

PATIENT AND EMPLOYEE LABOR IN A
STATE MENTAL HOSPITAL FOOD SERVICE

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ABSTRACT

The purpose of this study was to analyze in terms of labor hours both patient and employee labor assigned to the Food Service at Kalamazoo State Hospital. The hospital had a census of 3,500 patients and 900 employees. The Food Service was operated on a decentralized basis with fourteen kitchens located in thirteen different buildings without connecting rampways.

The first objective was to obtain information concerning the histories of the patients assigned to Food Service and Food Supply (extra-departmental). Accordingly, factors which might have pointed out their work capacity, sex, category of freedom, and age, were investigated. The second objective was to compare patient and employee labor hours and to determine the distribution between the two groups. The final objective was to determine the distribution of labor hours between three large and ten small kitchens and to compare the number of meals produced per labor hour.

During the time of the study, there were 87 employees, 55 women and 32 men; and 151 patient helpers, 117 men and 34 women, assigned to Food Service. The average age of patients who were

on duty in Food Service and Food Supply (extra-departmental) was 49 years; the age range was from 14 to 82 years. Twenty-seven patients were assigned to Food Supply.

The kitchens were grouped according to function as well as location to facilitate the interpretation of data. In the function classification, the kitchens were three large, ten small, and one diet; in addition, there were four cafeterias and one bakery. Ninety-three per cent of the labor hours was in the three large kitchens, ten small kitchens, and four cafeterias.

Seventy-five per cent of the patient labor hours was accrued in the four cafeterias and ten small kitchens. Seventy-three per cent of the employee labor hours was in the three large and ten small kitchens.

The average number of meals produced per labor hour in the large kitchens was 18.19, in the small kitchens the corresponding number was 10.23. Sixty-two per cent of the food or an average of 6,930 meals per day was prepared in the large kitchens, the comparative number for the small kitchens was 3,964 or 35 per cent of the food.

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TABLE OF CONTENTS

	Page
INTRODUCTION	1
REVIEW OF LITERATURE	5
Treatment of Mental Disorders	5
Psychiatric Occupational Therapy	16
State Care	20
Hospital Labor Hours	26
METHOD OF PROCEDURE	28
Physical Plant	28
Food Service Operation	33
Assignment of Patients	37
Employee Labor	40
Collection of Data	41
Interviews	42
Compilation	43
DISCUSSION	45
Patient Labor	46
Distribution of men and women	46

	Page
Category of freedom	51
Age distribution	53
Employee Labor	56
Patient and Employee Labor Hours	60
Comparison	60
Distribution	62
Comparison of Kitchen Production	65
SUMMARY	67
LITERATURE CITED	69
APPENDIX	75

LIST OF TABLES

TABLE	Page
1. Distribution of men and women patients assigned to Food Service according to location classification	48
2. Distribution of male patients assigned to Food Supply	50
3. Classification of Food Service kitchens according to location and function	50
4. Age range and average age of patients assigned to Food Service and Food Supply according to location classification	54
5. Distribution of men and women employees in Food Service according to function classification	59
6. Comparison of patient and employee labor hours in Food service according to function classification	61
7. Comparison of average labor hours per patient and per employee assigned to Food Service	64
8. Distribution of patient and employee labor hours in Food Service according to function classification	64

LIST OF FIGURES

FIGURE	Page
1. Schematic map of Kalamazoo State Hospital	30
2. Distribution of men and women patients in Food Service and Food Supply accord- ing to function classification	52
3. Age distribution of patients assigned to Food Service and Food Supply	55
4. Kalamazoo State Hospital Table of Organization for Food Service	58
5. Percentage comparison of patient and employee labor hours in Food Service according to function classification	63
6. Percentage distribution of patient and employee labor hours in Food Service according to function classification	66

INTRODUCTION

At no time in history has there been greater public concern about mental hospital care than in the mid-twentieth century. Each year almost as many people are admitted to our mental institutions as are graduated from our colleges (32). The numerous problems encountered in the treatment of mental illness have created a growing demand for more effective programs. Currently, one-half of all our hospital beds are occupied by those who are mentally ill. Hospitals are fourth in the list of expenditures of state governments, surpassed only by schools, social welfare, and highways (12).

State governments are faced with insistent demands both for increased facilities and for higher standards of care for mental patients. The mentally ill need pleasant surroundings, proper housing, and comfortable beds. These individuals require well-prepared, nutritious food, adequate provisions for personal care, and therapeutic work assignments.

The State of Michigan maintains eleven mental hospitals with a capacity for 27,000 patients. In addition, Wayne County General hospital had facilities for 3,800 and Wayne County Training School

for 600 patients on a state contractual basis. Six of the state hospitals are for the mentally ill, one for the criminally insane, one for the epileptic, and three for the mentally deficient. Kalamazoo State Hospital, founded in 1859, is the oldest; Northville State Hospital, founded in 1952, is the newest. Both of these institutions are for the mentally ill.

To insure the wisest use of hospital appropriations, far-sighted business judgment is imperative. Ideally, this business judgment should be tempered with a keen sense of social obligation. In any institution the cost of food and food production are large items of expense. Food is one of the factors conducive to the well-being of mental patients. The food budget for State Mental Hospitals in Michigan has been stabilized on a relatively satisfactory basis. With the adoption of the Recommended Dietary Standard in 1949, the basis for control of the cost and poundage of specific food classifications was established. To formulate the standard, food commodities were divided into seven basic groups recommended by the Council of Foods and Nutrition of the American Medical Association. Serving portions were established on the basis of pounds within each food group. Budget allocations have since been allotted on the basis of this standard.

One avenue for more effective food service operation is the maximum utilization of labor. In mental hospitals, throughout the ages, the policy of having the patient contribute his services has been sanctioned. During the nineteenth century, this procedure was advocated with the idea of offsetting a portion of the expense for the patient. Medical observations have shown that mentally ill persons were more content when they were allowed to work.

During the twentieth century, work has been extensively used as a part of therapy for mental disorders. Since the primary motive is the improvement of the patient, state mental hospitals do not measure labor in terms of cost and production alone. Patients are encouraged to perform duties in the areas related to their basic needs for food and clothing. Working conditions must be adapted to the special requirements of these individuals. The purpose of the study was to analyze in terms of labor hours both patient and employee labor assigned to the Food Service at Kalamazoo State Hospital. At the time of this study, this hospital had a census of 3,500 patients and 900 employees.

The operation of the Food Service Department was decentralized with fourteen kitchens located in thirteen different buildings. The first objective of the study was to obtain information concerning

the histories of assigned patients. Accordingly, factors which might point out their work capacities were investigated; these included sex, category of freedom, and age. The second objective was to compare patient and employee labor hours and to determine the distribution between the two groups. The final objective was to determine the labor hours between three large kitchens and ten small kitchens and to compare the number of meals produced per labor hour.

This analysis will show a food service labor picture typical of a state mental hospital which was established prior to the Civil War. In addition, the study might prove valuable for further investigation of the relative merits of operating with centralized or decentralized kitchens on the basis of labor productivity.

REVIEW OF LITERATURE

Until recently people with mental disorders were stigmatized by society for their weaknesses or spiritual and moral offenses. As outcasts, they were faced with discouragement, failure, and a lost battle. Eventually these individuals were committed to state mental hospitals where they had to begin life anew with a childlike emotion in search of love and encouragement.

Treatment of Mental Disorders

During ancient times, persons who showed major signs of melancholic insanity were driven out of the cities as outcasts or they were confined to dark cells. In contrast to this, those who were insane but showed signs of gaiety and sociability were treated with respect and kindness.

Asclepiades, a Greek physician born in 124 B. C., changed the tradition and ordered well-lighted rooms for his melancholic patients (7). He advocated activity for the mentally ill and was the first man in history to use music therapy (41). In Rome a hundred years later, Celsus, an important medical author, revived the teachings of

Asclepiades. However, for the mentally ill he prescribed labor to the point of fatigue (8). In addition, he advocated chains, flogging, and a semi-starvation diet (17).

Galen, a remarkable physician who settled in Rome a century after the death of Celsus, stressed exercise in preference to employment for persons afflicted with mental disorders (24). During the next two hundred years, several writers discussed insanity but made no contributions to existing theories. In 332 B. C. in Egypt, the mentally ill were provided with pleasant surroundings, occupation, entertainment, and exercise (10). From the fourth century B. C. until the eighteenth century, practically no progressive methods were recorded for treatment of mental disorders, except the recommendation made by Caelius Aurelianus. He advocated sun baths for the insane, recommending that the head of the patient be covered during the first few treatments (19).

From the time of Aurelianus until the founding of the medical school at Salerno, Italy in the tenth century, most of the important medical writings originated with the Arabs. Johannes Actuaries, a Byzantine author, devoted considerable time to the study of the mind and its diseases (41). Historically, his work was an important link between the past and the Renaissance.

Many thousands of insane persons were executed between the fourteenth and eighteenth centuries; most of these deaths were ordered by the Courts of Justice. Other lunatics were subjected to torture in the hope of expelling the possessing demon; it was believed that a foul remedy would force the demon to leave the body (27). Nowhere during the medieval period did the mentally ill find understanding except from the Moslems (17).

The savage treatment of the insane continued, but religious leaders made some advancement toward more humane care. By 1547, the English Monastery, St. Mary of Bethlehem, had admitted some lunatics and as a result became known as 'Bedlam' (40). Spain was more progressive in the care of those who had mental disorders than the other countries (58). The first European asylum devoted exclusively to the treatment of the insane was established in the Iberian Peninsula toward the end of the Middle Ages by Father Gilbert Jofre (17). Subsequently, other asylums were built in Spain during the fifteenth century.

In 1723, Miguel Escartin, Bishop of Lerida, encouraged the inmates at the Spanish Insane Asylum of Saragossa to perform tasks. Patients were classified into work groups according to their abilities, and an attendant was in charge of each group. The duties of the

attendant were to allocate work assignments and to act as overseer for the restless individuals who were more content when they were occupied (52).

In 1772 William Cullen, a British Professor of Medicine at the University of Edinburgh, told his students that some maniacs had been cured by performing constant and hard labor. Cullen further stated that for all hypochondriac patients there was nothing more pernicious than absolute idleness or an absence of all earnest labor (41). During the same year, Benjamin Franklin recommended to the Pennsylvania Hospital that inmates capable of manual labor should be supplied spinning wheels, wool, and flax.

In America the first hospital, provided to care exclusively for the mentally ill, was erected in 1769 in Williamsburg, Virginia. The Eastern Lunatic Asylum had the distinction of being the only such hospital in America for twenty years. Proposals for constructing a similar institution had been discussed in several colonies, but the plans never progressed beyond the embryonic stage (17).

The influence of the Quaker Society of Friends was responsible for the acceptance of occupational therapy as a part of mental treatment at the Pennsylvania Hospital. The Quakers were convinced that work would strengthen character and health (17). In 1873 Dr.

Benjamin Rush joined the staff of the hospital and centered his attention on patients who had mental disorders. Dr. Rush (56) stressed the importance of good care for the mentally ill.

Phillippe Pinel, a friend of the French revolutionaries, started an occupational therapy program in Paris mental hospitals in 1786. Pinel based his policy for the treatment of the insane on "three legs", medical care, kindness, and justice (41). He was insistent that brutality to the mentally ill was useless; and, in the midst of opposition, he went to the great Common Council in Paris to plead the cause of the unfortunates (40). In addition, Pinel (52) recommended and proved from his experiences at two large asylums in Paris that manual labor resulted in good morale and discipline among patients. The operation of farms by the insane was initiated by Pinel, who has been called the "Father of Occupational Therapy" (39). His progressive examples were followed in Germany by Reil and in England by Tuke (41).

Although Pinel influenced the psychiatric practice in many European countries, the accomplishments of Tuke in England set the precedent in America (17). William Tuke was a Quaker and, like so many of his sect, a practical idealist. In 1796 he was instrumental in establishing the Retreat at York for persons with mental disorders. The principles formulated for patient care were: to provide a family

atmosphere, to emphasize employment and exercise, and to consider the hospitalized persons as guests rather than inmates (17). The fame of the capable English doctor and his philosophy of mental care rapidly spread to America.

Thomas Scattergood, a Quaker Minister from Philadelphia, visited the Retreat in 1800 and was impressed with the management of the insane. When Scattergood returned to Pennsylvania, he zealously pleaded with his friends to establish a similar retreat. His efforts materialized with the opening of Friends Asylum at Frankfort, and the treatment of patients was based on the policy of non-restraint and occupation recommended by Tuke (41).

In Germany in 1805 Dr. Reil devoted most of his time to improving conditions for the insane; and he also founded the first journal devoted to psychiatric problems. With evangelistic appeal, he persuaded the people to accept more progressive methods for treating mental illness (17).

At the beginning of the nineteenth century, William Hallaran of Cork Island wrote that abundant proofs were continually occurring in favor of employment for the insane (31). He commented that patients who worked had a happy state of oblivion from their real or imaginary grievances. Hallaran further advocated work for incurable

persons in good physical condition because he felt their labor might offset a portion of the maintenance expense.

In 1815 Thomas Eddy, a member of the Board of Governors of the Society of New York Hospital, studied the value of employment for mental patients. He read a paper to the Board setting forth his theories concerning the care of the insane in which he advised a balanced program of exercise, entertainment, and employment. Eddy recommended that the types of employment prescribed for patients should prove agreeable, on both a moral and physical basis, to the individual concerned (30).

The McLean Asylum which opened in Boston in 1818 developed a philosophy of treatment that emphasized kindness and humanity rather than severity and cruelty towards the patients (17). Dr. Rufus Wyman, the resident superintendent of this asylum, was the first medical man in America to be appointed to such a position. Being fully aware of the use of patient labor in Europe, he established a program of occupational therapy.

As a department of the New York Hospital, the Bloomingdale Asylum was opened in 1821. The main building, with accommodations for 200 patients, stood on the site now occupied by the Columbia University Library. The philosophy of treatment in this establishment was moral management (17).

Jean Esquirol, the successor of Pinel, stressed the use of agricultural facilities in conjunction with the French asylums. He advocated organized work at stated periods during the day for his patients (55). According to Leuret (39), in his book published in 1840, there were some physicians in France who resisted the use of manual labor for private patients. The relatives of the inmates contended that persons who paid for their room and care should not work, and their objections undoubtedly influenced the attitudes of the doctors toward work therapy. Leuret insisted the antagonism would soon disappear if the people who were concerned could witness the advantages of keeping the patient occupied with useful work.

Dorthea Lynde Dix was a crusader for the mentally ill. In 1834 she pleaded with the members of the Massachusetts Legislature to correct the miserable, desolate, and unfortunate condition of these outcasts. The results from her efforts were outstanding and far-reaching (18).

Dr. Thomas Kirkbride, Superintendent of the Pennsylvania Hospital for Insane, embarked on a program of mental care which stressed patient labor. In 1842 he wrote that the value of employment was so universally acknowledged that no arguments were required in its favor (1). Kirkbride was convinced that since the primary objective of

employment was to restore mental health of the patients, the merits of work could not be measured in dollars and cents. However, his principles were not widely accepted, and occupational therapy did not make gains comparable to those in Europe (41).

Pliny Earle conducted a survey of the insane asylums in Prussia, Austria, and Germany in 1844 and was favorably impressed with the advancement of occupational therapy. He found the Charity Asylum in Prague to be the most humanely conducted of all those he surveyed. The minds of the patients at Charity were occupied by moderate labor, household duties, and entertainment; and the patients were financially rewarded for their services. Dr. Reidel, the Superintendent of Charity, was a firm believer in the therapeutic value of labor. He asserted that work often effected a cure when all other measures, both moral and physical, had failed (41).

The observations of Dr. Wilson at the Bloomingdale Asylum in New York convinced him that important advantages were derived from regular and systematic employment of patients. In 1845 Dr. Pliny Earle organized a school of instruction for inmates at Bloomingdale. At that time more hospitalized females than males were employed voluntarily, because sewing was available and popular with the women. Areas where the men worked were the farm, carpenter shop, kitchens, and laundry (30).

The oldest continuous program of work therapy in history received official recognition from the Belgian government in 1855. Then, 1500 families were participating in a home care project for 1800 insane persons. The mentally ill were treated as household members (41).

During the middle of the nineteenth century, work therapy progressed slowly in America because of the independent spirit of the patients. They associated labor with pecuniary profits and refused to work without pay. In several European institutions, the inmates were given compensation, usually in the form of an extra allowance of beer or tobacco, for their labor. American physicians, feeling the practice too extreme for the severe simplicity of our national tastes, objected to the idea (41).

Edward Jarvis, on his visit to the British Asylums in 1860, discovered occupational therapy to be the accepted policy. The managers of the public hospitals were encouraging patients to work. Dr. Cleaton of Liverpool, in his annual report to the Lunacy Commission in 1862, stated that the two major improvements in the treatment of the insane were the increased use of work therapy and the discontinuance of mechanical restraint. By 1875 occupational therapy had spread to Portugal, Norway, and other European countries (41).

The final quarter of the nineteenth century was the least auspicious for occupational therapy because of the increased responsibilities of physicians. At the turn of the twentieth century, work as a therapeutic agent for neurosis was introduced in Switzerland. Several establishments for occupation treatment were opened within a few years by Swiss people. One of the outstanding institutes of this kind was organized in 1894 by an engineer, Grohman. From his survey of patients who were treated at the institute, Dr. Henri Monnier concluded that work which aroused attention and interest of the patients had therapeutic value (41).

In 1894 Miss Susan Tracy organized the first student course in invalid occupation at the Adams Nervine in Boston. The program was specially designed to prepare instructors to supervise patient activities. In the spring of 1911 the first course for nurses in Occupation Treatment was offered at the Massachusetts General Hospital (41).

Harvard University became interested in work as a form of treatment for the insane and in 1906, through the Proctor Fund, granted \$1,000 to Dr. Herbert Hall for research. Dr. Hall assisted with the study for the care of neurasthenic persons by progressive and graded manual occupation. He established a craft center at

Marblehead, Massachusetts, for industrial therapy. Here craftsmen, working with the neurotics, attempted to help in readjusting their emotional conflicts. After four years of observation, Dr. Hall concluded that the results obtained were favorable. He felt that the normalizing effect of suitable manual work or even of well-chosen intellectual work for neurotics needed only to be seen to be profoundly appreciated (41).

For many centuries, public attitudes toward mental illnesses were based on misconceptions and prejudices. Throughout the greater part of history, occupational therapy has been recognized by the medical profession as an aid in the treatment of mental diseases (54). This method of therapy has received varying degrees of acceptance.

Psychiatric Occupational Therapy

Since mental patients are occupied only a small portion of the day with medical treatment, the balance of their time needs to have a definite plan. Constructive use of free hours has aided in alleviating the discontent which results from prolonged idleness (62).

A mental hospital has many characteristics of a self-sustaining community with diversified occupations which furnish an ideal solution for selected employment of patients (12). Although the welfare of

the hospitalized person has been the primary factor in all work assignments, the practical and economic considerations have not been neglected (37).

According to Alexander (1), occupational therapy is one of the most potent auxiliary forces for the rehabilitation of the mentally ill. Among the modern psychological concepts of work, Karl Menninger has depicted a most progressive and provocative point of view. He asserted that work was one of the best available methods for absorbing the aggressive energies of mankind in a useful direction (15).

The primary aims of psychiatric occupational therapy as related by Franciscus are: to arouse interest and to restore confidence, to establish work patterns, to develop concentration, to release excessive energy and tension, to exchange destructive habits for constructive ones, to socialize by group work, and to develop habit training (22).

Licht (42) classified the different modalities of occupational therapy into six groups: agriculture, arts, crafts, education, industry and maintenance, and recreation. The sub-divisions of industry and maintenance are industrial therapy and hospital industries. The term, industrial therapy, has been used for more than a decade, but conflicting interpretations have obscured the precise meaning. Bryan (6)

explained the nomenclature to include patient labor in the industries which were responsible for hospital maintenance. The more recent interpretation has referred to that category of patients who were paid for work. To eliminate the confused terminology, Licht (42) recommended that unpaid labor be designated "hospital industries".

Inch (35) defined hospital industries as patient activities within the institution for the production of articles or for the performance of work useful to the institution but not for outside exploitation. He stated that inside industrial work included the laundry, kitchens, wards, and shops. Inch stressed that the proper choice of work for patients was beneficial to both the institution and the individual concerned. Franciscus (22) emphasized that the patient should be placed in his duty assignment in accordance with his mental and physical needs, his interests and abilities. He stressed that the hospitalized person was not to replace a full-time employee; he further suggested that the work day range from eight to two hours and that the length of activity be planned according to the capacity of the individual.

Bryan (6) advised that each job which was available for patients be analyzed. Points he suggested for consideration were: description of work, attitude of industrial therapist, environment, supervision, industrial hazards, psychological requirements, physical

requirements, social opportunities, hours of work, and an additional notation by the therapist of her impressions of the job.

The interview of each patient by the psychiatrist is one of the important phases of the hospital industry program in preparing the patient for his assignment. In the majority of cases, the person concerned is encouraged to state his work preferences. The work prescription for each patient is usually discovered by trial and error (34).

Worchel (67) felt that industrial therapy or hospital industries should be considered as guidance and not as a prescription. He explained that guidance inferred a continual process which assisted a patient in becoming a socially and vocationally useful citizen. Worchel added that, by implication, prescription was a static process denoting external compulsion to a certain extent.

Menninger (46) stated that although some mental patients are apathetic and inattentive, sometimes satisfactory forms of occupation may be discovered for them. He further asserted that work for this category of persons had proved to be a factor in stimulating their interest. Foley (23) advised a pre-industrial or graded system of employment for patients who were too deteriorated to work in various departments of the hospital. He recommended that types of work

which were beneficial both mentally and physically should be planned for this class of individuals.

The Occupational Therapy Department has become an integral part of most state mental hospitals. The trained therapists have cooperated with the psychiatrists in directing and coordinating the employment of patients. In the smaller hospitals the department has been extended to include either the recreational or industrial programs, and sometimes the three programs have been consolidated (12).

State Care

Tradition has established the policy that the care of the mentally ill is the responsibility of the state. At the beginning of the nineteenth century, Horace Mann made the statement to the Massachusetts Legislature that the insane were wards of the state, implying that it was the duty of the state to hospitalize all the insane who required treatment. Throughout the years, the original assertion has been interpreted to have a broader meaning which included the building, maintaining, and supervising of the institutions as well as caring for the patients (12).

The evolution of state care followed a long, tortuous path and was begun in 1751, when the Pennsylvania Legislature appropriated several thousand pounds for the erection of the Pennsylvania Hospital in Philadelphia. The next major event occurred in 1769 when the Lunatic Hospital at Williamsburg, Virginia, was built entirely at state expense. In 1822 Kentucky established the Lunatic Asylum at Lexington, and the cost of this project was borne by the state. Between 1830 and 1840 the Utica Asylum in New York and the Worcester Lunatic Hospital in Massachusetts charged maintenance of dependent patients to the counties in which the patients had previously resided. Both of these states paid only for the alien and non-resident insane (17). A controversy arose concerning the responsibility of the indigent insane. Was the state or the county to assume the expense? Over a half century elapsed before an agreeable solution was reached; within each state a decision was enacted. The majority of the states favored state responsibility.

During the third decade of the nineteenth century there was an extensive asylum-building movement throughout the country. Since the belief prevailed that 90 per cent of the mentally ill could be cured, it was assumed that one hospital, centrally located, would provide adequate facilities in each state. In the sparsely settled

states of the West, one asylum was sufficient. However, in the East, where hospitals were filled to capacity soon after they were opened, authorities were faced immediately with problems of overcrowding.

To counterbalance this unforeseen predicament, the managers of the asylums adhered to the policy of admitting only acute or recently developed cases of mental disorders. Those persons who were mentally ill but were diagnosed as chronic or incurable were rejected and designated the "surplus insane". Since no provisions were made for the incurables, those who were not cared for in the homes of relatives or friends had to be confined to jails or poorhouses (17).

A half century elapsed before a satisfactory solution was reached concerning the disposition of the two distinct classes of the insane, chronic and acute. In the interim, state authorities were faced with new and more complex situations in the care of the mentally ill. By 1850 it became apparent that a single state hospital could not meet the requirements of a growing population. Proposals were offered which recalled the former controversy about the responsibilities of state and county for the care of patients. During this interval two distinct patterns emerged with New York and Wisconsin taking the opposite viewpoint about their responsibility: New York advocated state care and Wisconsin favored county care (17).

Between 1863 and 1873 a State Board of Charities was established in eleven states, including Massachusetts, Ohio, New York, Illinois, North Carolina, Pennsylvania, Rhode Island, Wisconsin, Michigan, Kansas, and Connecticut. The members appointed to the different boards accepted their assignments with a dynamic attitude and worked incessantly to improve conditions for the insane. Some of the progressive members of the boards were Samuel Howe, Franklin Sanborn, Fredrick Wines, General Brinkerhoff, and William Letchworth (17).

Eventually, a satisfactory solution was developed for the care of both chronic and acute cases of mental illness. The "cottage" or "colony" system of institutionalism was introduced to provide facilities for the chronic patients. In this type of operation, a tract of farm land was purchased, and housing was provided in the immediate vicinity for the long-term patients. These individuals maintained the farm and performed other essential duties. In America the colony system began in 1855, when 250 acres of farm land was purchased as a part of the facilities of the Kalamazoo State Hospital in Michigan (17).

New York was more progressive in the treatment of the insane than the other states. By the final decade of the nineteenth century,

three important reform measures were proposed by this state. These were: to remove all insane from the almshouses; to discontinue the maintenance of separate establishments for the chronic and acute cases of insanity; and to create a state office to supervise and control the operation of all mental institutions. The Office of the Commissioner in Lunacy was created to enforce the proposed measures.

The Association of Medical Superintendents waged a long and acrimonious fight to block the creation of Commissions in Lunacy. Medical men were anxious to maintain independent authority over their institutions and felt that the authorization of another agency would be injurious to the existing efficient system of control. The protests of the Association were not effective, and other states adopted the plan established in New York (17).

In some of the states, the responsibility for the indigent insane was accepted at county level, and a hospital was constructed in the local vicinity for their care. Within a few years, the shortcomings of the county-care system were obvious; the hospitals were not adequately supervised, uniformly constructed, or standardized in methods of treatment. By the latter half of the nineteenth century, the defects of the county-care plan had become more evident. As a corrective measure, legislative bodies recommended larger hospitals constructed at state expense (68).

By the beginning of the twentieth century the state-care system for the insane was functioning in all the states except Wisconsin and Iowa. In those two states the county-care plan still persisted (17). According to Davis and Rorem (16), by 1932 the states had accepted the major responsibility for the hospitalization of mental patients. At that time there were 223 state and 53 county hospitals; of the county institutions, 33 were located in Wisconsin.

For the fiscal year 1949, the states varied widely in their annual maintenance expenditures per resident patient. Wisconsin had the highest per capita cost, \$1,089; Tennessee had the lowest, \$324. Among the forty-eight states, Michigan ranked third with a per capita cost of \$917.94 (12).

In 1951 the National Association of Mental Health reported that 82 per cent of all mental hospital beds were state maintained. Sixty per cent of the mentally ill patients in the state-operated institutions were reported to have been hospitalized from five to forty-five years or longer (50). The introduction of the state-care policy marked a great milestone in the treatment of mental disorders.

Hospital Labor Hours

The successful operation of any industrial, government, or medical organization is largely determined by the caliber of personnel. Efficiency of the operation is impaired if employees are inadequately trained, insufficient in number, or incompetent. State mental institutions have a three-fold function: to treat and give humane care to the patient, to teach medical personnel, and to conduct research (12).

According to a publication by the Council of State Governments, in 1949 all state mental hospitals were using patient labor in addition to employees. One-third of the institutions were paying patients who performed useful work. A larger percentage of the mental hospitals were permitting more patients to assist in the Food Service Department than in the other available hospital activities (12).

Owens and White (51) agreed that food could have therapeutic value for patients. They recommended that the Food Service Department have an adequate number of trained and understanding personnel for the performance of this function.

Hospital administration is a growing profession. Hospitals are unlike industry, for they do not have profit as a primary motive. Many of the services rendered must be on an individual basis, because there is no substitute for the intelligent use of hands, feet,

head, and heart. Mental institutions operate twenty-four hours a day, every day of the year. Time schedules must be flexible so that emergencies can be adequately handled.

The personnel turnover in state hospitals is high in comparison with other types of public employment. From the standpoint of the care and treatment of patients, this is an unfortunate circumstance. Salaries in medical institutions have increased substantially, but they still are too low to attract well qualified personnel (12).

Until recently hospital employment was relatively undesirable, because the labor hours per week exceeded the number required in other occupations. The former two-shift work policy in each twenty-four hours has been replaced by a three-shift system. Hospitals have found it necessary to pay a 10 per cent bonus to employees who work at night (60).

METHOD OF PROCEDURE

Since state mental hospital agencies do not follow any discernible general pattern of organization, there is a wide divergence in administrative structures, responsibilities, functions, and services. In Michigan the responsibility of the State Mental Hospitals is delegated to the Department of Mental Health, which was created in 1945.

Physical Plant

The Kalamazoo State Hospital is located south of the city of Kalamazoo, Michigan. The hospital operation includes 1,402 acres with a dairy herd and farm. The buildings are constructed of red brick and range in height from two to four stories; the grounds are beautifully maintained and landscaped.

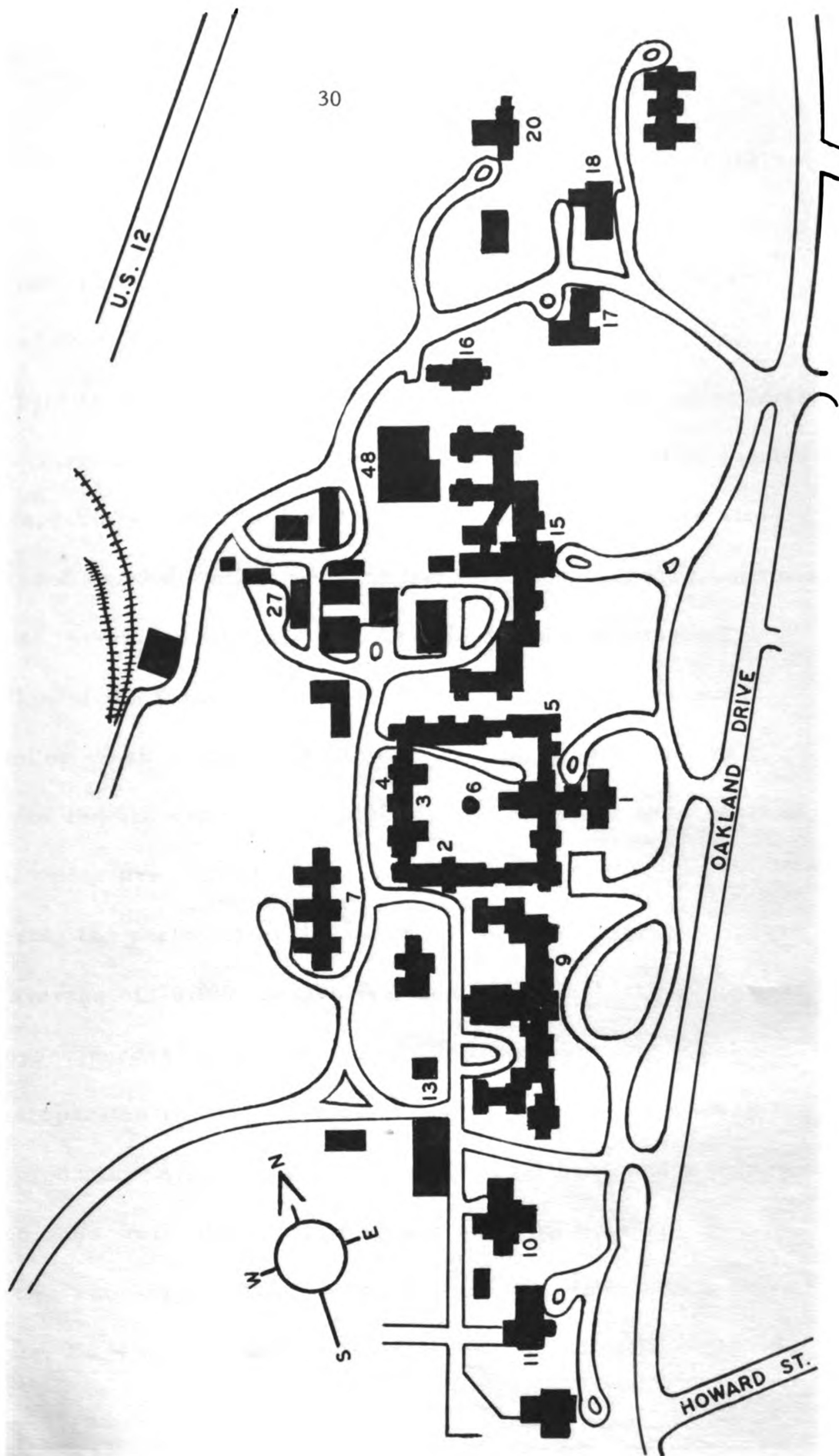
Figure 1 shows a schematic map of the principal hospital buildings. The central and largest building of the hospital is designated Receiving Hospital. This structure houses the acutely ill, some of the convalescent patients, and the administrative offices. The buildings which house the female patients are situated on the north side of Receiving Hospital, and the arrangement is similar on the south side for male patients. The oldest and largest structure

IDENTIFICATION

No.	Building	No.	Building
	Receiving Hospital:		Female Center:
1	Male Receiving	15	Female Department
2	Male Infirmary	16	Monroe Cottage
3	Acute Medical Building	17	Potter Cottage
4	Female Infirmary	18	Van Dusen Hospital
5	Female Receiving	20	Herman Ostrander Infirmary
	Male Center:		Miscellaneous:
9	Male Department	7	Mary Muff Tubercular Hospital
10	Fletcher Hospital	48	Service Building
11	Edwards Hospital		

Figure 1

SCHEMATIC MAP OF KALAMAZOO STATE HOSPITAL



in the female center is located in close proximity to the Receiving Hospital and is designated Female Department. In the male center the same pattern exists; the corresponding building is Male Department. The other buildings in both centers are cottage-type structures; each of these units houses one or two specific types of patients.

The farm is operated as three separate sections and is located in two different areas. A thousand and one hundred acres are situated three and one-half miles south of the main hospital; this functions as two units, one for male and the other for female patients. The other portion of the farm area of 240 acres is located three and one-half miles north of the main hospital and operates as one unit. Patients who require years of hospitalization and do not need constant medical attention are housed in the outlying districts.

During the period of study, the Food Service Department provided an average of 10,800 inexpensive meals per day for patients, and employees purchased an average of 300 meals per day. The department operated twenty-one hours a day, seven days a week. The food production area consisted of fourteen kitchens and a bakery. The fifteen units were situated in fourteen different buildings with no connecting rampways. The serving of food was delegated to two departments, Food Service and Nursing Service. The area which was

the responsibility of Food Service consisted of four cafeterias with adjoining dining rooms; these units were located in three different buildings.

Six related food sections were not under the jurisdiction of Food Service, but the functions performed by the units were coordinated with this department. The related food sections were: food procurement, meat cutting, milk pasteurization and ice cream production, central vegetable preparation, cannery, and the serving of food in the smaller units.

Data on patients assigned to four of the related food sections were included in the case histories, because the larger group presented a more accurate picture for the investigation of factors which might point out work capacity. Throughout the study the four related food sections will be designated Food Supply (extra-departmental). All of these units were located in the Service Building situated north of Receiving Hospital.

The Storehouse managed two of the four Food Supply (extra-departmental) functions, meat cutting and food procurement. The latter included ordering, receiving, issuing, and storing of food. Milk pasteurization and ice cream production were under the jurisdiction of the Farm Department. The central preparation of vegetables was

the responsibility of Nursing Service. Food Service was not qualified to staff the area, because the work was performed by patients who required the care of a trained attendant.

The other two related services, the cannery and the serving of food in the smaller units, were reviewed for the study and the data deleted because work routines were not stabilized. In the cannery the quantity of food processed fluctuated according to the farm yield. In the smaller units the food serving was adapted to the needs of the patient and varied from one section to another.

Food Service Operation

The operation of Food Service was established on a decentralized basis with fourteen kitchens. For the purpose of the study these units were grouped in two different ways. The first classification, defined according to location, consisted of three large, six cottage, three farms, and two miscellaneous kitchens; the second classification, a division by function, was comprised of three large and ten small kitchens and one diet kitchen.

The three large kitchens comprised the largest production unit in the location classification. The kitchens were situated in three different buildings, Receiving Hospital, Male Department, and Female

Department. In these three kitchens an average of 6,930 meals per day, 62 per cent of the total daily food, was prepared.

The food production area next in size consisted of six kitchens situated in cottage-type buildings; in this section an average of 2,223 meals per day was prepared. The census varied in the different cottages; the smallest unit in this group produced 225 and the largest 600 meals per day.

The three farm kitchens prepared an average of 1,303 meals per day. The minimum number of meals produced in one of these sections each day was 150 and the maximum 700.

The two miscellaneous kitchens, diet and tubercular, served an average of 678 meals per day. The diet kitchen, located in Receiving Hospital in a different wing from the large kitchen, was operated as a separate unit. The majority of patients who were on special diets were concentrated in this building. Prepared trays and nourishments were sent to the respective wards by means of a dumb waiter, and an average of 240 meals was served per day. The soiled dishes were returned to the kitchen and sanitized. The kitchen for those patients who had a diagnosis of tuberculosis as well as mental illness was situated in a two-story building west of Receiving Hospital. In this unit an average of 438 meals per day was served.

The unusually spacious and well-equipped central bakery, housed in the same building as Food Supply (extra-departmental), was opened for operation in 1952. Items produced in the bakery included bread, pastry, doughnuts, cakes, and cookies. The bread was sliced and wrapped prior to delivery to the kitchens.

The four cafeterias under the direction of Food Service were situated in close proximity to the three large kitchens. Two of the units were in Receiving Hospital, one in Male Department, and one in Female Department. In Receiving Hospital one cafeteria was adjacent to the kitchen and served the employees; the other was located on the floor above the kitchen and served ambulatory patients housed in the building.

Twenty-eight per cent of the prepared food was allocated to these four cafeterias. The dining area in conjunction with each of the cafeterias consisted of one large room except in the Male Department where there were two additional small rooms for patients who had untidy eating habits.

The serving areas for the six cottage kitchens, the tubercular kitchen, and the three farm kitchens were improvised cafeteria arrangements operated by Nursing Service. Non-ambulatory patients in Receiving Hospital, Male Department, and Female Department were

served from food carts sent to the wards. Carts were sent to the respective wards from the three large kitchens, and the serving of trays was supervised by Nursing Service.

The central preparation of vegetables functioned as an ancillary service for the food production sections. During the period of the study, vegetables prepared in the central unit were potatoes, carrots, corn, and leafy vegetables such as Swiss chard. Nine of the kitchens received produce from the central preparation section; areas not serviced were Male Department, farm, and diet kitchen.

One basic menu was prepared by the dietitian, and this was adapted to the specific needs of the patients. Menus were not planned more than a week in advance in the fall and summer, because the amount and quality of farm produce could not be accurately estimated. Meat items were not always the same for all patients for each meal, because work loads for the butcher shop had to be considered. A cycle was established by which all the sections received the same kind of meat over a period of a few days.

According to the Institution Operating Statement for the fiscal year 1953, the per capita food cost at Kalamazoo State Hospital was \$0.437 per day from state appropriations plus \$0.091 per day for donated food and Federal surplus. The average cost per meal was

\$0.176. Information collected by the Council of State Governments showed that the daily per capita food cost for all state mental hospitals tended to cluster around \$0.50 in 1949 (12).

Assignment of Patients

At the time the data were collected, there were 151 patient helpers assigned to the Food Service; an additional 27 patients were assigned to work in Food Supply (extra-departmental). The amount of time worked by patients varied from one to eight hours per day and from five to seven days a week.

The category of freedom for ambulatory patients was determined by Medical Service. Each of these individuals was classified as ground permit or non-ground permit. Patients from both groups were assigned to Food Service and Food Supply (extra-departmental). The areas where the non-ground permit patients worked were kept locked, and this category of individuals was not allowed to leave the immediate vicinity without an escort.

The types of jobs available and the patient helpers required were ascertained at departmental level; the information was coordinated by Occupational Therapy Department. Assignments which were frequently requested by Food Service included dining room helper,

kitchen helper, steam table helper, dishwasher, food service helper, and bakery helper. An analysis of jobs by Occupational Therapy Department included the following information: identification, job qualification, job summary, supervision, and vocational possibilities. The occupational therapists kept files on the assignments of patients.

When the Medical Service declared a patient was eligible for work, a Patient Activity Survey form was completed and forwarded to the Occupational Therapy Department. A staff member from this section interviewed the designated person and recommended work assignments to Medical Service. When the final decision had been made that an individual was eligible for a specific job, a copy of the Patient's Assignment Notice was sent to the department concerned. If patients indicated dissatisfaction with work placements, Medical Service initiated an additional form, Adjunctive Therapies Prescription, and referred the information to Occupational Therapy for further study.

In selecting patients for Food Service assignments Occupational Therapy Department gave preference to patients who possessed clean personal habits, emotional stability, and dependable work performance. Since every precaution was taken to protect these persons from injury, the occurrence of accidents in Food Service work was rare. Hospital

regulations prohibited patients from performing two duties which were considered dangerous, range cooking and meat cutting. There was one exception in each of these restrictions. In the butcher shop assigned helpers were permitted to use butcher knives; and in a special kitchen, located across from the diet kitchen, patients were allowed to cook under the supervision of an occupational therapist or a volunteer Gray Lady.

The patients assigned to Food Service performed their duties in an earnest manner but in a pleasant atmosphere. These assigned helpers were supervised by competent employees and were treated with kindness and consideration for their capacities.

The supervisory employees encouraged the patients to work neatly and quietly and gave recognition to individuals when jobs were accomplished. Helpers were rewarded with extra items of food, ice cream, cake, pie, or sandwiches, and coffee. The refreshments were served on a group basis.

All patient helpers were encouraged to take at least one day off a week. In each section the supervisor consulted the assigned patients individually and discussed the time schedule. A suggestion was made to these persons that the time schedule could be rearranged in case unforeseen personal events occurred.

Employee Labor

Male and female employees were assigned to work in the Food Service Department. There were four job classifications: institutional worker for cafeteria and food service, dining room supervisor, cook, and baker.

Women employees were scheduled for duty in thirteen of the fifteen food production units and in three of the four serving sections. They were not assigned in the bakery or in the kitchen or dining room in Male Department. Men employees were on duty in six of the production units, one farm kitchen, the tubercular kitchen, the three large kitchens, and the bakery. They were assigned to one serving section, the Male Department.

Four food service employees had no regular assignment and were trained to perform more than one specific job. These persons were on supply duty and were scheduled to relieve the regular employees when they had days off. In the Receiving Kitchen a night cook was required to prepare a midnight supper meal, to cook the cereal for breakfast, and to apportion the breakfast fruit for the food carts.

Employees were scheduled to work 40 hours a week, and a time schedule was posted in advance. The personnel did not report

on and off duty by a time clock, because the physical plant was too decentralized to justify this type of system. When employees failed to report for duty in the cottage and farm kitchens, the Food Service Department was notified by Nursing Service. In the smaller work units, a consecutive eight-hour shift was not always feasible.

Collection of Data

At the time the data were collected, there were 90 Food Service personnel which included 87 full-time employees, one dietitian, a food service steward, and a typist. In addition, 151 patient helpers were assigned to the department. In Food Supply (extra-departmental) 7 full-time employees and 27 assigned patients comprised the working staff.

The period selected for this investigation was from September 8 through September 21, 1954. Non-routine events which occurred during the period of the study were:

1. Some vegetables from the farm were processed in the kitchen for later use. The items prepared were cucumber pickles, relishes, chili sauce, and pickled beets.
2. Twenty-seven of the employees received compensatory time for Labor Day.

3. The Power Plant was shut down on September 9th for the annual inspection of wiring. As a result there was no electricity throughout the hospital for a period of twelve hours. In Food Service the emergency was met by rearranging the time schedule to provide an adequate work force. Since overtime was not accrued, the increase in labor hours was not reflected in the period studied.

Interviews

The dietitian at Kalamazoo State Hospital was interviewed on the subject of personnel assigned to the Food Service Department. She made available records of employees which included place of duty, time schedules, and payroll records. Information on the hours of operation and the number of meals served in each section was also obtained.

The Coordinator of Adjunctive Therapies was interviewed on the subject of the assignments of patients. She furnished copies of the standard forms which were used in the department and job descriptions (See Appendix Form 1,2). Information concerning patients who were assigned to the Food Service was obtained from this office. Records containing the year of birth of individuals were made

available. Members of Nursing Service were consulted to obtain the year of birth for any patient whose record was not in the Occupational Therapy Department files.

Compilation

Prior to the collection of data, a preliminary form for the compilation of labor hours was designed. The form (Appendix Form 3) was reproduced on both yellow and white paper. Patient labor hours were recorded on the yellow forms and employee labor hours on the white forms.

Copies of the form were distributed to the nineteen food service sections. In each section the supervisor was contacted and the nature of the study was explained. This person was instructed to record the labor hours for the period September 8 through September 21. The general classifications of the work areas listed on the form were explained in detail, and divisions applicable to the specific section were stressed.

The supervisor was further instructed to select the correct work area; to determine the appropriate hour designation; and to enter the number of employees or patients on duty for that particular hour, area, and date. A suggestion was made to each supervisor

contacted that a recheck of the final numbers would be valuable in determining any omissions or duplications of labor hours.

Since the employees were inexperienced with the labor hour forms, other records were kept for verification of the information. The first of these was the Patients' Assignment Record (Appendix Form 4) which contained the name of the individual, place of duty, year of birth, hours of work, and category of freedom. The second set of records was the Employees' Time Schedule (Appendix Form 5) which included the duty time of the employees. The number of labor hours was totaled per day, per week, and for the period studied. This record was verified by checking it against the payroll record for Food Service employees.

The completed forms were collected daily from the work sections and compared with the Patients' Assignment Record and the Employees' Time Schedule. Any discrepancies were immediately discussed with the supervisors and reconciled. Information gathered from the forms indicated that in the majority of work units the labor pattern was purposely stabilized, because the adjustment capacity of the patient was more favorable in a routine work situation.

The number of meals served according to kitchens was recorded. From this information the average number of meals served per day was determined.

DISCUSSION

Kalamazoo State Hospital is almost a century old, and through the years a conservative and restrictive atmosphere has developed in the organization. There is a well defined division between working and living areas for men and women. In contrast, a philosophy is permeating the newer mental hospitals which favors a more liberal viewpoint in the segregation of the male and female patients. Some of the European countries have relaxed the policy of separating the two sexes. This procedure has been extensively promoted by a German psychiatrist, Dr. Hermann Simon (65).

Constant improvements are being made in the food service for mental patients. The decentralized kitchens are being replaced by one central kitchen, and cafeterias are being installed. Some of the recent advances toward more attractive service include the addition of a complete place setting of silverware, colorful dishes, smaller dining tables, and, in some instances, the use of glassware (53).

At Kalamazoo State Hospital a merging stage of advancement is evident; vestiges of the past are mingled with the modern trends of mental care. During the middle of the twentieth century, emphasis

is being given to the treatment of the patient rather than to the custodial care policy which characterized the nineteenth century mental institutions.

Patient Labor

Ivany and Rothschild (36) reported that jobs performed by patient helpers in mental institutions were divided into two categories, vital and non-vital. Kitchens and cafeterias were rated the most vital of all assignments. The authors emphasized that the established quota of patient helpers for a department should be maintained so that work pressure would not be created which might result in impairment of the training of patients.

Distribution of men and women

In 1949 a questionnaire was initiated by the Council of State Governments and forwarded to the state-operated mental hospitals. Answers from the survey showed that 164 hospitals were permitting both men and women patients to assist with work in Food Service. Six of the hospitals were more restrictive; five of these allowed only male patients to work in the department, and the sixth allowed only females to work in this area (12).



During the time of the study, 34 women and 117 men patients were on duty in the Kalamazoo State Hospital Food Service. A hospital policy had been established which prohibited assignments of female patients in twelve of the nineteen sections. They were not permitted to work in ten of the production areas: three large kitchens, two farm kitchens for male patients, two cottage kitchens in the male center, two miscellaneous kitchens, and bakery. Women were not assigned in two serving sections, Patient's Receiving Cafeteria and Male Department Cafeteria.

Male patients were on duty in all of the units operated by Food Service except Female Department Cafeteria. In the four cottage kitchens for females, an elderly male patient was permitted to work; his principal tasks were to care for the storeroom, to clean the walls and floors, and to assist with heavy supplies. Two elderly male patients with similar jobs were authorized for the female farm kitchen.

Table 1 shows the distribution of men and women patients who were on duty in the Food Service according to the location classification of the nineteen sections. The highest percentage of patient labor for both men and women was in the cafeterias. The work in this area consisted of three job assignments, cleaning, dishwashing, and serving of food.

Table 1. Distribution of men and women patients assigned to Food Service according to location classification.

Location	Total Number Assigned	Distribution of Patients			
		Number		Percentage of Total	
		Men	Women	Men	Women
Kitchen Production					
Three large	30	30	0	20	0
Six cottage	28	13	15	9	10
Three farm	18	15	3	10	2
Two misc.	7	7	0	4	0
Bake Shop Production					
One bakery	8	8	0	5	0
Cafeteria Service					
Four cafeterias . .	60	44	16	29	11
Total	151	117	34	77	23

In the four Food Supply (extra-departmental) sections, only male patients were permitted to work. All of these units were located in the same building, and female patients were restricted from the vicinity. Table 2 summarizes the distribution, according location section, of the 27 men assigned to Food Supply.

The largest percentage of patients on duty in Food Supply (extra-departmental) performed jobs in the central vegetable preparation unit. Individuals with dull normal intelligence were capable of working in this assignment.

To facilitate the interpretation of data, food sections were classified according to function as well as location. The difference in the two classifications is illustrated in Table 3. In the location classification there were four groups of kitchens; in the function classification there were only three.

The work load and hours of operation in the three large kitchens were similar; the same conditions as in the large kitchens existed in the ten small kitchens. In the large kitchens the largest unit prepared food for 920 people per day and the smallest for 640; in the ten small kitchens comparable maximum and minimum daily food production was 256 and 50 people.

Table 2. Distribution of male patients assigned to Food Supply.

Location	Number of Men	Per Cent of Total
Food Procurement	3	11
Meat Cutting	3	11
Milk Pasteurization	3	11
Central Vegetable Preparation	18	67
Total	27	100

Table 3. Classification of Food Service kitchens according to location and function.

Type of Kitchen	Number of Kitchens	
	Classification	
	Location	Function
Large	3	3
Cottage	6	
Farm	3	
Miscellaneous	2	
Small		10
Diet		1
Total	14	14

The distribution of men and women patients assigned to Food Service and Food Supply (extra-departmental) according to function classification is shown in Figure 2. Men were on duty in all the units when the study was made of functional classification, but women worked in only two of the sections. Of the 178 patients who were assigned the ratio of men to women was four to one.

Category of freedom

Patients were grouped into two broad categories, ground permit and non-ground permit. These designations indicated the amount of freedom allowed. Individuals who did not have ground permit status were not assigned to work areas which remained unlocked. The unlocked sections were two large kitchens, three farm kitchens, two miscellaneous kitchens, bakery, and the cafeteria for employees. Of the total number assigned to Food Service, 74 patients (49 per cent) were on ground permit status; 77 patients (51 per cent) were on non-ground permit status. In Food Service the number of jobs available for ground permit patients was approximately the same as the number for non-ground permit.

In Food Supply (extra-departmental) 10 patients were on ground permit status, and 17 were on non-ground permit. Patients who were

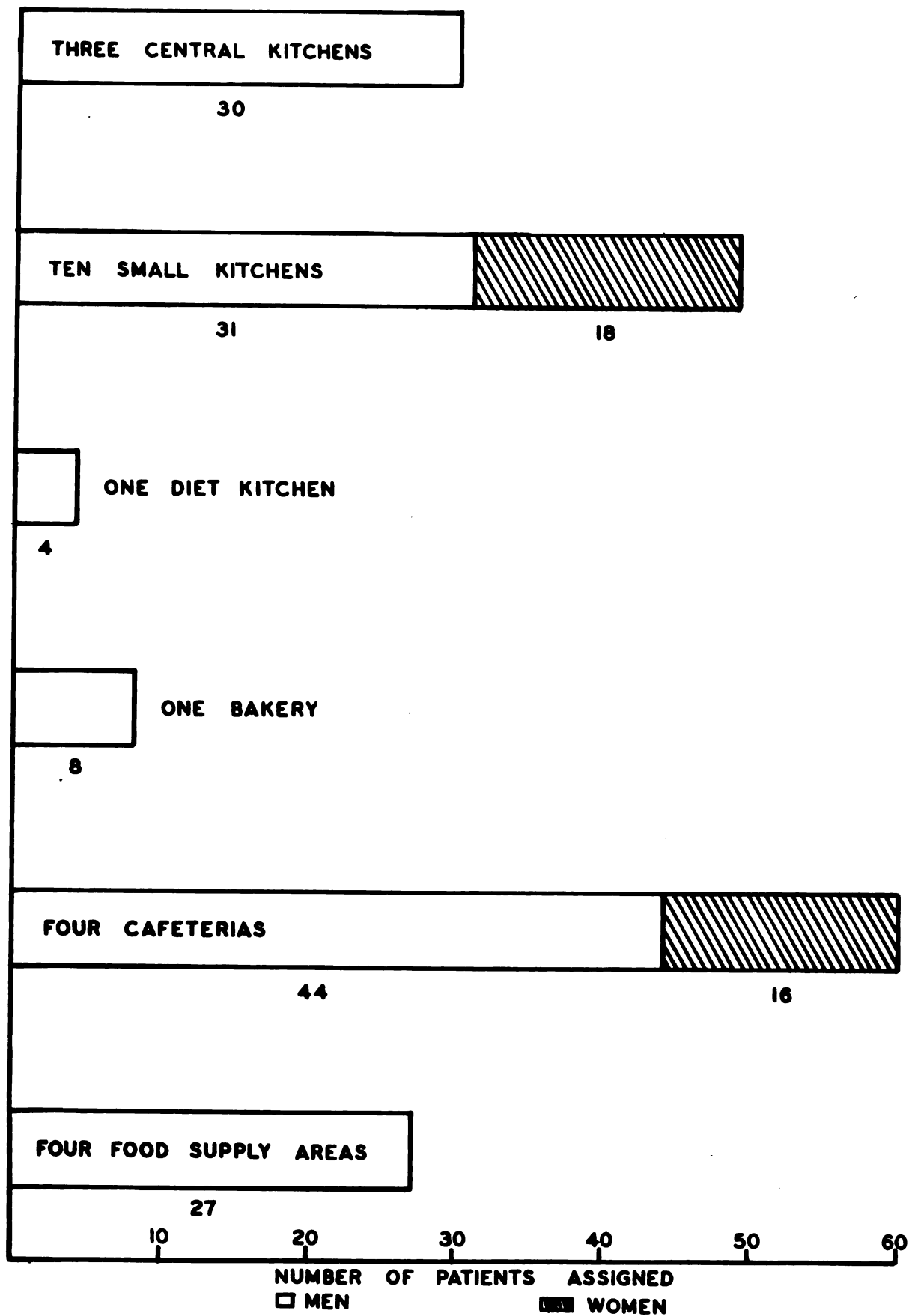


Figure 2. Distribution of men and women patients in Food Service and Food Supply according to function classification.

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on duty in food procurement and milk pasteurization were on ground permit status; assignments to meat cutting and central vegetable preparation included patients of each status.

Close supervision was exercised and all exit doors were kept locked in those areas where persons without ground permits were authorized to work. Only in the central vegetable preparation unit, where a policy of this nature would have hampered the efficiency, was any exception made to this policy. A capable and trained attendant closely supervised patients in this area.

Age distribution

Records of year of birth for all patients, except two, who were on duty in Food Service and Food Supply (extra-departmental) were available for study. The ages of patients assigned to Food Service ranged from 14 to 82 years. The age range, according to location of work area, is shown in Table 4. The greatest age range was in Food Supply (extra-departmental); the smallest range was in the farm kitchens. The youngest group of patients worked in the cottage kitchens; the oldest group were on duty in the farm kitchens.

The age distribution of patients assigned to Food Service and Food Supply (extra-departmental) is shown in Figure 3. The

Table 4. Age range and average age of patients assigned to Food Service and Food Supply according to location classification.

Location	Number of Patients	Age	
		Range	Average
Kitchens			
Three large	30	22-82	51
Six cottage	28	27-72	40
Three farm	17	44-72	56
Two misc.	7	17-64	47
Bakery	8	23-69	48
Cafeterias	59	14-70	43
Food Supply	27	20-81	55
Summary	176*	14-82	49

* There were 178 patients assigned but records of year of birth were available for only 176 patients.

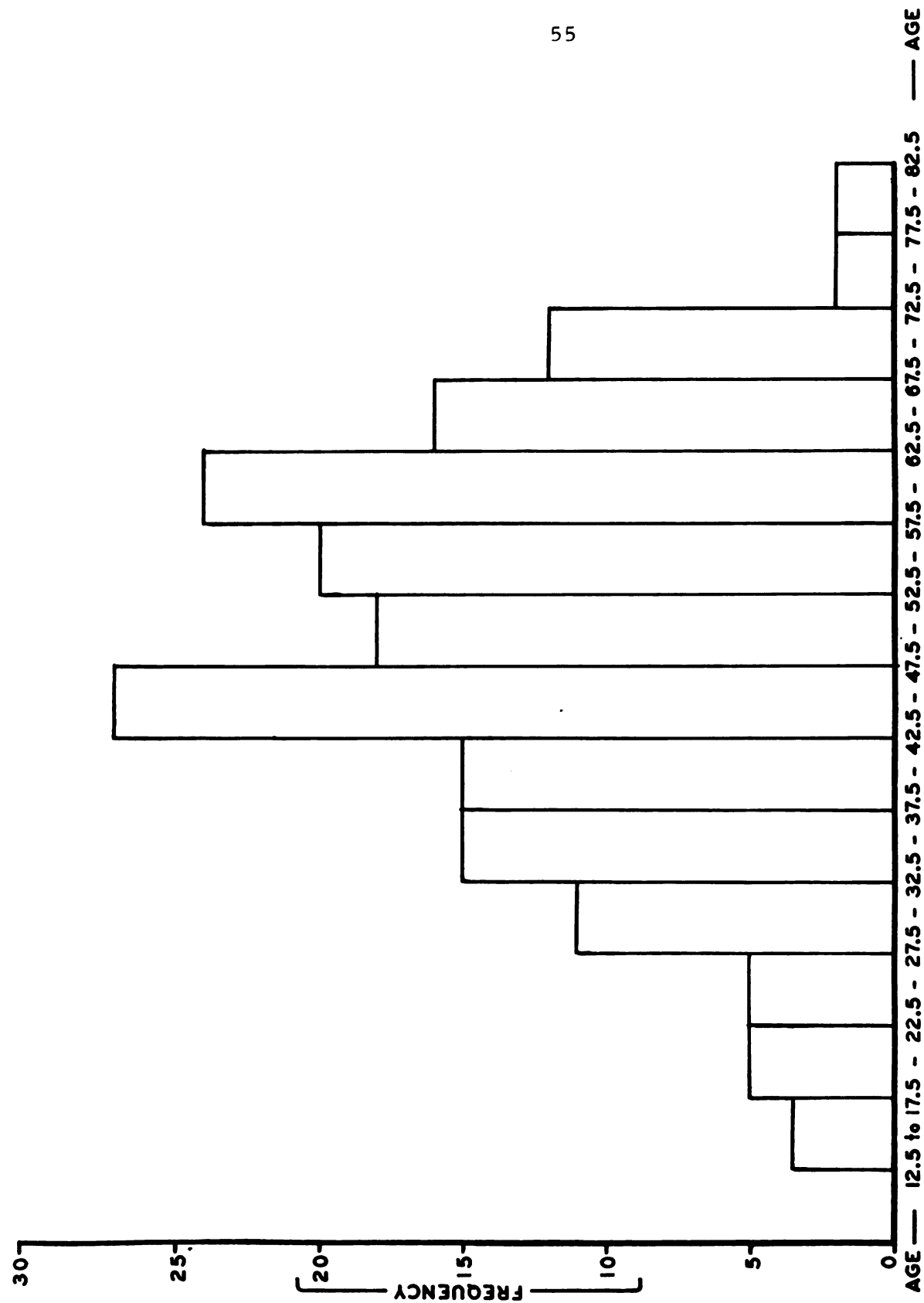


Figure 3. Age distribution of patients assigned to Food Service and Food Supply.

average age was 49 years. The largest percentage of patients was in the age group between 42 and 47 years. In this study 48 of the patients were over 60 years of age.

From 1930 to 1944 the admissions to mental hospitals for patients over 65 years of age increased more than 60 per cent (10). In a report made by the National Association for Mental Health in 1952, the diagnosis of psychoses of old age comprised the highest percentage of all new admissions to state mental hospitals each year. This group of patients comprised 27 per cent of all new admissions; the majority of these cases were reported to have developed after the individuals reached 60 years of age (50). At the time of this study 83 per cent of the patients in Kalamazoo State Hospital were over 60 years of age. The number of patients who are capable of assisting with the work has declined with the increasing percentage of senile patients in state mental hospitals.

Employee Labor

A wide divergence in tables of organization for Food Service Departments exists among state mental hospitals. Within Michigan no specific pattern is followed in establishing lines of authority in Food Service departments. The current trend is to extend the function

of the department to include serving of trays on the wards as well as in the dining rooms.

The physical plant of Kalamazoo State Hospital has necessitated a complex organization chart for the Food Service. As shown in Figure 4, the lines of authority are not clear-cut, and the efficiency of the department depends largely upon teamwork.

Williams (66) commented that during periods of economic depression, the hospitals had access to a labor market from which competent employees could be selected. Because jobs have been plentiful during the middle of the twentieth century, hospital personnel have been chosen from a residual market of less desirable individuals.

In contrast to the high percentage of men patients who worked in Food Service, the female employees outnumbered the male by 23, as shown in Table 5. Of the 87 employees on duty at the time of the study, 55 workers (63 per cent) were women. The difference was attributed to the type of work which required a person who was versatile, patient, and understanding. In addition, the split shift was apparently less acceptable to the men than to women. In the function classification of the study it was found that female employees worked in all sections except the bakery. The percentage of women

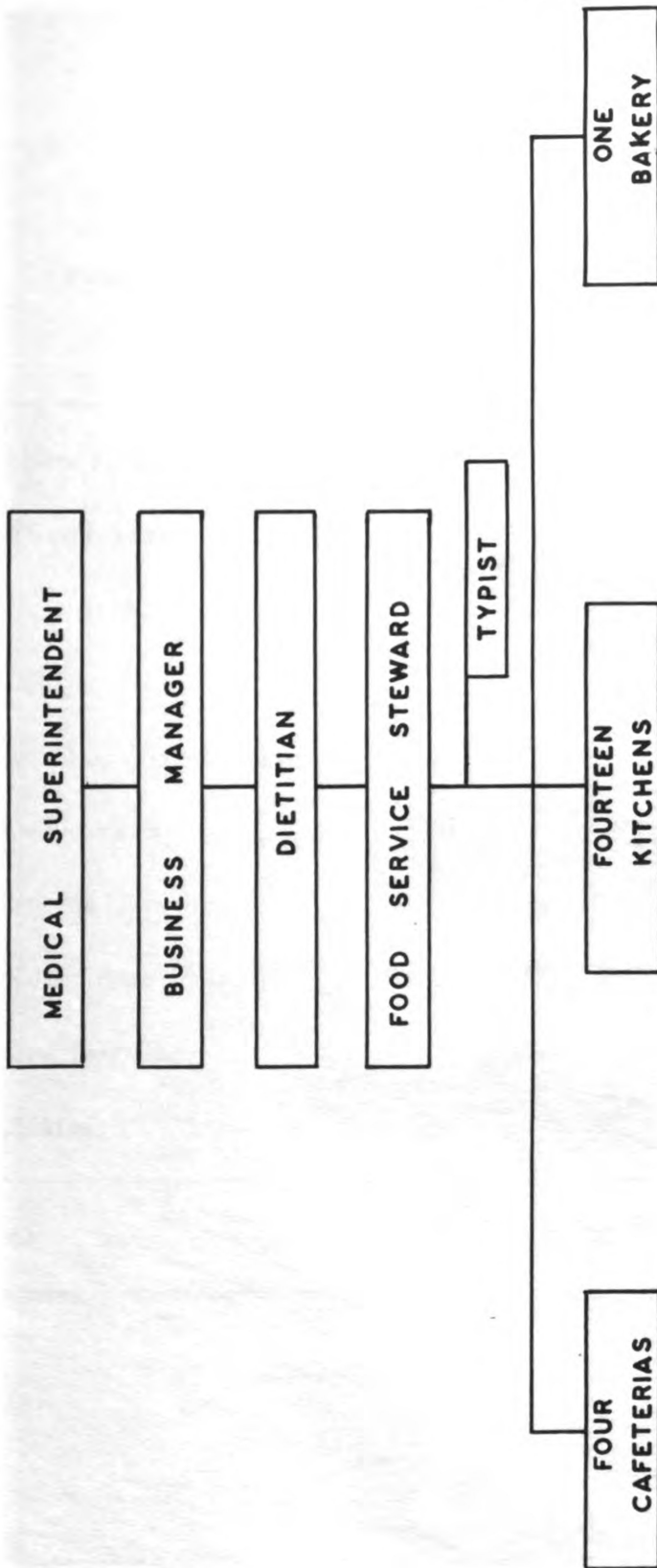


Figure 4. Kalamazoo State Hospital Table of Organization for Food Service.

Table 5. Distribution of men and women employees in Food Service according to function classification.

Function	Total Number Assigned	Distribution of Employees			
		Number		Percentage of Total	
		Men	Women	Men	Women
Kitchen Production					
Three large	41	22	19	26	22
Ten small	19	2	17	2	19
Diet	5	0	5	0	6
Bake Shop Production					
One bakery	4	4	0	5	0
Cafeteria Service					
Four cafeterias . .	14	2	12	2	14
Supply Service					
Relief	4	2	2	2	2
Total	87	32	55	37	63

employees exceeded that of the men in the three work areas, small kitchens, diet kitchen, and cafeterias.

Male employees outnumbered females in the function classification in only two areas, the bakery and the large kitchens. The percentage of male personnel in comparison to female was low in work areas where food was prepared in small quantities.

Patient and Employee Labor Hours

The primary goal of a work assignment for a mental patient is to rehabilitate the person so that he may lead a more useful life. Therefore, the work performed by a patient is measured in terms of therapeutic value rather than labor hours.

Comparison

The comparison of patient and employee labor hours according to function classification is given in Table 6. The total number of labor hours for the period studied was 10,858 for patients and 6,462 for employees. The cafeterias had the largest percentage of patient labor hours, and the large kitchens utilized the largest percentage of employee time. Patient labor hours exceeded the labor hours of employees in three of the five work sections.

Table 6. Comparison of patient and employee labor hours in Food service according to function classification.

Function	Distribution of Labor Hours			
	Patient		Employee	
	Hours	Per Cent	Hours	Per Cent
Kitchens				
Three large	2,220	20	3,115	48
Ten small	3,543	33	1,616	25
Diet	234	2	392	6
Bakery	346	3	256	4
Cafeterias	4,515	42	1,083	17
Total	10,858	100	6,462	100

The percentage comparison of patient and employee labor hours is shown in Figure 5. Patient labor hours were highest in the cafeterias and small kitchens, and employee labor hours were highest in the large and small kitchens. Almost half of the labor hours for employees were accrued in the large kitchens; two-thirds of the patient labor hours were accrued in the cafeterias and small kitchens.

In Table 7 are shown the total patient and employee labor hours for the period studied and the average hours worked per patient and per employee for one week. The average labor hours per patient for one week was 35.9; the average per employee exceeded this by 1.3 hours. The average is lower for employees because 27 of the employees had compensatory time for Labor Day. In addition, the majority of patients worked six days per week and the employees worked five.

Distribution

Patient labor comprised 63 per cent of the labor hours in Food Service, as shown in Table 8; employee labor comprised 37 per cent. The largest percentage of labor hours was in the cafeterias; the smallest percentage was in the diet kitchen.

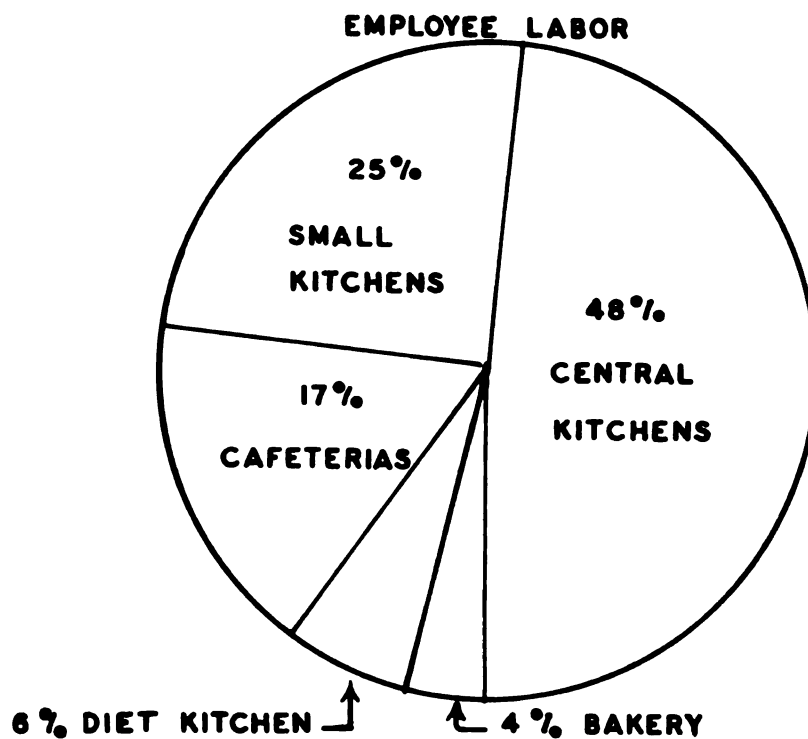
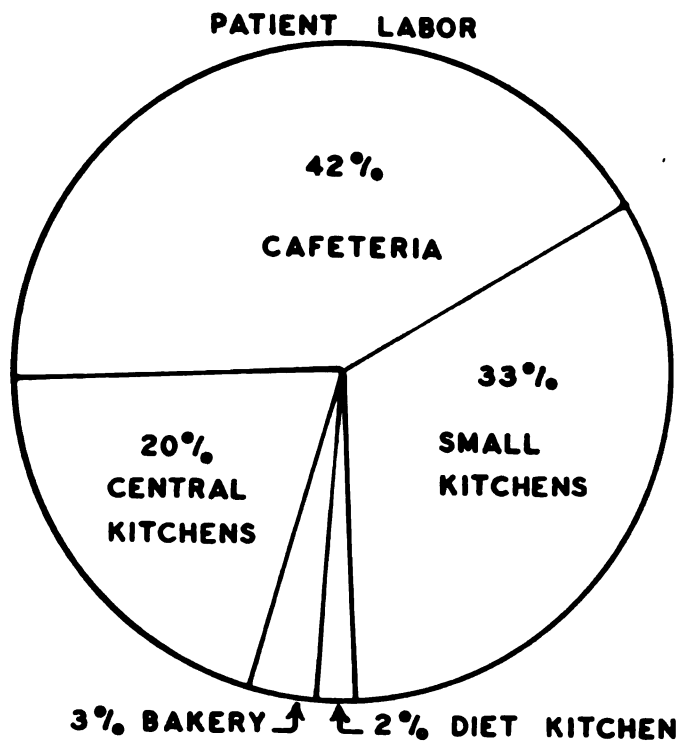


Figure 5. Percentage comparison of patient and employee labor hours in Food Service according to function classification.

Table 7. Comparison of average labor hours per patient and per employee assigned to Food Service.

Description	No. of Workers Assigned	Total Labor Hours for (2 weeks)	Average Labor Hours per Person for (1 week)
Patient	151	10,858	35.9
Employee	87	6,462	37.2
Total	238	17,320	36.4

Table 8. Distribution of patient and employee labor hours in Food Service according to function classification.

Function	Total Labor Hours	Distribution of Labor Hours			
		Number		Percentage of Total	
		Patient	Employee	Patient	Employee
Kitchens					
Three large	5,335	2,220	3,115	13	18
Ten small	5,159	3,543	1,616	21	9
Diet	626	234	392	1	2
Bakery	602	346	256	2	2
Cafeterias	5,598	4,515	1,083	26	6
Total	17,320	10,858	6,462	63	37

The percentage distribution of labor hours for patients and employees according to function classification is given in Figure 6. Ninety-three per cent of the labor hours was accrued in the cafeterias, large kitchens, and small kitchens. The percentage of labor hours was smallest in the bakery and diet kitchen.

Comparison of Kitchen Production

In the three large kitchens the combined number of meals prepared per day averaged 6,930. The average number of labor hours per day for the three large kitchens was 381. In these three kitchens 18.19 meals per labor hour were produced.

In the ten small kitchens the combined number of meals produced per day averaged 3,964; the average number of labor hours per day was 368. The average number of meals prepared per labor hour was 10.23.

The large kitchens were more efficient in production than the small kitchens. In the large kitchens the number of meals prepared per labor hour exceeded the number prepared in the small kitchens by 7.96.

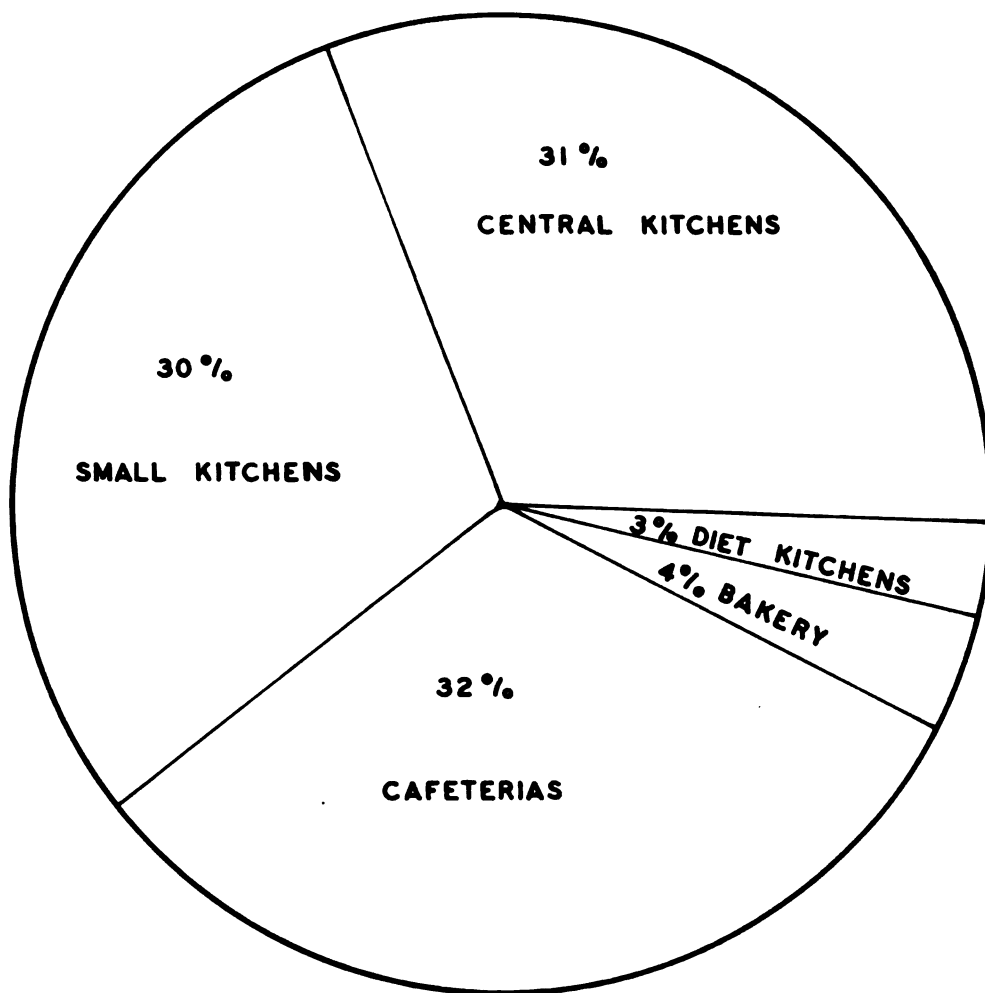


Figure 6. Percentage distribution of patient and employee labor hours in Food Service according to function classification.

SUMMARY

During the period of this study the Food Service at Kalamazoo State Hospital was operated on a decentralized basis for 3,500 patients. The department was composed of nineteen sections: fourteen kitchens, one bakery, and four cafeterias. The kitchens were located in thirteen different buildings without connecting rampways.

During the time of the study, 87 employees were on duty, 55 women and 32 men. One hundred and fifty-one patient helpers, 117 men and 34 women, were assigned to the department. The average age of patients who were on duty in Food Service and Food Supply (extra-departmental) was 49 years; the age range was from 14 to 82 years. The percentage of patients who worked in Food Service on ground permit and non-ground permit status was almost equal.

The total number of labor hours for the two week period studied was 17,320; 63 per cent of this total was patient labor. The average number of labor hours per week was 35.9 for patients and 37.2 for employees. The average number of labor hours for employees was low, because 27 of the personnel had compensatory time for Labor Day. Some of the patients worked six days a week.

To facilitate the interpretation of data, the kitchens were classified according to function as well as location. The function division included three large, ten small, and one diet kitchen. In addition, there were two other work areas, four cafeterias and one bakery. Ninety-three per cent of the labor hours was required for the operation of the three large kitchens, ten small kitchens, and four cafeterias.

Seventy-five per cent of the patient labor hours was accrued in the four cafeterias and the ten small kitchens; 42 per cent was in the cafeterias and 33 per cent in the small kitchens. Seventy-three per cent of the employee labor hours was accrued in the three large kitchens and ten small kitchens, 48 per cent in the large kitchens, and 25 per cent in the small kitchens.

The number of meals produced per labor hour in the three large kitchens and in the ten small kitchens was compared. In the large kitchens the average number of meals prepared per labor hour was 18.18; in the small kitchens the corresponding number was 10.23.

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APPENDIX

FIGURE	Page
7. Adjunctive therapies prescription	76
8. Job analysis for Food Service dining room helper	77
9. Number of people on duty	78
10. Patients' assignment record	79
11. Employees' time schedule	80

ADJUNCTIVE THERAPIES PRESCRIPTION

Patient's name _____ Date _____

Hall _____ Education _____ I.Q. _____

1. General information about patient: _____

2. Illness: diagnosis, outstanding present symptoms, precautions, limitations. _____

3. Level of activity:

a. On hall _____

b. Off hall _____

Occupational Therapy _____

Music _____

Recreation _____

Educational Therapy _____

c. Hospital industries _____

4. What should patient gain through activity? _____

5. What attitude should therapist take toward patient? _____

6. What other information should therapist know about patient? _____

Signature _____

Authorizing Physician

Figure 7. Adjunctive therapies prescription.

INDUSTRIAL THERAPY PLACEMENT

SERVICE: Dietetics
 LOCATION: Employees' Cafeteria
 JOB TITLE: Dining Room Helper
 IMMEDIATE SUPERVISOR: Food Service Helper
 JOB QUALIFICATIONS: Knowledge, Skills, Abilities

Average or low average intelligence with clean habits. Work is unskilled and requires little intelligence beyond ability to follow simple instructions. Should have sufficient motor coordination to handle dishes. This work is more sedative than stimulating.

JOB SUMMARY: Performance requirements, Major duties, etc.

Sets up cafeteria counter and at times helps serve trays. Carries dirty dishes from table; scrapes and places dishes in electric washer; dries glasses and silver. Cleans table tops and chair seats; sweeps floor; prepares dishes for next meal. Dining room is cheerful. Work is often dirty and wet. Some noise is encountered. Work is repetitious but not heavy. Worker has one day off each week.

SUPERVISION: Close, Little or none

Moderately close, depends on individual.

VOCATIONAL POSSIBILITIES: _____

Assignment has some possibilities as a vocational objective if patient shows a decided interest in this type of work. Could work in short order house or if more intelligent as a waiter in a restaurant.

Figure 8. Job analysis for Food Service dining room helper.

SECTION *Fletcher - small kitchen for male patients*DATE *Fri, Sept 10, 1954* NUMBER OF PEOPLE ON DUTY

AREA	Hour	AM												PM												AM	Total
		4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12					
STORAGE																											
Receiving & Issuing																											
FOOD PREPARATION																											
General			/	/	/	/	2	2	/	2	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	16
Baking																											
Butchering																											
Special Diets																											
Raw Vegetable																											
Ice Cream																											
Milk Pasteurization																											
FOOD SERVICE																											
Table and Cafeteria																											
Ward																											
CLEANING																											
Dishwashing																											
Pot Washing																											
General																											
2nd Shift -																											
Total																											lunch.

9:30 AM to 5:30 PM with one hour off for lunch.

Figure 9. Number of people on duty.

PATIENTS' ASSIGNMENT RECORD

SECTION: Monroe Kitchen for Female Patients

Name of Patient	Sex	Status	Year of Birth	Age	Hours of Work
M. E.	M	G.P.	1921	33	6-11, 3:30-4; off Sat. p.m. & all day Sun.
Z. J.	F	G.P.	1927	27	8-10 (7 days a week)
R. P.	F	Non G.P.	1923	31	8-10 (7 days a week)
K. M.	F	Non G.P.	1908	46	6-9, 10:30-11:30, 3:15-4:30 (7 days a week)
B. J.	F	Non G.P.	1921	33	6-9, 10:30-11:30, 3:15-4:30 (7 days a week)

Figure 10. Patients' assignment record.

EMPLOYEES' TIME SCHEDULE

SECTION: Rich Farm Kitchen operated for female patients

Name of Employee	Pay- roll No.	Wed. 8 Sept.	Thur. 9	Fri. 10	Sat. 11	Sun. 12	Mon. 13	Tues. 14	Total
C. H.	12	✓	✓	✓	✓	✓	✓	✓	56
W. C.	83	OFF	OFF	SICK	✓	HOL.	✓	✓	24
J. A.	38	✓	✓	OFF	OFF	OFF	✓	✓	32
Supply				✓		✓			16
Total		16	16	16	16	16	24	24	128

Name of Employee	Pay- roll No.	Wed. 15 Sept.	Thur. 16	Fri. 17	Sat. 18	Sun. 19	Mon. 20	Tues. 21	Total
C. H.	12	OFF	OFF	✓	✓	✓	✓	✓	40
W. C.	83	✓	OFF	OFF	✓	✓	✓	✓	40
J. A.	38	✓	✓	✓	✓	HOL.	OFF	OFF	32
Supply			✓						8
Total		16	16	16	24	16	16	16	120

Figure 11. Employees' time schedule.

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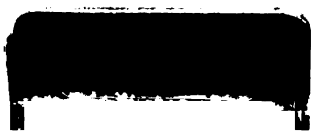
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Nov 25 '57

Aug 11 '58

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