with a diagnosis of optic atrophy, received salvarsan but syphilis is not included in the final diagnosis. All findings were included in the final diagnosis in every case in the cancer group.

Five autopsies are recorded for the twenty-five cases with a fatal termination. In 3 of these, the final and autopsy diagnosis completely agreed, 1 did not agree in any respect and in one they only partially agreed; in this case the autopsy diagnosis included chronic myocarditis and tuberculous peritonitis, neither of which are mentioned in the final which means also that the final was not changed to conform to autopsy findings.

Bedside or Progress Notes.

Thirty-four percent of the cases had no bedside or progress notes whatever. Included among these cases

were such conditions as: "spastic hemiplegia, appendicitis with abscess, typhoid fever, lobar pneumonia, acute articular rheumatism, gonorrheal ophthalmia, gastro-intestinal indigestion, Hodgkin's disease, mastoiditis." The proportion of cases with no progress notes in the different groups varied from 59% in the eye and ear group to 11% in the tuberculosis group. In the skin and cancer group 30% had no notes and in the children's and orthopedic group—20%. In some hospitals every case had one or more bedside or progress notes while in others a number of cases had no notes.

In a considerable number of cases only one or two notes were made during the entire stay. The total number of notes for the 177 cases studied was 626 or an average of less than one note per case. The tuberculosis group with an average stay of 42 days, had an average of three notes per case, the cancer group, with an average stay of 22 days had five notes per case, the children's and orthopedic groups, with an average stay of 33 days, had six notes per case and the eye and ear group, with an average stay of 14 days, had one and one half notes per case.

Fourteen percent of the notes were signed by the intern, 8% were signed or dictated by the attending and 8% by the assistant attending. The other 70% were unsigned so that there was no way of knowing whether they represented the observations and conclusions of a member of the attending staff or of the intern. The tuberculosis group had the highest proportion—20%—of notes signed or dictated by the attending. In the eye and ear group, only six of the seventy-two notes had any signature and of these only one signature was by the attending.

Only 16% of the cases had a bedside or progress note on the condition on discharge or on the day of death, although in many cases a note was indicated to explain the

condition on discharge or just preceding a fatal termination. The eye and ear group had the highest proportion of notes on discharge—28%. In the cancer group only 10% of the cases had a note made at this time.

In 7% of the cases, the bedside notes were frequent enough and full enough to give an adequate idea of the progress of the case; in 93% they were inadequate.

Physical Examination Subsequent to the One on Admission by Intern.

Forty-four percent of the cases had no physical examination of any kind subsequent to the one by the intern on admission. Included among these cases were such conditions as: "sarcoma of the eye, carcinoma of breast, gonorrheal ophthalmia, Hodgkin's disease, syphilis, typhoid fever, mastoiditis, acute ileocolitis, chronic pulmonary tuberculosis, retropharyngeal abscess, ethmoiditis." The eye and ear group had the highest proportion of cases for which no examinations are recorded—76%—and the tuberculosis group the lowest—11%. The cancer group had 40% with no examination recorded and the children's and orthopedic groups—37%.

Twenty general physical examinations were recorded for the total cases studied or an average of one examination to every eight cases. The average by groups is: tuberculosis hospitals, one general physical examination to every four cases; children's and orthopedic, one to every fourteen cases; cancer group, one to every ten cases; eye and ear group, one to every nineteen cases. Of the twenty general physical examinations made, findings are recorded in only 13 or 65%. Three of the twenty examinations were made by the intern and ten by members of the attending staff.

One hundred and five chest examinations, covering

heart or lungs or both, are recorded on the total cases studied or an average of one to every one and a half cases. The average by groups is: tuberculosis group one to every two cases, eye and ear group one to every ten cases, babies, less than one per case, cancer one to every two and a half cases. Findings are recorded in 63% of the cases. Twenty-eight percent of the examinations were made by the intern, 42% by members of the attending staff and in 30% there is no signature nor any data to indicate who made the examinations.

In the eye and ear hospitals the total examinations recorded for twenty cases are—three general physical, one heart examination, five examinations of lung, twenty-five eye examinations (distributed among eight cases), and twenty-three ear examinations. All these examinations were made by members of the attending staff except 17 of the eye examinations.

The total examinations on the 57 cases in the children's and orthopedic groups were: four general physical, two chest examinations, six examinations of heart, 26 of lungs, three eye, five abdominal, one vaginal, fifteen ear, one nose and throat and one neurological, and fifty local examinations of the affected part. All but 7% of the examinations were made by the intern.

If the total number of examinations for the tuberculosis group are divided into the total number of cases, the average is one general physical to every four cases, one chest examination (including heart and lungs) to every two cases, one examination of heart to every fourteen cases and one examination of lungs to every two cases, one abdominal to every four cases, one vaginal and one eye examination to every nine cases, and one ear and one neurological to every forty-four cases.

In 21% of all the cases studied there is a record of a

physical examination on discharge or on day of death. The children's and orthopedic groups had the highest proportion—38%; the tuberculosis hospitals had 25% and the cancer group 15% with a record of an examination on discharge; there is none recorded for any case in the eye and ear group.

Laboratory Work.

In 27% of the cases no laboratory work of any kind is recorded. The proportion of cases with no laboratory work varied considerably in the different groups, for instance, the tuberculosis and cancer groups had only 4 and 5% of cases respectively with no laboratory work recorded, while the eye and ear group had 57%, and the children's and orthopedic hospitals had 22%.

If the total number of certain routine and special tests is divided into the total number of cases the average by groups is: in the children's and orthopedic hospitals, with an average stay of 33 days—1½ urinalyses per case, blood counts less than one per case, smears—one to every ten cases, Wassermann tests—one to every 2½ cases, nose and throat cultures—one to every 3½ cases. In two of the five hospitals in this group no nose and throat cultures are recorded for any case. The average for X-ray examinations was one to every 2½ cases. The high average is largely due to the orthopedic hospitals in this group which showed a considerable number of X-rays. The averages for certain laboratory work in the eye and ear group, in which the average stay was fourteen days, are: one urinalysis for every three cases, one blood count and one smear to every nine cases, one Wassermann to every fourteen cases. No nose and throat cultures are recorded in any case. The X-ray average is one to every five cases. In the cancer group, in which the average stay was 22

days, laboratory work averaged one urinalysis per case, one blood count to every three cases, one pathological examination of tissue to every 1½ cases; X-ray average was 1¼ X-rays per case; average for this work in the different hospitals in this group showed considerable variation; for instance, one averaged 2½ X-rays per case and another —one X-ray to every ten cases. The tuberculosis group, with an average stay of forty-two days, averaged two urinalyses per case, one blood count to every five cases, one Wassermann test to every 1½ cases, two sputum examinations per case, one X-ray to every 2½ cases. The X-ray average varied in the different institutions, for instance one had one X-ray to every 1½ cases and another —one to every nineteen cases.

In 80% of the cases more laboratory work was indicated, either as to routine or special tests, than is recorded. The percentage of such cases by groups varies from 90% in the cancer hospitals to 72% in the children's and orthopedic. Both the tuberculosis and the eye and ear group had 84% of cases in which more laboratory work was indicated.

Doctors' Orders.

The variation in procedure with regard to recording and filing doctors' orders which exists in the general hospitals, was found also in the special hospitals. Only 38% of the cases had a record of a doctor's order for the discontinuance of any medication and in only 72% of the cases is there a record of any diet order by a member of the attending staff or by the intern.

Nurses' Notes.

The nurses' notes were filed with the case records in nine of the eleven special hospitals. The notes were con-

sidered good in about 50% of the cases; in 35% they were fair and in 15% they were poor.

Consultations.

In three of the eleven hospitals representing every group but the tuberculosis, no consultations are recorded. Sixty-two consultations are recorded for the other 8 hospitals or an average of approximately one consultation to every three cases on the basis of the total number of cases studied. Findings are recorded in only 43% of the consultations. An analysis by type of consultant shows that seven were medical, six surgical, twenty-seven pediatric, seven nose and throat, four orthopedic, three dental, two neurological, one ophthalmological and one dermatological. In four cases there is nothing to indicate who was the consultant. The eye and ear and the tuberculosis groups showed the highest proportion of consultations.

Termination of Case.

Nineteen percent of the cases were discharged as "cured"; 30% as "improved"; 11% as "unimproved"; 4% as "good"; 3% as "O.K."; and one case as "fair"; 14% died. In seventeen cases the condition on discharge was not recorded. Variation in terms designating a patient's condition and the definition of these terms is as marked a characteristic of special hospitals as of general ones.

Five or 20% of the cases with a fatal termination have autopsies recorded. In four cases the autopsy report is full and complete; in one case it was considered incomplete.

CHAPTER IX

PROVISION FOR THE CARE OF CONVALESCENTS

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PROVISION for the care of convalescents constitutes an indispensable complement to hospital treatment. In New York City the need for institutional convalescent facilities has been acutely felt because of the economic and home conditions of a large portion of the population. Individual philanthropists, as well as organized charity, have responded to the need and established convalescent homes which are maintained and operated independently of the hospitals. Only seven of the sixty-two convalescent institutions are operated by hospitals; two of these are associated with hospitals for children, two with orthopedic hospitals, and three with general hospitals, two of these three belong to one institution and are devoted almost exclusively to work for child patients; the third is operated by another general hospital and is open during the summer only.

Since the costs of construction and maintenance of convalescent homes are considerably lower than those of hospitals, it has been frequently urged that the hospitals establish country branches to which convalescent patients could be sent to receive proper treatment and supervision until they have been fully restored to health and economic usefulness. Such country branches would not only be

advantageous to the patients whose restoration to health, both physical and mental, could proceed under the same general direction as in the hospital where they were treated, but would also make more beds available in the city for cases of acute illness, as the average length of stay of the patient in the hospital would be shortened by transfer to the country branch. Several general hospitals have had the establishment of such homes under consideration. One of the reasons why further action has not been taken is the uncertainty as to whether such a convalescent home, with its patients limited to those of one hospital, could be economically maintained throughout the year; and the second reason is the existence of a large number of convalescent homes with an average utilization of not much more than seventy per cent. of their effective capacity. The whole problem of convalescence has not been attacked in a scientific manner, either in its medical or its community relationships.

Convalescent Needs.

The recent war experience has led some observers to the conclusion that "the average patient who has been sufficiently ill to require the average length of stay of three weeks in a hospital for acute diseases, has also been sufficiently ill to require an additional average period of three weeks under observation in a convalescent home or hospital."[1]

Not only hospital patients but others who pass through a period of serious illness require proper environment for their convalescence. Since, however, it would be utterly impractical and prohibitively expensive for the community to provide convalescent facilities for all those re-

[1] Bryant John, *Boston Medical and Surgical Journal*, January 25, 1923.

covering from sickness, the patient's home must serve the purpose in the large majority of cases, and social service agencies have a great opportunity to aid the families with whom they come in contact to make this convalescent period in the home as effective and helpful as it can be made by intelligent supervision and guidance. There remains, however, a large number of patients who cannot obtain, under existing housing conditions, the type of care necessary for proper recovery. It has been estimated that for convalescent purposes the community should provide facilities equivalent to from twelve per cent. to fifteen per cent. of its total hospital bed capacity.[1] On this basis, New York City with its 32,000 hospital beds (including private rooms in hospitals as well as proprietary institutions) would require from 3,840 to 4,800 beds in institutions for convalescents. Another estimate places the need at twelve per cent. of all hospital patients, allowing ten per cent. for the hospital patients proper and two per-cent. of this number for other patients.[2] In New York City we have in round numbers 375,000 hospital patients annually; according to this estimate, 45,000 persons require institutional convalescence. The average stay of a convalescent patient is twenty-one days; each bed can, therefore, be used by seventeen patients in a year. On this basis, the total number of beds needed would not exceed 2,650. The various estimates undoubtedly have a sound pragmatic basis but cannot be more than suggestive of a norm, as the actual demand for facilities depends upon many variable conditions, such as the economic cycle of industrial prosperity and depression, hous-

[1] Sinclair, Molly E., "Convalescent Provision and Needs of New York City." *Hospital Social Service*, 1921, Vol. v., p. 386.

[2] Brush, Frederic, in the *Cleveland Hospital and Health Survey*, 1920, Part X., p. 939.

ing conditions, the interest of hospital authorities in their patients, the activities of the social service departments, the prevalence of illness. The fact that surgical patients constitute the large majority of hospital cases, many of whom require facilities which are nonexistent in the usual type of convalescent institution, is a condition which has not been seriously considered as yet in the staffing and equipping of convalescent homes. It should also be borne in mind that the convalescent homes, situated as they are outside the city limits, serve the outlying communities as well, and to that extent the facilities for the sick residents of the city are curtailed. A study of the domiciliary distribution of the patients indicated that in some of the institutions the proportion of those residing outside of New York City limits was considerable; in one instance, it was as high as sixteen per cent. of the total during a particular year.

Available Facilities.

It is sometimes difficult to draw the line between a convalescent home and a so-called fresh air home, as in many instances, the latter only take applicants who are below par in health, but who are not convalescent in the strict sense of the word. The line has been drawn as far as is possible, and the number of beds in institutions in or around New York City which are regarded as serving distinctly convalescent patients is 3,220. Of this number of available beds, 1,189 are for adults and 2,031 for children under sixteen. Of the 1,189 beds reserved for adults, 339 or 28.5 per cent. are for men and 850 or 71.5 per cent. for women. The division of beds for children is approximately as follows: 566 for babies, 681 for boys and 784 for girls. Of the total number of beds available for adults, 559 are in institutions exclusively for adults

and the remainder in institutions which take both adults and children. 1,314 beds out of a total of 2,031 for children are in institutions maintained exclusively for children. Of the total sixty-two institutions, forty-five are operated all the year round, thirteen only during the summer months, and four only during the winter. The seventeen part time institutions have a combined bed capacity of 857 beds, which on the basis of a four months' utilization in a year is equivalent to 286 available the year round. Our total convalescent bed capacity on the annual available basis does not exceed 2,650. With the exception of certain institutions for the care of children which admit only certain types of conditions, the convalescent homes do not specialize in any particular type of patients, except that many of them exclude mental and neurological cases, orthopedic patients unable to care for themselves, non-tuberculous pulmonary cases with a disturbing cough, and those requiring special diets or surgical dressings; in many institutions neither negroes nor adolescent boys are taken, the former because of race prejudice and the latter because of the difficulty of managing them.

Aside from tuberculosis sanatoria which are not included in the group of institutions under consideration here, the greatest progress has been made in provision for sufferers from cardiac diseases, although the need in this connection has not been fully met. The need for convalescent care of orthopedic cases has been clearly brought before the community, and provisions have been made to meet the demand to a certain extent. In some instances, it is difficult to draw the line between a convalescent and a chronic patient, and as the needs of the latter are entirely different from those of the convalescent patient, they are not discussed here.

Most of the convalescent homes do not publish statistics

of conditions from which the patients convalesce and some of them do not even keep such statistics. It is, therefore, impossible to ascertain the extent to which certain types of cases are more adequately provided for than others.

An inquiry of the social service departments of the hospitals was made with a view of eliciting information as to the types of patients who are most difficult to place in convalescent homes. The replies received do not focus on any particular condition. The most frequently mentioned difficulties are encountered in placing neurological and mild psychosis cases, special diet cases such as nephritis, diabetes, and post-operative gastric ulcer cases, adolescent boys, helpless and crippled children, mothers with children, and certain types of older men.

The following is a list of convalescent homes serving New York City with their bed capacities.

CONVALESCENT FACILITIES FOR GREATER NEW YORK—1922–1923

1.	Babies' Hospital, Summer Branch, Rumson, N. J.	55
2.	Bikur Cholim Convalescent Home, Mt. Vernon, N. Y.	25
3.	Blythedale Home for Convalescent Children,[1] Hawthorne, N. Y.	40
4.	Burke Foundation, White Plains, N. Y.	300
5.	Campbell Cottages (New York Hospital),[2] White Plains, N. Y.	80

[1] Blythedale Home for Convalescent Children: Until September, 1922, at Hawthorne, N. Y., with forty beds; temporarily working in connection with Convalescent Home for Hebrew Children at Rockaway Park, N. Y., with twenty-five beds, until completion of new building at White Plains, N. Y., when fifty-eight beds will be available.

[2] Campbell Cottages: Boys up to the age of ten, girls up to sixteen years of age.

6.	Caroline Rest (A. I. C. P.),[1] Hartsdale, N. Y.	114–120
7.	Children's Country Home (Assn.),[2] Westfield, N. J.	18
8.	Convalescent Home for Hebrew Children,[3] Rockaway Park, L. I.	Avg. 78
	Aftercare Home for Crippled Children,[3] Rockaway Park, L. I	30
9.	Country Home for Convalescent Babies, Seacliff, L. I.	50
10.	Daisy Fields Home and Hospital, Englewood, N. J.	18
11.	Edgewater Creche, Englewood, N. J.	20
12.	Elizabeth Milbank Anderson House (C. A. S. Chappaqua, N. Y.	175
13.	Gallatin Cottage (C. A. S.), Valhalla, N. Y.	50
14.	Gerald Ease, White Plains, N. Y.	15
15.	German Home for Women and Children, Coney Island, N. Y.	45
16.	Gould Farm,[4] Great Barrington, Mass.	13
17.	Greenview House, Bradley, N. Y.	14

[1] Caroline Rest: Designed chiefly to meet the need of convalescent mothers with children, particularly the young mother with first baby. Usually there are about 114 beds, but this number is sometimes brought up to 120.

[2] Children's Country Home at Westfield, N. J.: Until the spring of 1923 open during the summer months only; has at present a total bed capacity of forty-eight, about 36 percent of which is used for children from New York hospitals.

[3] Convalescent Home for Hebrew Children: Accepts girls from six to twelve and boys from six to ten. Occasionally takes younger child of four or five but will not take a girl of eleven if mature. Merged with Aftercare Home for Crippled Children.

[4] Gould Farm: Only a portion of the guests are convalescent, and there is no medical attendance. The figures estimated above cover the approximate number of beds used by New York City patients needing recuperative rest.

18.	Health Home (C. A. S.),[1] Bath Beach, L. I.	230
19.	Hebrew Convalescent Home, New York, N Y.	45
20.	Hill Top Camp (Presbyterian Hospital),[2] Hawthorne, N. Y.	32
21.	Holiday Farm, Rhinebeck, N. Y.	50
22.	House-by-the-Sea (Union Settlement), East Moriches, L. I.	25
23.	House of St. Giles the Cripple,[3] Garden City, L. I.	60
24.	Incarnation Winter Home, Lake Mohegan, N. Y.	28
25.	Isabella Home,[4] New York, N. Y.	56
26.	Jane Elkus Home (Free Synagogue), Oakhurst, N. J.	22
27.	Jewish Home for Convalescents,[5] Grandview, N. Y.	40
28.	Josephine Home, Peekskill, N. Y.	25

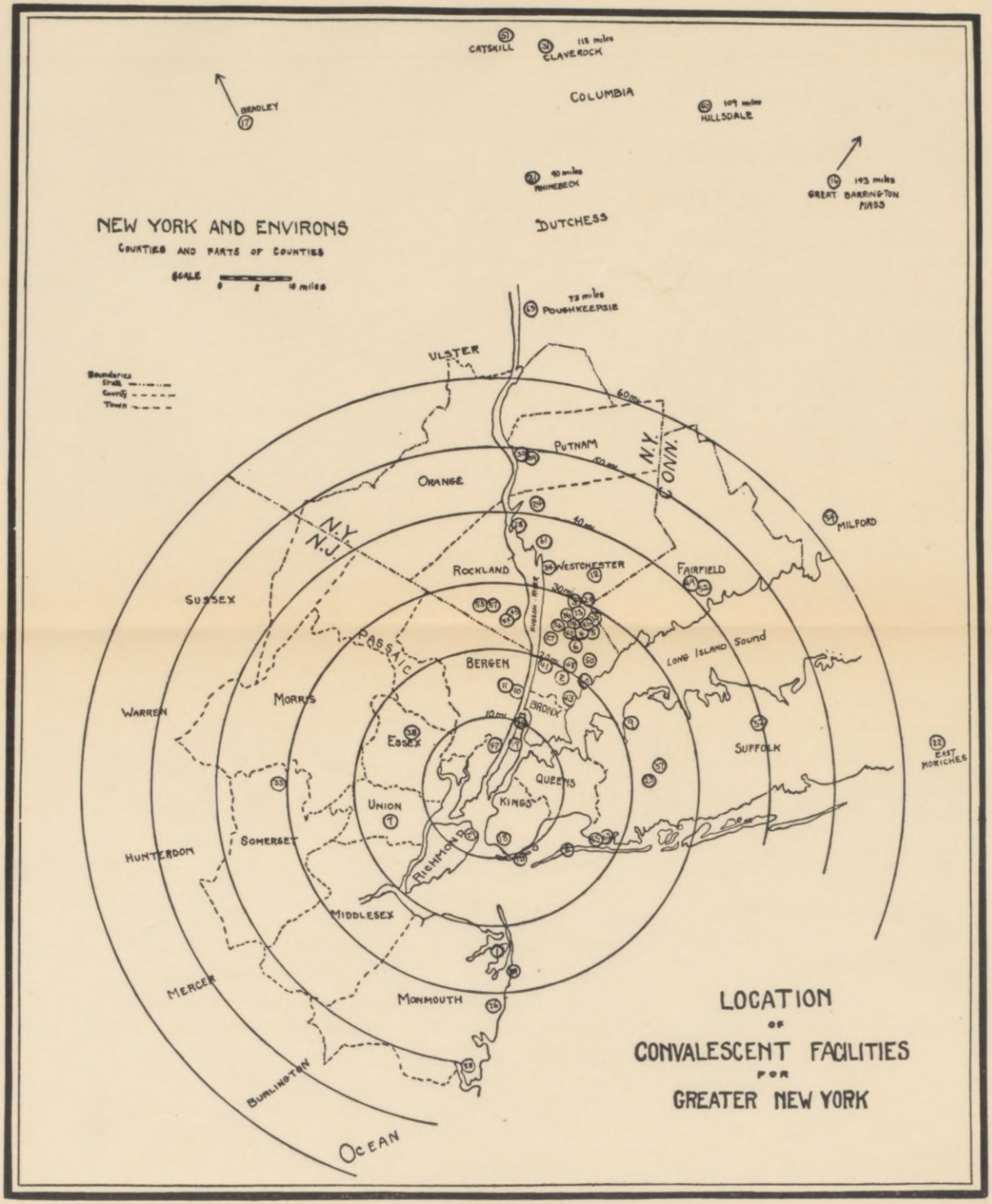
[1] Health Home: Has approximately five hundred beds, forty of which are used for nursery children on outings; fifty to sixty for crippled children, and 125 for mothers with children up to six years. It is estimated that about 175 convalescent children are provided for while the other one hundred beds are for children other than convalescent. By adding to the 175 convalescent beds an average of fifty-five beds for crippled, we arrive at the approximate figure of 230 given above. Plans are being discussed regarding the advisability of changing the policy by keeping the place open the year round with emphasis on convalescent needs in the winter and extra provision for mothers and children in summer.

[2] Hill Top Camp: For children with tuberculosis and occasionally from the cardiac clinic of Presbyterian Hospital, divides the summer care into separate periods for boys and girls wnich gives total number of beds thirty-two for each.

[3] House of St. Giles the Cripple: At Garden City, L. I., had thirteen beds for girls and twenty beds for boys prior to completion of new building in May, 1923, when provision was made for sixty children—tentatively thirty boys and thirty girls.

[4] Isabella Home is "mainly a home for the aged; the convalescent department (fifty-six beds) is a small part of the work of the Home."

[5] Jewish Home for Convalescents: Running far below total capacity of 140 possible beds.



Map indicating the location of convalescent homes.

29.	Kinderfold (C. A. S.),[1] New Brighton, S. I....	a'v'g	10
	Goodhue Home, New Brighton, S. I.....		3
30.	Loretto Rest (Catholic Charities), Cold Spring, N. Y.....		16
31.	Lulu Thorley Lyons Home, New York, N. Y.		50
32.	(Bishop) McDonnell Hall for Convalescent Women, Commack, L. I.....		24
33.	Maple Cottage, Peapack, N. J.....		24
34.	Martha Summer Home, Ossining, N. Y..... (See note on Kinderfold.)		6
35.	Martine Farm, White Plains, N. Y.....		24
36.	Mary Zinn Home for Convalescent Cardiac Children, White Plains, N. Y.....		41
37.	Mineola Home for Cardiac Children,[2] Mineola, L. I.....		56
38.	Montclair Fresh Air and Convalescent Home, Verona, N. J.....		36
39.	Moore (James A.) Memorial Home,[3] Seabright, N. J.....		10
40.	Mountain Pass Farm (Friendly Aid Society), Hillsdale, N. Y.....		36
41.	Neustadter Home, Yonkers, N. Y.....		58

[1] Kinderfold—Goodhue Home: Reserves an average of three beds for use of convalescent girls among those sent there for placing out. Martha Summer Home, also maintained by the Children's Aid Society, reserves six beds for those of the girls who need convalescent care.

[2] Mineola Home for Cardiac Children: Will accept a small boy of sixteen but will *not* take a large or overdeveloped (adolescent) boy of fifteen. Claim is made that it is the only home caring for the cardiac adolescent boy, however Burke reserves fifteen beds for the use of cardiac boys of fifteen and sixteen, and Nicholas Cottage with six beds takes boys from ten to sixteen, sometimes using in addition a bed fitted up in the barn of Reed Farm for a large adolescent boy.

[3] James A. Moore Memorial Home: The policy has been primarily to limit ages from sixteen to forty (preferably professional workers) but an occasional girl of fourteen has been accepted from time to time. "These latter have not been sufficiently numerous, however, to allow a definite division in the total beds available."

42.	New York Orthopedic Hospital, Country Branch,[1] White Plains, N. Y.	135
42a	Noyes Memorial Home (St. Mary's Hospital)[2] Poughkeepsie, N. Y.	20
43.	Pelham Home for Children, Pelham Manor	30
44.	Reed Farm, Valley Cottage, N. Y.	33
45.	Nichols Cottage, Valley Cottage, N. Y.	6
46.	Rest for Convalescents, White Plains, N. Y.	72
47.	St. Andrew's Convalescent Hospital,[3] New York, N. Y. / St. Andrew's Rest, Woodcliff Lake, N. J.	average 26
48.	St. Eleanora's Home and Cottage for Convalescents, Tuckahoe, N. Y.	55
49.	St. James Convalescent Home, Norwalk, Conn.	20
50.	St. John's Home (Catholic Charities), Mamaroneck, N. Y.	25
51.	St. Joseph's Villa (Rest Home), Catskill, N. Y.	30
52.	St. Mary's Hospital Summer Home, Norwalk, Conn.	80
53.	St. Vincent de Paul Convalescent Home (St. Elizabeth's), Spring Valley, N. Y.	40
54.	Sarah Schemerhorn House (N. Y. P. E. C. M. Society), Milford, Conn	50
55.	Seaside Home for Crippled Children, Far Rockaway, L. I.	65

[1] New York Orthopedic Hospital, Country Branch: Expects to build an addition to allow provision for forty beds for adults. During 1922 there were four older patients ranging from sixteen to twenty years of age who occupied four of the hospital's twenty-six beds kept in reserve.

[2] Noyes Memorial Home: To be enlarged. Former capacity twenty. Age limit same as St. Mary's Hospital. Future capacity undetermined.

[3] St. Andrew's Convalescent Hospital, having a capacity of thirty-two beds in the winter, has only eighteen beds at the Rest from May 16th to October 1st, thus making an average of 26.5 for the year. During 1922, the Home cared for four or five children under fourteen but their policy now is to confine themselves to the care of women of refined classes with a possible age limit of sixty years.

56.	Solomon and Betty Loeb Memorial Home, Eastview, N. Y.	108
57.	Spring Valley Camp[1] (Henry Street Settlement), Spring Valley, N. Y.	21
58.	Sunnyside Farm (Margaret and Sarah Switzer Inst.),[2] Manasquan, N. J.	40
59.	Surprise Lake Camp, Cold Spring, N. Y.	70
60.	Urban League Convalescent Home (for the colored), North Pelham, N. Y.	8
61.	Valeria Home,[3] Croton, N. Y.	116
62.	Wavecrest Convalescent Home, Far Rockaway, N. Y.	35
	Total	3220

Utilization of Existing Facilities.

The combined institutions with facilities for convalescence, of which forty-five are open all year round, can give approximately one million patient days of service. Allowing ten per cent. for losses in time caused by renovations, temporary shutdowns, and intervals between the discharge of old and admission of new patients, the actual available or effective capacity of these homes was about 875,000 days in 1921. The aggregate number of patient days' care rendered was slightly over 626,000, or seventy-two per cent. of the effective capacity.

An attempt was made to gauge the extent of utilization of convalescent homes by classes of patients, but the lack of available medical statistics made this impossible in any detail. As far as the data go, the highest utilization is found in the case of orthopedic and cardiac children,

[1] Recently discontinued.

[2] Sunnyside Farm: Seventeen beds were available up to April 1, 1923, the time of completion of a new memorial building providing forty beds, which is to be kept open the year round if demand warrants.

[3] Valeria Home: New buildings ready for occupancy June 1, 1924.

babies and recent maternity cases. Women utilize convalescent homes to a larger extent than men.

The extent of utilization varies in different institutions and is subject to seasonal fluctuations; it is at the lowest ebb during the months of early autumn. The underutilization of the convalescent homes does not mean that we suffer from a plethora of facilities, but rather indicates a lack of coordination. There is no central office where information as to available facilities is registered daily and where all those concerned with the sick can readily obtain such information. At the present time, each hospital has a certain select group of institutions to which it refers its patients, but it is almost impossible for the individual social worker to keep in touch with all the institutions continuously as regards vacancies.

The maladjustment of the supply of facilities to the existing demand is another cause of the underutilization of the convalescent homes. Many of the patients who need convalescent care and are unable to obtain it because of the nature of their illness, could in all probability be accommodated if there were a better understanding of the existing needs, and a common desire to meet these needs irrespective of whether or not it is convenient to the individual institution. It seems wasteful to add further to our facilities until the existing accommodations have been made more elastic and better adapted to the existing demands.

A lack of synchronization of effort on the part of the placement agencies with the time of discharge of the patient from the hospital is another reason for underutilization. Frequently patients cannot be accommodated in institutions at the time they leave the hospital because no plan has been made for them until they are ready to be discharged, and it is difficult to get them to go to a

convalescent institution after they have been home for a time. Some patients are altogether unwilling to go to institutions for convalescent care because of pressing domestic or economic reasons. Women who have children to take care of in their homes, or men who have families to support and are anxious to return to work as soon as possible, refuse convalescent care.

The admission procedures in some instances are a deterring influence. Some of the homes do not admit patients on the diagnosis of the referring physician or hospital but insist that the patient apply to the institution in person for examination with a chance of being refused admission. Other institutions do not accept the social investigations made by the referring agency and send their own agents to ascertain the financial and home conditions of the applicants.

Then there is always the individual equation of the patient with his own likes and dislikes. Some institutions enjoy a very good reputation among the patients and others are not attractive to them.

It is apparent from the findings of the survey that there is a great social waste taking place in connection with the underutilization of the convalescent homes, due chiefly to lack of a common directing policy and of generally recognized medical and administrative standards.

Administration.

The annual expenditure for convalescent homes serving New York City amounts to approximately two million dollars. No exact figure can be given, because in many instances there are no available financial reports such as are published by hospitals. Furthermore, in the case of certain institutions, the cost is borne entirely by an individual or group of individuals who do not care to disclose

the extent of their philanthropy. The figure of two million dollars for the maintenance of all the convalescent homes is a mere approximation based on incomplete data.

On the basis of possible days of care which the institution can render, the per capita per diem cost is in the neighborhood of $2.00. The Burke Foundation reports an actual per capita cost of $1.97 and the New York Orthopedic Hospital $1.96 per patient in its country branch. The daily cost at St. Andrew's Convalescent Home is reported as $1.92. The Society of the New York Hospital reports that the daily cost per patient in its convalescent cottages is $1.73.

It may be of interest that in a group of thirty-one institutions with a total annual expenditure of $817,530, 34.9 per cent. was spent on salaries and wages and 27.8 per cent. on food. This distribution of items, when compared with a similar classification of hospital expenditures, indicates that the convalescent homes spend only a slightly smaller proportion of their revenues for salaries and wages and about the same proportion for food. The other items of expenditure could not be properly segregated for comparative purposes.

The receipts from patients do not constitute a large proportion of the total revenue. The charges in the majority of the institutions are low. In some no definite rates are charged, but the patients are asked to contribute as much as they feel they can afford. Eight of the homes are primarily for pay patients, and only two homes make a charge for care and maintenance at all commensurate with the cost. The Burke Foundation until recently was one of those which made no charge to its patients.

Many of the homes maintain farms or truck gardens where produce is raised for consumption in the institutions. The gardens are considered an advantage from

THE BURKE FOUNDATION

White Plains

(Courtesy of Dr. Frederic Brush)

the economic as well as the therapeutic point of view, because some patients are allowed to engage in the occupations incident to farming and gardening.

The buildings of many of the smaller convalescent homes were built for residences and later adapted to their present use. In the case of the larger institutions the structures were specifically designed for the purpose. The arrangement of accommodation generally followed is to provide wards for children and single or double rooms for adults. Some of the homes have sleeping porches and tents in the summer. Only one institution has a resident physician. All others have some arrangement with physicians residing nearby for either regular visits or calls as needed. All but two of the institutions have nursing personnels. Two institutions for children provide dental care for their patients.

There are no generally accepted standards of medical nursing care for the various types of patients nor a scientifically formulated regimen of life. Curative workshops have not been generally introduced, nor is the value of occupation therapy admitted by all of the homes. In some institutions, it is part and parcel of the daily program, while in others it is considered a hindrance to convalescence. In some of the larger institutions mothers are taught how to care for and prepare food for their babies and the general care of infants. In most institutions, there are facilities for recreation, but neither recreation nor exercise have been developed in accordance with standards based on an accurate knowledge of therapeutic results for the several types of patients. Experimentation along these lines is being carried on at the Burke Foundation and the Mineola Home, where supervised work and games of various kinds are encouraged for cardiacs and other patients. Several of the institutions

for children have teachers or kindergartners, and also play directors.

Considering the tremendous opportunity of the convalescent homes to restore large numbers of patients to normal ways of life and economic usefulness, it seems imperative that a joint effort on the part of the institutions should be made to secure data which will serve as a foundation for a rational and effective development of the work in its administrative as well as its professional branches.

Hospital Experience.

In order to obtain a cross section view of the mechanism by which hospital patients are transferred to convalescent homes, a study was made of a group of records of patients selected at random in the social service departments of twenty-five hospitals. Altogether 3,236 records were read, which dated far enough back to include a complete history of convalescence. The cases studied covered dispensary cases as well as distinctly hospital cases.

Of the 3,236 cases, 980 or 30.3 per cent., were certified by the social service departments as needing institutional convalescent care. This need was determined by medical reasons in some of the institutions, on account of home conditions in others, and in some instances a combination of both was the basis. The study disclosed a marked variation from hospital to hospital with regard to the certification of patients as needing institutional convalescent care, indicating a lack of a generally accepted standard of selection. In some of the children's services the proportion of cases selected by the Social Service departments as needing convalescent care varied from eighteen per cent. to seventy-two per cent., and in the case of adults the variations were less marked.

It was surprising to find that the convalescent need was met in 81.8 per cent. of the cases. Here again, the several hospitals varied greatly in their ability to place patients; hospitals having their own country branches were of course one hundred per cent. successful. It is of interest that in the group of patients studied, convalescence was provided to the extent of 85.7 per cent. in the case of adult males, 81.2 per cent. in the case of children, and 80 per cent. in the case of adult females. The study further showed that the hospitals most successful in placing their patients were those in which the need was ascertained several days before the discharge of the patient. Of the 802 patients whose convalescent needs were filled, thirty-two per cent. were placed in convalescent institutions on the day of discharge, 12.6 per cent. within three days afterward, thirteen per cent. within a week, and thirty-two per cent. were not placed for a week following discharge from the hospital, and for 10.4 per cent. there was no information on the records as to the date when they were placed in convalescent homes.

An effort was made to correlate the length of stay of patients in the hospitals with that in the convalescent homes, but as the length of stay in the convalescent homes was not given on the social service records in a large number of cases, the correlation could not be worked out. An analysis of the failures to secure the necessary convalescent care showed that the largest number was in the group of adult females, primarily because of their refusal to go to the convalescent homes on account of home responsibility. According to the medical classification, the greatest number of failures was among surgical cases, and also among neurological and orthopedic cases.

In 57.2 per cent. of the social service records of the

patients certified as in need of convalescent care, there was no entry with regard to follow-up service; twenty-seven per cent. were followed up within two weeks after their discharge from the hospital, and fifteen per cent. in a period of three weeks to three months.

The study of records revealed a lack of any uniformity of approach to the problem of convalescence by the hospitals. There seems to be a need for a better formulation on the part of the hospital authorities of the types of patients which should be urged to take institutional care and under what conditions it should be carried out, and of a better correlation between the time of the discharge from the hospital and the admission to a convalescent home.

Summary.

Institutional convalescent care has evidently become recognized as a community responsibility in New York City. According to an estimate made by Dr. Brush in the April 15, 1923, issue of the *Nation's Health*, New York City maintains about fifty per cent. of all the convalescent homes in the country. The investment in these homes reaches many millions and the aggregate cost of maintenance amounts to a considerable sum annually. Some of the institutions have large endowments, notably the Burke Foundation, the Solomon and Betty Loeb Memorial and the Valeria Home, which is in the process of construction and which is to serve the need of the middle class. The outstanding need at the present time is a definite community policy with reference to institutional convalescence, a coordination of all the existing activities as well as a formulation of adequate administrative and medical standards. Until such standards are formulated and adhered to, many physicians and surgeons would

hesitate to curtail the length of hospital stay of patients and to transfer them to convalescent homes. A central bureau of information or registry could be made very serviceable in promoting higher standards and in reducing the amount of underutilization of existing facilities.

CHAPTER X

SPECIAL PROBLEMS

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THE hospital situation in New York City calls for discussion and consideration of numerous special problems. Many of them have been touched upon in the course of the preceding pages. In the present chapter several of these problems have been singled out for a brief presentation of their basic elements. This may have the additional advantage of focusing the attention of the reader upon certain specific hospital problems.

I. Hospital Provision for Chronic Patients

The case of "the chronic patient" has been characterized as a challenge to the medical profession.[1] The neglect of the chronic patient is considered to be one of the most important contributing causes to the development of the various medical cults. It has been estimated that 50 per cent. of all deaths are due to chronic diseases.[2] Irrespective of whether this figure is accurate or not, the fact remains that there is a great deal of chronic illness which does not receive the study and therapeutic attention

[1] Joel E. Goldthwait. *Boston Medical and Surgical Journal*, Jan. 12, 1922.

[2] Ernst P. Boas. *The Modern Hospital*, November, 1922.

which its importance warrants both from a medical and economic point of view.

Chronic patients may be ill from some well-recognized disease, which, however, has been neglected in its early stages and allowed to progress until all hope of cure is passed; they may suffer from some remediable condition which has not been properly diagnosed; or they may be afflicted with conditions, which at the present stage of medical knowledge can not be relieved or cured.[1]

Skilful diagnosis and a conscientious course of treatment, whether obtained at the hands of a private practitioner or at a dispensary in the case of those who are unable to pay, will go a long way toward reducing the number of chronics in the community who fall in the second of the three categories above mentioned. In the other two classes there will always remain a large number of patients, and institutional care must be provided for many of these. In a recent survey of hospital facilities in Cleveland, it was found that 42.7 per cent. of the cases treated in their homes under the supervision of the Visiting Nurse Association were chronic cases which needed institutional care. If the tuberculosis cases be excluded, the percentage of those requiring an institutional régime is even higher.

The chronic patient presents both a medical and an economic problem; both of these are closely related, and this fact must be constantly kept in mind when dealing with him. From an administrative point of view the patients of a hospital for chronic diseases divide themselves into several groups. There are those who are primarily in need of medical or surgical treatment or of some kind of physio-therapy or functional rehabilitation; on the other hand, there are patients for whom very little can be done in a medical or surgical way, and their only

[1] H. Thibault. *Journal of the Arkansas Medical Society*, June, 1922.

need is proper nursing; and there are those who have an incurable disease of such a type that they require only custodial care.

From a medical standpoint the problem of provision for chronics is further complicated by the end-result sought. To take care of those who with proper treatment and environment can be restored to health or physically rehabilitated so as to become economically independent, is an essentially different problem from taking care of those who have but a slight chance of recovery, if any, and who will be more or less helpless or entirely so for the remainder of their lives.

A comprehensive community policy must take into consideration all the existing types of chronics, ambulatory as well as institutional. The ambulatory well-to-do patient can secure the requisite medical and nursing care either at home or in special proprietary institutions, but the ambulatory patient of small means is largely dependent on the out-patient departments of hospitals for his care and treatment. Many such patients can be saved from institutionalization and the consequent disruption of family life by adequate dispensary care and treatment. Even patients who are totally disabled or bedridden need not be institutionalized, when this is not desirable because of family ties, if the aid of an organized visiting medical and nurse service can be enlisted. There will always remain, however, a considerable proportion of cases for whom institutional care of a medical or purely custodial character must be provided. It may be advantageous and humane to combine the two in order to eliminate the pathetic non-medical homes for incurables and the dismal almshouses.

New York City has been singularly negligent in dealing with the problem of the chronic. It is true that we have a

large number of dispensaries but because of lack of proper organization of this branch of hospital care and the prevailing medical apathy toward the so-called chronic conditions these departments have failed to make the most of their opportunities.

As regards special hospitals for chronics, there are too few of them and in many a slovenly type of medical and nursing work has been tolerated. At the present time, with the exception of the Montefiore Hospital and Home, the Lincoln Hospital and Home, and the Home for Incurables, New York City has no institution which has been adequately manned and equipped to provide for the numerous types of chronic patients requiring medical and nursing care.

Although there are 13 institutions for chronics and incurables with a total bed capacity of over 2,000 beds, the existing facilities are insufficient. One of these is for Protestant women and children who are incurable; one is for incurable crippled girls between 4 and 16 years of age; a few are maintained by the Catholic Church, chiefly for incurable cancer and tuberculosis; the rest are municipal institutions under the jurisdiction of the Department of Public Welfare. We have in addition a number of almshouses and homes for the aged, but in neither of these is there adequate medical supervision.

With few exceptions, the institutions for chronics have neither an adequate medical and nursing organization nor proper facilities for physio-therapy; occupation therapy is likewise not fully developed. The resident staff has not the stimulus for engaging in scientific work and has no adequate guidance and supervision of an interested attending staff; furthermore, the number of cases per resident physician is in most instances too large to enable him to do more than his routine work, and often this is done in a

perfunctory fashion; moreover, the compensation paid is often inadequate. The laboratory and X-ray facilities in most of these institutions are meager and inadequate.

The Montefiore Hospital and Home, which is a model of its kind, has demonstrated what can be accomplished with a well-defined program, adequate means and a competent personnel. The attending medical staff in this institution is divided into five services, medical, surgical, neurological, tuberculosis and cancer. Ample laboratory and research facilities are provided, and there is a salaried resident and intern staff. The nursing service is of the usual complete regulation hospital type. In addition, social service, occupation- and physio-therapy and a dental service have been fully developed. The Reconstruction Hospital has done admirable pioneer work in functional rehabilitation and in the prevention of helpless cripples.

The municipal hospitals in the Department of Public Welfare have an opportunity to develop this neglected branch of their work and bring it to a higher level of productive efficiency than that which has prevailed in the past. Re-organization with that aim in view has recently been undertaken.

One of the first requisites for all hospitals for chronics is a visiting staff composed of physicians and surgeons who are interested in chronic diseases and who are willing to devote to the study and treatment of these diseases as much time as is usually given by visiting physicians in the hospitals for acute conditions.

The hospitals must be so equipped as to make feasible proper scientific and therapeutic work; such organization would attract an ambitious resident staff and would make possible the organization of training schools for nurses or nurse attendants.

The need for proper facilities for the numerous cases

of vascular, cardiac and renal diseases, neurological conditions, for paralytics, arthritics, diabetics, and patients with gastric or metabolic disturbances is so great in New York City as to constitute one of the outstanding problems in hospital organization at the present time.

II. Provision for the Study and Prevention of Mental Diseases

Of all hospitals those for the treatment of mental diseases show the highest degree of utilization; in fact, they are over-utilized, as there is an overcrowding which should not be tolerated. In four of the State hospitals in New York and its environs, the bulk of whose patients come from the City, the utilization is from 125 per cent. to 139 per cent., indicating that by crowding, many more patients are accommodated than the facilities and equipment warrant, which is bound to be detrimental to the patients and often results in premature discharges from the hospitals. New York City has provisions for psychopathic patients at Bellevue Hospital and at Kings County Hospital, Brooklyn; the former has 177 beds assigned for the purpose, and the latter, 71. The Psychopathic Department of Bellevue admitted 8,411 patients in 1921, and Kings County Hospital admitted 3,045 patients in this department. The boroughs of the Bronx, Queens and Richmond, have no local facilities.

Although New York City has about 20 per cent. of all the hospital beds in the country and about 10 per cent. of all the hospital facilities of the 50 larger American cities, no private general hospital here maintains a psychopathic ward similar to the psychopathic pavilion of the Albany Hospital, or the psychopathic wards of St. Francis Hospital, Pittsburgh. Arrangements for such services are being

developed in the plans of the Columbia-Presbyterian Medical Center.

In view of the large number of annual admissions to the State hospitals and to private sanatoria, and the importance which mental hygiene has assumed, it seems almost imperative that New York City should have a psychopathic hospital for the study and prevention of mental diseases similar to hospitals in other cities, such as the Henry Phipps Psychiatric Hospital in Baltimore which is an integral part of Johns Hopkins University; the City Hospital for Mental Diseases in New Orleans; the Cook County Psychopathic Hospital in Chicago and similar institutions in other large cities.

The need for such a hospital in New York City has been recognized for many years. In 1904 a bill passed the Legislature establishing a State psychopathic hospital in the Borough of Manhattan which was contingent, however, on the City's donating a suitable site. The site offered was considered unsuitable, and the hospital was not built. In June, 1918, a special committee of the State Hospital Development Commission reported in favor of a psychiatric hospital to be maintained by the State and located on Manhattan Island which would work in close relationship with the Manhattan State Hospital and which would make the State Hospital system for the insane more complete and add to its effectiveness. The hospital was to take care of persons suffering from mental disorders in the early stages, when they are often curable, and to admit them without the stigma of legal commitment. It was expected that many persons would come voluntarily to such institutions for diagnosis and treatment. The hospital would also serve the purposes of research and teaching, which would benefit the officers and employees of the State who are charged with the care

of the insane, the medical profession and the general public. Such a hospital would likewise deal with the "difficult" child and would apply the principles of mental hygiene to the prevention of insanity which has been increasing at an appalling rate. A bill embodying these recommendations was passed by the Legislature in 1920, but was vetoed by Mayor Hylan.

Prior to this study on the part of the State authorities, the problem was considered by a committee appointed by Mayor Mitchel in 1916. The Committee, which was known as the Committee on Classification and Treatment of Mental Defectives, made a detailed report in October, 1916, which contained numerous suggestions for the improvement of the present services at Bellevue and Kings County hospitals, the Farm Colony, the Department of Correction, and for standardization of the work, and also recommended that the clinic for atypical children be transferred to Bellevue Hospital. A change in municipal administration and the supervening war prevented any action being taken on this report.

Recently requests for a hospital were made by the Commissioner of the Department of Public Welfare, but as yet no appropriation has been granted by the City. The situation has become more acute than when the matter was first brought to the attention of the public authorities. The problem of the insane is admittedly a State responsibility and should be met by State action, but the services at Bellevue and Kings County hospitals should be adequately enlarged by the City.

III. Neurological Services

According to the available figures concerning the distribution of the bed capacity by services in the hospitals in New York City, there are 898 beds devoted to neurological

conditions, or 2.8 per cent. of the total bed capacity of the City. Of these, 532 are in municipal institutions, 17 in a private general hospital, and 349 in two private special hospitals, i.e., the Neurological Institute and the Montefiore Hospital.

The neurological service at Bellevue, Mount Sinai, and the Neurological Institute is for acute and sub-acute types, while most of the cases in the other institutions are admittedly chronic in character. One of the reasons why the general hospitals have not set aside special services for neurological cases is the difficulty of differentiation between sub-acute and chronic conditions; another is that in their initial manifestations the neurological conditions in adults have been treated by the internists, and in the case of children, by the pediatricians. Of late, differences of opinion have arisen with regard to the proper division of the work between the departments of internal medicine and neurology, as well as between neurology and other specialties, such as orthopedics, for example, in the treatment of poliomyelitis cases. There seems to be a tendency in hospital organization to recognize the special domain of neurology in sub-acute neurological conditions, as evidenced by the large number of cases which are transferred to these services wherever they have been established, and by the high degree of utilization of the Neurological Institute, designed primarily for diagnostic and surgical work. A new feature of the work of the Neurological Institute is the clinic for maladjusted or so-called "problem" children. The successful experience in the study of the personality make-up of neurotic children with a view of suggesting methods of procedure to render them temperamentally and nervously fit suggests wide opportunities for hospital neurological services of this kind for adults as well as children.

The domain of the neurologist has until recently been limited to the group of cases designated as chronic. We have in New York City several institutions where chronic neurological patients are treated. The outstanding institution of this character is the Montefiore Hospital. Aside from the special service of the Kings County Hospital, the Central Neurological Hospital on Welfare Island is the largest municipal institution for the treatment of chronic conditions, and a considerable proportion of the beds are devoted to neurology. Unfortunately, because of insufficient appropriations by the City, this institution, which has a wealth of clinical material, and which could do a great deal for the benefit of its patients as well as for scientific research, has not been, until recently, organized or equipped in a way that would lead to satisfactory work. The examination of case records in this institution as well as in the other municipal and private institutions caring for chronic patients indicates that in the private institutions the work is of a higher grade and the equipment for therapeusis more adequate.

An analysis of the records studied in institutions where neurological cases are treated indicates that considerable improvement is needed in the organization of this branch of hospital work. There is need of a more active interest on the part of the attending physicians, of a larger and better compensated resident staff, of stricter supervision over the discharge of the duties of the resident staff of more laboratory work, better records, and more opportunities for the application of physio-therapy and of occupation therapy.[1]

[1] The summary of this study was published in the *New York State Journal of Medicine*, November, 1923.

THE MONTEFIORE HOSPITAL FOR CHRONIC DISEASES

Gun Hill Road

(Courtesy of Dr. Ernst P. Boas)

IV. The Problem of the Cripple

In a recent survey undertaken by a special committee, it was ascertained that there are 36,000 cripples in New York City, that about half of them are under 16 years of age, and that a large proportion of the cripples among both the younger and older groups do not receive vocational guidance or the necessary medical care.[1]

The fact that over 50 per cent. of the cripples were not known to any agency and were not receiving treatment of any kind was a shocking discovery and calls for concerted action on the part of all the social agencies concerned. It was also pointed out that the existing social service and educational agencies have not divided the work among themselves in such a manner as would meet the problem of the cripple in a satisfactory, co-operative way.[1]

As in many other chronic conditions, the economic situation of the cripple plays an important part in the determination and type of facility to be provided. Many of the cripples can be accommodated at home; a large number of them can be gainfully occupied if suitable work were furnished them. In the case of children, transportation to and from the clinics as well as to the schools must be systematically arranged for, and in the instance of bedridden cases medical and nursing as well as educational supervision provided at home. Nevertheless, there will always remain a large number of cripples, who because of economic and home conditions must be provided with custodial care. At the present time, there are but 7 institutions in New York with a total bed capacity of 563, which accept custodial cases. These institutions have increasingly long waiting lists. In the survey of

[1] *Survey of Cripples in New York City.* Published by the New York Committee on After Care of Infantile Paralysis Cases, 1920.

cripples, the conclusion has been reached that the number of custodial beds should be markedly increased and that there is a need for an institution which will take care of the feeble-minded cripple.

It was likewise ascertained that for those needing surgical treatment there are enough operative beds and sufficient dispensary facilities in the hospitals of the City.

With regard to convalescent care, the existing facilities were considered far from sufficient. Most of the convalescent homes do not take cripples. The New York Orthopedic Hospital maintains its own country branch for the after-care and treatment of patients from its own hospital. The branch is located in White Plains and has accommodations for 134 beds and only curable cases are admitted. The Hospital of St. Giles the Cripple of Brooklyn has likewise a country branch at Garden City, with a capacity of 50 beds, which is to be enlarged. These are the only two convalescent homes maintained by orthopedic hospitals. The Blythedale Home at Hawthorne furnishes convalescent facilities for crippled children. Other institutions occasionally set aside very limited facilities for this type of case.

V. Provision for Orthopedic Patients

It has been estimated in the survey that the average period of convalescence in orthopedic cases lasts at least ten weeks and in view of this there should be at least 5 convalescent beds for every surgical bed. There are about 1,300 surgical orthopedic beds in the City and on this basis there ought to be about 6,500 convalescent beds. Many of the patients, however, can find proper convalescent environment in their homes or in country places, but a large proportion need institutional accommo-

dation, and it is estimated that at least 500 additional beds are needed at the present time.

If adequate facilities for convalescents could be provided, the present hospital facilities for orthopedic cases would be sufficient for some time to come. It is claimed that two weeks is a fair average for an orthopedic case to stay in the hospital. In most instances, however, the hospitals cannot discharge their patients so quickly because of home conditions, and because of the lack of facilities for convalescent care of this type of case. A large economic waste results from keeping patients in hospitals where the cost per diem is higher than in a convalescent home and where they occupy beds needed for acute cases.

The fact that many of the patients visiting orthopedic clinics fail to return after several visits and are not followed up, suggests the need of more social service work in connection with these cases.

VI. Safeguarding of Maternity and Infancy

The reduction of maternal as well as neonatal mortality and stillbirths is one of the outstanding public health problems of today. In the birth registration area of the United States 105,000 babies die annually before they are one month old and an equal number are stillborn; the majority of these stillbirths are reported to be at term.

Barring tuberculosis, puerperal mortality is the highest cause of death among women between 15 and 45 years of age. In New York City the death rate of women from puerperal causes per thousand live and stillbirths has increased from 4.4 in 1917 to 5.3 in 1921. The neonatal mortality and the mortality of infants under one month has decreased in the last few years from 36.1 in 1917 to 34.0 in 1921, but the stillbirth rate in the same period has

been increasing. It was 41.4 per thousand births, live and still, in 1917, and 44.7 in 1921. In other words, about 8 per cent. of the babies born in New York City are either born dead or die before they are one month old. In view of the fact that this large mortality is synchronous with a considerable decrease in the number of births attended by midwives and with an increasing tendency on the part of women to use hospitals during confinement, the question has been raised as to the efficiency of obstetrical work in the City. As the present study was concerned with hospitals only, no attempt was made to deal with the question outside of hospitals. In all of the institutions devoted to maternity service or having maternity wards, inquiries were made concerning their puerperal and infant mortality, and in a number of institutions records of cases terminating fatally have been examined.

The statistics obtained indicate considerable variation in the lethal rate of the several hospitals. In many cases, this is due to a difference in methods of recording deaths as in some institutions deaths occurring during pregnancy are not counted as maternal deaths unless caused by a condition occurring only in pregnant women, as for instance toxemia of pregnancy; in others all deaths of pregnant women, irrespective of the cause, are included in the maternal mortality figures; however, institutions which use similar methods, as the municipal group, likewise show considerable differences.

When the available statistics were grouped by types of hospitals, it was found that the hospitals devoted exclusively to maternity had the lowest mortality for both mother and child; the general private hospitals having maternity services had the next lowest, and the municipal hospitals the highest. In partial extenuation of the higher mortality in the municipal hospitals, it must be said that

many cases mishandled by midwives or physicians are brought to these hospitals in desperate condition; the municipal hospitals have no private patients and deal, as a rule, with women of the lower ranks of society, many of whom are diseased and mistreated; and furthermore, municipal hospitals can not exercise the privilege of the private hospitals in refusing cases. Liberal allowance should, therefore, be made for these handicaps, but within the municipal group itself there are considerable variations which can only be attributed to differences in prevailing obstetrical practice.

Because of the increasing importance which attaches to prenatal care, the majority of hospitals which have a maternity service have established prenatal clinics, and in some institutions it is a rule that no woman, except in emergency cases, can be admitted to the hospital unless she has been registered with the prenatal clinic several months prior to her delivery. The whole value of prenatal work hinges on the co-operation and effectiveness of hospital work. This work can be rendered totally ineffective if the hospitals do not take the greatest care in supervising the obstetrical practice and the nursing care within their confines.

It was hoped that a study of selected case records would throw some light on the existing situation, but unfortunately in many hospitals the records on the obstetrical services do not contain sufficient data to justify such a hope, especially in complicated cases. Moreover, in some institutions, the filing methods employed are often so primitive and unsatisfactory that it is very difficult to select records by type of complication or operative procedure; the records are often filed only according to the primary diagnosis, such as "Parturition L.O.A." or "Parturition L.O.P."; and the operative deliv-

eries or complications can only be ascertained by going through the entire file of, for example, "Parturition L.O.A." and picking out the cases wanted. Sometimes the type of operative delivery or complication is not included in the final diagnosis on the face of the record, and it becomes necessary to read the whole history to discover these facts. Only a few hospitals maintain a cross index file for reference as to complications and method of delivery.

In some institutions there was no mortality index file, and it was necessary to search through the bedside cards, which are filed alphabetically, in order to find cases terminating fatally. In some institutions, a list of these is kept by the record clerk; while in others it is on file in the main office.

In some institutions, the fact of a stillbirth could not be ascertained from the mother's case record, and it was necessary to consult the stubs in the stillbirth certificate book to get this information. From a scientific standpoint stillbirth statistics as kept by the hospitals are of limited value because they are not classified on the basis of the period of gestation. In the majority of the hospitals no analysis of this kind is made. From the public health point of view, it is a matter of no small consequence to know how many stillbirths occurred before and how many after the seventh month of gestation.

Under the ruling of the Department of Health of New York City, a product of conception which can be identified as a fetus and which has not breathed is considered a stillbirth and must be so reported. This practice is at variance with the State regulation which considers a stillbirth as "a birth of a child that has advanced beyond the fifth month of utero-gestation."[1] A stillbirth in the State must

[1] Chapter 619 of the Laws of the State of New York, Article 20, Section 376.

be reported as a birth and a death. It would seem that the English practice of regarding as a stillbirth a birth of a child after the twenty-eighth week of utero-gestation, or when it becomes viable, is a more practical method of classification than that prevailing in this City or State.

In the matter of adequacy and completeness of recording obstetrical case histories, the hospitals show considerable variation. In some institutions the record of prenatal care, for example, is not made a part of the hospital case record, but is kept on file in the prenatal clinic or the social service department. This practice renders the antepartum data not readily available to the attending physician. In one hospital it is inferred that the patient had prenatal care if the date on the antepartum sheet does not correspond to that of admission, but there is no way of knowing whether the patient had visited the clinic subsequently to the first date as no record of subsequent visits is made as a matter of routine. In another institution a date written in red ink in the lower corner of the antepartum sheet indicates that the patient had prenatal care. In many hospitals where the "prenatal sheets" are made a part of the permanent record, the recording of the data is so haphazard and, in many instances, so meager, as to be of little service to the obstetrician or to any one appraising the value of prenatal work.

In some hospitals no pelvic measurements are made after the patient is admitted if this work was done in the prenatal clinic, although the record frequently does not indicate whether the measurements have been made by the physician or the intern in the clinic. In many cases there is just a notation that a vaginal examination was made in the prenatal clinic, but there is no record of the findings or of a general physical examination at any time, either in the prenatal clinic or subsequent to admission,

and many times the record does not indicate whether the examination was rectal or vaginal, or who made the examination and when.

The findings of the study show that very little laboratory work is recorded either in the prenatal clinic or after admission to the hospital. In some cases urinalyses which were positive for albumin were made at intervals of two or three weeks in the prenatal clinic. Many cases had no blood pressure recorded, either before or after admission.

Although in most hospitals the printed form calls for an examination on discharge and a record of the findings, this work is not done in all cases as a matter of routine. In many instances the space is left blank and in others just the date and a signature are recorded, but no other information.

As to the record of follow-up work, this again varies considerably. In some institutions the case record or a summary of it is not available at the clinic when the patient returns, and the physician who examines and advises the patient is often in ignorance as to the method of delivery, the course of the puerperium and the patient's condition at the time of the discharge from the hospital.

Hospital statistics which are generally lax are particularly so in the obstetrical services. Even the method of counting the deliveries is not standardized. Some hospitals base the calculation on the number of mothers delivered and others on the number of babies delivered, so that in one hospital a pair of twins would be counted as one delivery and in another as two deliveries.

Very few hospitals know the number of primiparæ and the number of multiparæ delivered, and not all analyze their mortality experience. Frequently attending obstetricians keep detailed records of cases delivered on

their own services with data as to reasons for mechanical or surgical complications, treatment and an explanation of end-result to mother and child, but very seldom are these data on file in the hospital administrative office or in the record room.

VII. Contagious Disease Hospitals

The function of the hospitals for contagious diseases is in one respect somewhat different from that of ordinary hospitals. They exist, as do other hospitals, for the treatment of certain diseases, but this is not their only purpose. Patients are also sent there, because under the present housing conditions in this City they can not be properly isolated.

We have in New York City four hospitals for the treatment of contagious diseases with an aggregate capacity of 2,708 beds. By special arrangement, the Department of Health maintains a contagious disease service at the Staten Island Hospital. The facilities in the different hospitals are as follows:

Manhattan—Willard Parker Hospital	999	beds
—Riverside Hospital, North Brother Island, East River	782	"
Brooklyn—Kingston Avenue Hospital	855	"
Queens—Queensboro Hospital	50	"
Richmond—Staten Island Hospital	22	"
	2,708	"

The bulk of the patients in these hospitals suffer from diphtheria, scarlet fever and measles.

According to the available statistics, from 18 to 25 per cent. of the diphtheria cases and from 15 to 19 per cent. of

the scarlet fever cases which were reported in this City in the last few years were treated in the contagious disease hospitals of the Department of Health. The average percentage of measles cases treated in hospitals is about 4 per cent. of the reported cases, and is much smaller when all cases of measles are considered, as the law for reporting measles is less scrupulously observed than in the case of other diseases. The London Fever Hospitals treat over 90 per cent. of the reported cases of diphtheria and scarlet fever and practically no measles. The two reasons for the non-hospitalization of measles are: when the disease reaches the stage at which it can be definitely diagnosed, it has passed the period of its greatest infectivity, and therefore the preventive feature of hospitalization is lost; secondly, as far as the treatment goes, measles cases as a rule do better outside of institutions. There are, however, in every large City with a housing problem such as ours, many cases of measles which must be taken care of in hospitals.

With respect to the distribution of available facilities in the City, there is evidently a need for a hospital in the Borough of the Bronx, which has grown into a large City, and where the child population is considerable. The need for a hospital in that borough has been recognized for many years, and the City has been ready on two occasions to appropriate the necessary funds for building on the site which it owned. The opposition of real estate interests, however, which feared a depreciation of the value of property in the proximity of such an institution prevented the building of a hospital on the original site. Later on, another site was obtained, but for similar and other reasons no progress has been made in this direction. In a large degree Riverside Hospital on North Brother Island serves as the hospital for the Bronx. It is, however,

not easily accessible, and many of its pavilions, like those of the Willard Parker Hospital, were built many years ago and should be modernized or entirely replaced.

With the gradual elimination of diphtheria, it is possible that the need for contagious disease hospitals will be chiefly for scarlet fever cases, and accordingly the size of these hospitals will be reduced, although with the fluctuations in the virulence and the cycle of epidemics, the facilities must be at hand to meet all possible emergencies. Contagious disease hospitals usually suffer from a lack of nurses not because of a lack of appropriation, but because, strange as it may seem, nurses do not apply for experience in this type of illness which is so common among children. Only one hospital training school in New York City has affiliations with a contagious disease hospital for the training of its nurses. With the growing importance of the nurse as a public health agent, it would seem desirable that the proper educational authorities should insist more than they have in the past upon nurses acquiring experience in hospitals for contagious diseases. The scrupulous observance of sanitary rules and inoculation against certain diseases minimize the dangers of infection.

Following a recent re-organization, the authorities of the Willard Parker Hospital are making efforts to place nurse instruction on a proper basis. This applies in like measure to the education of interns. Hitherto, no definite arrangements have existed for the training of medical interns of general hospitals in the diagnosis and treatment of contagious diseases. It is essential that such training for a brief period of time should be given to every medical intern.

There is another aspect of the contagious disease problem in New York City, which needs emphasis: until several years ago there existed a privately endowed

hospital known as the Minturn Hospital for the treatment of diphtheria and scarlet fever. It was too expensive to operate and was given up. The hospital plant and the remaining endowment were turned over to the City and are being used for ancillary services in connection with the Willard Parker Hospital. As a result, there exists at the present time no private hospital accommodations for persons willing and able to pay and who may prefer hospital care. Others because of residence at a hotel or boarding house are compelled to become ward patients in the municipal contagious disease hospitals, irrespective of their economic status. There is need for setting aside limited private room facilities for the care of this kind of patient in connection with at least one of the Department of Health hospitals.

VIII. Occupation Therapy

Occupation therapy is a comparatively new phase of hospital work. The war and its subsequent reconstruction and rehabilitation problems gave an impetus to it. While the value of occupational diversion had long been realized in the case of mental patients, the blind, and the chronically ill, the introduction of occupation therapy in general and special hospitals on an organized basis is of recent origin but is gradually gaining recognition. In New York City only a very few general hospitals, among them Bellevue and the Presbyterian, have utilized it to any extent.

Occupation therapy has been defined as any activity, mental or physical, definitely prescribed and guided for the distinct purpose of contributing to and hastening recovery from disease or injury. It is not to be confused with vocational training which has a different purpose and a psychology of its own.

The underlying philosophy of occupation therapy is based on the realization that idleness is harmful. "Aimlessness is necessarily demoralizing and deteriorating. Purpose and effort within the limits of physical and mental strength are rehabilitating."[1] It is therefore necessary to make both profitable and pleasurable use of the time in the hospital after the acute stage of the disease has passed. In fractures and joint and muscle conditions, occupation therapy is of direct value in helping to restore function. Simple tasks can be provided suited to the capacities and ability of the bedridden patient and of the convalescent. Well-adjusted occupation therapy diverts the patient's mind from his ailment; it helps him to use his injured limbs, and it may serve as a first step in vocational training, if a change of occupation is necessary. It is a sovereign help in the problem of adaptation of the chronically ill.

In recent years the movement for the introduction of occupation therapy in hospitals has made considerable headway under the stimulation of various national and local associations established for the purpose. It is, however, still in its infancy and needs the guidance of physicians to steer it along the proper channels. To be productive of the greatest good, occupation therapy must be carefully prescribed by the physician just as any other kind of therapy; it should be adjusted to the problem in hand, to the mental state as well as the physical condition of each patient, to his likes and dislikes, to the prognosis of his condition, and to any necessary change in vocation if the impairment is likely to be of a permanent character.

[1] *The Value of Occupational Therapy in State Hospitals.* Edwin W. Cocke, Tenn. State Med. Assoc., Jan., 1922.

There should be sufficient experience available on which to base more systematized work. It should be determined more definitely what kinds of "occupation" are best adapted for what groups of cases. . . . Records should be tabulated showing the results of all "occupation" work, and through a "follow-up" system a better idea should be obtainable as to how much it all really amounts to."[1]

The desirability of extra-mural curative workshops where patients pending resumption of their ordinary occupations could find temporary remunerative part-time employment under medical supervision must likewise be considered in any plan of community provision for occupation therapy. The economics of the service itself is another factor of importance, as is the training of qualified teachers. The lack of a sufficient number of skillful and trained personnel is said to have been a deterrent factor in the wider application of occupation therapy in hospitals; other difficulties relate to fitting it into the regimen of the average ward service and to lack of space for supplies and equipment.

The application of occupation therapy to the numerous conditions, acute and chronic; the selection and adjustment of tasks and occupations from both the point of view of adaptability and that of economic return, as well as the training of competent personnel are problems requiring long and discerning study and experimentation, for which the aid and good will of physicians and hospital authorities are indispensable.

[1] W. Gilman Thompson, "Occupation Therapy," *Journal of the American Medical Association*, June 4, 1921, Vol. 76, No. 23.

CHAPTER XI

COMMUNITY POLICY

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COMMUNITY POLICY

I.—The Community Responsibility With Respect To Hospitals

I

THE development of hospitals in New York City has not proceeded along the lines of a clearly defined and consciously directed community policy. As the population has grown, hospitals have multiplied. In the beginning they were devoted exclusively to the care of the sick poor and the isolation of persons suffering from communicable diseases and mental disorders; gradually accommodations have been added for patients who can afford to pay the full cost of their maintenance as well as for medical, nursing and other services. Private philanthropy has exceeded the municipality in the bounty with which it has established hospices for the sick. Some of the institutions were especially established out of regard for the habits and preferences of the various religious and racial groups. With the advancement of medicine and the differentiation of the specialties, special hospitals have come into existence for the accommodation of patients suffering from certain types of diseases.

As a result, we have at the present time a large and

heterogeneous accumulation of hospital services more or less suited to the needs of the community, but inelastic in their organization, not fully adjusted to meet the economic status of the several classes of the population, and for the most part not co-ordinated with existing hospital facilities in the City as a whole.

2

Because of the lack of a community policy with regard to hospitals, the relationship of municipal to other hospitals has not been definitely established. The municipality exempts from taxation non-commercial hospitals; it pays to the private hospitals a stipulated per capita for patients who are admittedly "city charges" and who, because of an emergency or other cause, are treated in a non-municipal hospital. There is, however, a need for a definite understanding as to a division of service between the two groups of hospitals, and of a competent directive or at least advisory body, to mould and supervise future development.

The beds in the municipal hospitals constitute 40% of the total bed capacity, and provide more than ample facilities for those of the City poor who seek relief in municipal hospitals in acute medical or surgical conditions. A part of the existing municipal hospital accommodations could be profitably diverted and equipped to meet the totally inadequate facilities for those affected with chronic ailments who require hospitalization, and for certain types of convalescent patients. The required facilities could be developed on Welfare Island and should perhaps not be limited to the indigent alone.

It is an open question whether municipal hospitals should deviate from their present policy and establish private and semi-private room facilities. The following

arguments have been urged in favor of such a change in policy:

1. The early conception of hospital work was service to the poor exclusively. This attitude has been changed in the case of privately endowed hospitals and the question is whether municipal hospitals in this City should not follow the example of the private hospitals, and of the municipal hospitals in other communities, and change their policy in accordance with the existing needs for hospital accommodation;

2. If such a policy were adopted, the extent of utilization of municipal hospitals would be increased; and the confidence in the municipal hospitals, particularly those of the Department of Public Welfare, would be enhanced if private patients should patronize these institutions;

3. The fact that discriminating private patients were being treated in municipal hospitals would tend to quicken the present sluggish interest of the public in these institutions; the type of service would be uniformly raised in all departments of the hospitals, and the relation of personnel to patients would undergo a desirable change;

4. It would be easier for the hospitals to obtain the undivided attention of the visiting and assistant visiting staffs if their private patients were accommodated in the same institutions in which their free ward work is being done; and

5. The rates in the municipal hospitals for private and semi-private accommodations in both the acute and chronic services would undoubtedly be lower than in most of the private institutions, as there would be no incentive for the municipal hospitals to make the private and semi-private services a source of revenue as the expenses connected with the ward services would be met as heretofore by the municipality from tax funds.

The objections to such a change of policy on the part of municipal hospitals are numerous and outweigh the advantages above listed. The main objections raised are:

1. That the appointments to the medical staffs might become unduly influenced by political patronage;

2. That the present arrangements in some of the municipal hospitals whereby the affiliated medical schools are responsible for the conduct of services might be disturbed, to the detriment of the hospitals;

3. That the gain from the change in policy would redound chiefly to the financial benefit of the attending physicians; and

4. That it is not the business of the City to supply facilities for patients who could obtain them in non-municipal hospitals.

Whether or not the change in policy in the conduct of municipal hospitals takes place, it should be emphasized that experience in this and other cities has amply demonstrated that university connection and teaching have a most beneficent effect upon the type of medical and surgical practice in hospitals; furthermore, in order to insure a continuity of policy, it is desirable that all the municipal hospitals be under non-partisan boards of trustees selected on the basis of their interest in and understanding of hospital administrative problems, and that their terms of office be so arranged that only a minority retire at any one time.

3

Although the responsibility for efficiency in the administration as well as other departments of the hospital in the final analysis rests with the board of trustees and the administrative heads, the community has provided machinery of an official and unofficial kind to supervise the

affairs of hospitals. The State Board of Charities certifies to the need of an institution before a charter is granted to it by the State; it also inspects the hospitals and gives them a rating.

The City Health Department supervises the sanitary conditions in hospitals and exercises certain powers with regard to licences. The American College of Surgeons by its standardization raises the efficiency of surgical work; the American Hospital Association assists in the investigation of administrative problems; the City Department of Finance requires a certain type of accounting in hospitals receiving grants from the City; and the United Hospital Fund which assists the hospitals financially, likewise demands a certain method of financial and statistical bookkeeping. All of these agencies have undoubtedly exercised a most wholesome influence on the discharge of important obligations on the part of hospitals, and in the interests of the community it is desirable that standards which are generally approved be enforced more rigidly than in the past. The State Board of Charities has been handicapped in the exercise of its supervisory functions by insufficient appropriations for a larger inspectorial personnel.

4

In New York City with its large number of hospitals of all kinds, there is more need of a clear definition of community responsibility than in smaller communities. A great deal of waste can be eliminated by co-operation and a fuller understanding of the entire hospital problem in the City, just as a certain amount of saving has been accomplished by co-operative buying through the Hospital Bureau of Standards and Supplies. The United Hospital Fund is an agency in the field that has done

much in the way of making local hospital facts better known to the community, and it is likely to play a more important part in the future, which will necessitate a certain amount of readjustment in its organization. There is a growing appreciation on the part of the public here as well as in other communities that a central distributing agency is better able to allocate contributions than individuals who have not a sufficient basis for competent judgment or discrimination. The Hospital Information Bureau and the Committee on Dispensary Development, which have been organized under the United Hospital Fund at the suggestion of the Public Health Committee of the New York Academy of Medicine, are important adjuncts of the United Hospital Fund and should prove, by accumulation of facts, to be of distinct value to the hospitals, and of service in the shaping of a community policy.

5

The present survey has shown that the total number of hospital beds in the City is sufficient for the present needs, but their distribution by type of service does not fully correspond to actual demands for hospitalization. Aside from the need for a psychopathic diagnostic hospital and the extension of facilities for the treatment of mental diseases, which is a State function, we need more accommodations in the City for neurological cases, venereal disease cases, and for the accommodation of chronic and certain types of convalescent patients, as well as for industrial rehabilitation. Above all, the community should provide ample funds to make it possible for the hospitals to carry out their manifold obligations unhampered by the lack of means for essential services and equipment.

II.—The Responsibility Of Hospitals To The Community

The responsibilities of hospitals to the community relate:

1. To the patients treated in the hospitals and in the out-patient departments of the hospitals;
2. To the training of physicians, nurses, and other professional groups working in the hospitals;
3. To medical science;
4. To the promotion of public health; and
5. To those who maintain the hospitals.

I

The hospital exists for the benefit of the sick who come for relief from ailments or for a diagnosis of obscure conditions. The primary community obligation on the part of the hospital is toward its patients, and it involves responsibility on the part of the hospital authorities to secure:

a. The services of physicians and surgeons best qualified to diagnose and treat disease;

b. An adequate and efficient nursing personnel;

c. Equipment necessary for the most efficient performance of functions on the part of the visiting and resident medical staffs, the nursing personnel, and other auxiliary staffs;

d. Skilled technicians in the various pathological and X-ray laboratories;

e. A sufficient corps of adequately compensated helpers of every kind to insure a smooth and efficient functioning of the hospital as a unit;

f. A physical environment where all the elements of successful treatment and handling of patients can be

applied, including proper food, ventilation, heating, and lighting; and last:

g. An atmosphere conducive to recovery, which embraces such imponderables as kindness and courtesy to the patients and their relatives on the part of the administrative and professional staffs; quiet, comfort and cheerfulness.

2

A hospital is more than a hotel for sick people; it is a social institution. Among its responsibilities, that which pertains to the training of physicians, nurses, and other professional workers is second only to the care and treatment of patients. The graduates of medical schools after the completion of their college course come to the hospitals as interns for the purpose of obtaining experience and an opportunity to apply, under competent direction and guidance, the principles of medical science to the treatment of the sick. Unless this guidance be provided, a large part of the opportunity has been wasted, and the scientific attitude toward the problems of disease, which has been instilled in them during their medical course, is transmuted into mere routine performance of tasks.

High standards of nursing work must likewise be continuously maintained in order to insure to the patients and to the community a supply of competent women to discharge the duties of bedside nursing or to act as public health agents.

When a scientific spirit permeates an institution, it establishes high standards in the work of all the associated professional groups and assists the hospital in fulfilling its second community function, namely, serving as a training ground for professional workers in medicine and in allied domains.

3

The third community responsibility of the hospital is the advancement of medical science. If it does not foster scientific research and provide necessary funds and opportunities for investigation of the causes, course, and treatment of disease, and if it makes no effort to obtain the maximum amount of post-mortem examinations, the hospital fails in discharging a vital responsibility.

The wider opportunity a hospital can give to physicians for even a temporary association with its work, the better it fulfills its function, provided this policy does not interfere with efficient administrative organization of the medical and surgical work. Close association of the ward work with that of the out-patient departments provides an additional opportunity for the study of disease.

The hospital "history room" should be a repository of carefully recorded medical experience which, when properly analyzed and co-ordinated, will enrich medical science. The hospital neglects its obligations if it does not provide a statistical service through which scientific correlations of facts can be worked out as a matter of routine by a competent medical statistician.

4

By the treatment, instruction and guidance of patients, by its research work, and a properly organized out-patient department, the hospital is able to fulfill another community obligation,—the prevention of disease and to that extent the promotion of public health. The out-patient department where many patients in incipient stages of disease apply, has a great opportunity and duty to devote all the available medical acumen and resources to early diagnosis and treatment to check the

progress of disease. Unless a hospital grasps this opportunity, it is deficient in another of the vital responsibilities which it has toward the community. The wider the influence which the hospital can exercise in the immediate neighborhood, the greater will be the realization of its responsibility. Some hospitals are so organized and located that the services of the X-ray and other laboratories, as well as the physio-therapeutic departments could be placed at the disposal of the practicing physicians in the immediate vicinity, and a close contact and spirit of good-will established between the hospitals and the local practitioners.

5

Hospitals should have ample funds to meet all of their obligations and to provide adequate facilities for patients of various economic strata.

The types of hospital accommodations should be distributed in accordance with the demand for the various medical and surgical services.

The hospitals should also recognize their obligation to the visiting staffs, whose affiliations are gradually being limited to but one institution in the interest of more efficient performance of duty.

The tendency on the part of hospitals to increase the share paid by patients toward maintenance expenses should not lead them to adopt a scale of charges which would result in a hardship to large groups among the sick who seek hospital care. The policy in this respect should be liberal in scope and sympathies, but cautious and just in its individual application.

A liberal policy with regard to charges and a generous recognition of the hospital's manifold community obligations should go hand in hand with a policy of rigid

economy, and the most careful scrutiny of all expenditures. In justice to those who support it as benefactors, paying patients, or taxpayers in the case of municipal institutions, the hospital should institute all known devices for efficient organization and management.

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