

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

DANVERS STATE HOSPITAL

FOR THE

YEAR ENDING NOVEMBER 30,

1939

DEPARTMENT OF MENTAL HEALTH

DANVERS STATE HOSPITAL
(Post Office Address: Hathorne, Mass.)

TRUSTEES

MR. S. HERBERT WILKINS, Chairman, Salem.

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MR. JAMES F. INGRAHAM, Peabody.

MR. FRANCIS T. RUSSELL, Dorchester.

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MRS. ANNIE T. FLAGG, Andover.

MISS MARY T. O'SULLIVAN, Lowell.

RESIDENT OFFICERS

CLARENCE A. BONNER, M.D., Superintendent.

WILLIAM CHARLES INMAN, M.D., Assistant Superintendent.

LEO MALETZ, M.D., Director of Clinical Psychiatry.

MELVIN GOODMAN, M.D., Senior Physician.

MYER ASEKOFF, M.D., Senior Physician.

SALVADOR JACOBS, M.D., Senior Physician, Pathologist.

DORIS M. SIDWELL, M.D., Senior Physician.

FLORA M. REMILLARD, M.D., Assistant Physician.

MONA C. MEHAN, M.D., Assistant Physician.

LOUISE H. JACOB, M.D., Assistant Physician.

PETER B. HAGOPIAN, M.D., Assistant Physician.

SAMUEL H. MARDER, M.D., Assistant Physician.

FRANCIS X. SULLIVAN, M.D., Assistant Physician.

PASQUALE A. BUONICONTA, M.D., Assistant Physician.

GEORGE W. WHEELER, D.D.S., Dentist.

GRACE H. KENT, Ph.D., Psychologist.

HEADS OF DEPARTMENTS

MR. ADAM D. SMITH, Steward.

MISS HULDA ARONSON, Treasurer.

MR. SAMUEL A. CLARK, Chief Power Plant Engineer.

MISS MARY H. HOLLAND, Head Social Worker.

MISS MARY'K. MCPHILLIPS, Principal Clerk.

MR. ARTHUR E. REED, Chief Hospital Supervisor, Male Department.

MISS OLIVE F. ESTEY, R.N., Principal of School of Nursing.

MISS GRACE MANNING, R.N., Chief Hospital Supervisor, Female Department.

MR. IRVING L. HTLAND, Maintenance Foreman.

MR. RALPH B. LITTLEFIELD, Head Farmer.

MRS. POLLY K. LOESCH, Head Occupational Therapist.

CONSULTING PHYSICIANS

S. CHASE TUCKER, M.D., Surgeon.

CHARLES L. CURTIS, M.D., Surgeon.

RICHARD E. ALT, M.D., Surgeon.

PHILIP J. FINNEGAN, M.D., Asst. Surgeon.

PAUL R. HINCHEY, M.D., Asst. Surgeon.

ALBERT E. PARKHURST, M.D., Internist.

EDWARD L. PEIRSON, M.D., Urologist.

OLIN S. PETTINGILL, M.D., Tuberculosis.

PHILIP R. DWYER, M.D., Ophthalmologist.

HAROLD C. BEAN, M.D., Orthopedic Surgeon.

MORRIS YORSHIS, M.D., Neurologist and Psychiatrist.

PAUL E. TIVNAN, M.D., Roentgenologist.

BERNARD APPEL, M.D., Dermatologist.

JOSEPH A. DOHERTY, D.D.S., Dental Surgeon.

WILLIAM H. MCCARTHY, D.S.C., Chiropodist.

HOWARD J. FLEMING, D.S.C., Chiropodist.

TRUSTEES' REPORT

To His Excellency, the Governor and the Honorable Council:

It is planned in this report to outline what has been accomplished in the institution during the past fiscal year and to discuss the needs of the hospital to provide the best care possible for its patients with funds that may be available in future appropriations.

During the last year the problem of overcrowding became more apparent than in past years, Beginning in August, there was a marked increase in the admission rate of elderly psychotic persons, and for the first time, this group outnumbered the younger group, Formerly the larger number to develop mental illness was in the year periods from 15-30.

The Department of Mental Health has taken cognizance of the seriousness of this problem and is now actively engaged in redistricting our commitment area, This hospital, for the last several years, has received nearly (1,000) new admissions per annum, which is altogether too large a load considering space, personnel, and the close attention that the newly-admitted patient requires, We are constantly looking forward to the improvement and recovery of the newly-admitted patient by means of all modern methods of treatment, but overcrowding makes this very difficult indeed, The so-called continued care patients have received the benefit of the new "Total Push" treatment in such numbers as we were able to provide with proper professional supervision,

During July and August, the hospital received a very careful inspection by Dr, Francis H, Sleeper, who made many helpful suggestions, and all of these that could be done have been carried out.

Through the cooperation of the Department of Mental Health, another physician has been added to the personnel so that at the present time there are

our physicians on the male service and four on the female service, and included in this number, on each service, one senior in charge.

In addition to the usual morning and afternoon rounds, a third check-up is made at night by the physician on duty to make sure that no patient is without proper medical attention throughout the night.

Every form of modern treatment is in use for patients within the wards of the hospital, and the large number of visit cases is sufficient testimony as to the wisdom of this policy.

The community clinics have been actively carried on by two physicians who limit their work to mental hygiene efforts, and once each week a clinic is held at the Lynn Hospital and at the Beverly Hospital, These clinics are supervised by the respective seniors on the male and female services, Thus the hospital offers not only effective care within the hospital, but has fully met its responsibility in its effort to carry on a program of prevention in the community.

There appears in the report of the Superintendent a more detailed statement of medical accomplishments, including the work of the laboratory and the desire on the part of the hospital to offer the physicians in the community the value of such studies as have been correlated here, They have at regular intervals been invited to attend these very stimulating meetings and each meeting has been well attended.

Under administration, have been assembled such changes as represent betterments to the institution. A great deal of ordinary repair work is absolutely necessary to maintain in order the buildings which, for the most part, were constructed in 1875-1878, and which, by reason of the large number of first admissions, are subjected to a great deal of wear and tear.

Aside from this, 37 new fire hose cabinets were built and installed on each ward in a central location.

A cottage was completely rebuilt and is now occupied by the Superintendent.

The chapel was redecorated and the work of remodeling the apartment formerly occupied by the Superintendent was begun.

At Middleton Colony, a new brick wall was built for the dining room, replacing the wooden wall which had partially collapsed, and also a roof section. A parallel wall is under process of erection and repairs to the kitchen building are now in progress.

The D building has been completely re-shingled with new slate, copper gutters and flashing, with proper conductor pipes.

New linoleum has been laid on wards D and C, covering completely the floor surfaces.

It is hoped that the matter of our water supply may adequately be settled during this coming year, The State Department of Public Health has taken an active interest in the controversy and has made certain specific recommendations to the legislature.

The main road from the barn to the Colony was re-surfaced and new drains built. This will be very helpful in preserving our roads in the event of heavy rainfall.

The engineering department has coordinated its work with the construction force, and under this division, and on special contract, all of the old wiring and fixtures were removed at the Colony, and new and modern wiring fixtures were installed. These Colony buildings are now equipped with flood lights, which will be very useful in the event of a fire or like emergency.

A new incinerator will be built at the Colony Power House to take the place of the one condemned in the main building.

A complete telephone system has been installed at the Colony. This is a further protection in the event of an emergency and also serves to keep the officers fully in contact with the various wards.

The following requests are made again as they have appeared in previous messages:

That funds be permitted for an infirmary building to care for elderly and sick patients that they may be separated from the younger and more active group; that in this building provisions be made for operating room facilities, a pathological department and new x-ray equipment. The present x-ray equipment is obsolete and constantly requires the services of a mechanic to keep it even in the semblance of order.

Again, that our chapel is entirely too small and should be enlarged to three times its present capacity.

We again repeat at this time and call attention to the fact that both the front and rear sections of the administration building should have other means of egress than that which now exists. The ideal plan for the front center would be a fireproof staircase extending from the fourth floor and with an outside exit on the ground, at a cost of \$6,000. As to the rear center, plans have long been recommended to do away with this section and increase the size of the chapel with modern construction. Therefore, at this time it does seem feasible to recommend the type of staircase mentioned as desirable for the administration building, front section.

So serious is fire as a hazard in a mental hospital that one must constantly call attention to it in this annual message. Much has been accomplished in the past in this respect: The installation of fireproof staircases in the main building; adequate fire cabinets and fire hose in central positions on the wards; Firetox extinguishers in clothes closets; the re-shingling at Middleton Colony with fire-resisting shingles; and the installation of a telephone system.

There still remain the following recommendations taken from last year's report:

1. Renewal and modernization of the sprinkler system in the attics of B, C, D, E, F, G, H and I buildings.

2. That the sprinkler system be extended in the mechanical building to include all space beneath the carpenter shop. This includes the machine shop, plumbers' shop and electricians' and tinsmith's shop.

3. It is recommended that the basement in "Gray Gables", employees' home, be equipped with sprinklers, and the front stairs enclosed on each floor with fireproof partitions and self-closing fire doors. These changes are very necessary for the safety of occupants of this building.

We strongly recommend the fireproofing of the first floor on both the male and female wards. This will further provide protection in the event of any basement fire.

There is a need of a larger number of nurses, both male and female, to give proper ward supervision to our patients.

The generating equipment located in the power house has long reached its peak of efficiency and letters have been sent to the Department of Mental Health reporting the fact that our generating equipment is aged and may fail at any time in its function, that we are very much in need of new generating equipment.

We strongly recommend the building of two cottages for physicians. The farm serves a very useful purpose, providing work for several hundred patients. Milk production was improved during the last fiscal year.

We feel that the piggery is in very poor condition. The old piggery should be abandoned and a new and modern piggery built on a newly selected location.

Pork is valuable meat for hospital use and we have suffered large losses because of the poor building and infected ground.

The hennery buildings are also in poor condition and should be replaced by more modern structures.

There follows in this report a complete description of the departmental activities for the previous year and, briefly, one will gain by a study of the following pages the knowledge of the work that has been done in the institution during the last fiscal year.

Again the Superintendent, through this message of the Board of Trustees, desires to thank all of the employees for their efforts in the care of a large number of new admissions and a total population of over 2,400.

Respectfully submitted,

MR. S. HERBERT WILKINS, *Chairman*

DR. ARTHUR C. NASON.

MR. JAMES F. INGRAHAM

MR. H. C. MCSTAY

MR. FRANCIS T. RUSSELL

Mrs. ANNIE T. FLAGG

MISS MARY T. O'SULLIVAN

Trustees.

SUPERINTENDENT'S REPORT

To the Board of Trustees of the Danvers State Hospital:

The sixty-second annual report of the Superintendent for the fiscal year ending November 30, 1939, is respectfully submitted:

The clinical reports and statistics relating to patients are for the period including September 30, 1939.

MOVEMENT OF POPULATION

The hospital year opened on October 1, 1938, with 2,313 patients in the hospital, 363 on visit, 4 on escape and 8 in family care, making a total of 2,688.

The year ended on September 30, 1939 with 2,385 patients in the hospital, 347 on visit, 9 on escape and 36 in family care, making a total of 2,777.

The number of admissions during the year were: 495 male; 395 female; total, 890, a decrease of 74 over the preceding year.

There were 5 voluntary patients admitted during the past year; 35 patients were transferred from other institutions; 285 men and 227 women were admitted on temporary care papers, and 94 men and 60 women were admitted on 35-day observation papers.

FIRST ADMISSIONS

There were 587 patients admitted to this or any hospital for the first time, which is a decrease of 89 over the preceding year.

DAILY POPULATION

The total average population for the year ending September 30, 1939 was 2,380, an increase of 56 over last year. There were 3,703 patients treated during the year as compared with 3,627 in 1938.

A total of 278 patients died in the institution during the year, which is 2 more than the preceding year.

On September 30, 1939, there were 392 patients on trial visit in care of friends or under hospital supervision, as compared with 349 in 1938.

Since the organization of the hospital, 37,791 patients have been admitted and 35,112 discharged.

MEDICAL ADMINISTRATION

During the year the following changes occurred in the personnel of the staff:

Appointments: Dr. William Charles Inman was appointed assistant superintendent on December 1, 1938. Dr. Leo Maletz was appointed to the position of director of clinical psychiatry on December 1, 1938. Dr. Myer Asekoff was appointed senior physician on January 1, 1939. The following appointments of assistant physicians were made: Dr. Mona C. Mehan, July 17, 1939; Dr. Francis X. Sullivan, July 19, 1939; Dr. Pasquale A. Buoniconto, October 2, 1939; Dr. Louise H. Jacob, October 16, 1939.

Resignations: Dr. Velma H. Atkinson was granted a leave of absence on July 16, 1939, for the period of one year, in order that she might have the advantage of further study at Bellevue Hospital and Columbia University in New York. Dr. Abraham Gardner resigned from the position of assistant physician on August 13, 1939 in order to enter private practice. Dr. Ruth Weissman ended her year as resident physician in psychiatry on August 22, 1939.

Clinical Assistants: Tufts Medical College - Louis A. Sicard, Louis R. Gens, Saul C. Levine. Boston University - Dante Del Campo. Hahnemann Medical College - Charles C. Benedetti. Harvard Dental School - Anthony T. LoCastro.

MEDICAL AND PSYCHIATRIC SERVICE

Several important changes have occurred in the clinical activities of the hospital. The medical staff has been increased by an additional member, so that there are now four physicians on each service.

Within recent years there has been a marked increase in the number of persons visiting patients in the hospital. Visiting was permitted daily, and this

necessitated the constant presence of physicians in the administration office. This reduced the time which the physicians could devote to their patients on the wards, and the frequent visitations also caused excessive interruptions of the treatment prescribed for patients. To overcome this difficulty, the number of visiting days has been reduced to three days each week - Sunday, Wednesday and Saturday. This change was instituted in June, after a month's notice. It has been accepted by the patients' relatives with very little criticism.

Two new infirmaries have been set up. The J-1 annex, formerly for suicidal patients, has been transformed into an infirmary for male patients; and the south dormitory of ward G-1 has been converted into an infirmary for male employees. Both infirmaries have been attractively furnished, and have been equipped with kitchen and utility service. Male suicidal patients are now being cared for in wards J-2 and I-1, where there are better facilities for treatment. Under this arrangement, in effect all the year, there have been no serious suicidal attempts on the male service.

Because of the marked increase in the work of the pathological department, it has been necessary to relieve this department of the x-ray work. As a temporary measure, until a full-time x-ray technician can be employed, this work has been taken over by one of the junior physicians with the aid of the physiotherapist as technical assistant. X-ray studies have been performed on 962 patients this year.

The clinical programs have been considerably broadened, with special reference to the instruction of the junior physicians and medical students. Weekly medical and surgical rounds have been instituted, conducted on Friday mornings by members of the consulting staff and followed by conferences. There have been conferences also with the x-ray consultant, for correlation of the clinical and roentgenological findings. These rounds and conferences have been exceedingly stimulating, and their success is due in large measure to the kind efforts and cooperation of the consulting staff.

Monthly clinico-pathological conferences have been held in the evening, and have been well attended by physicians in the community. Cases have been discussed by the following guests: Doctors William Dameshek, Henry Cabitt, Harry Solomon, Samuel Epstein, Richard Wadsworth, Paul Yakovlev, Maxwell Finland, Peer Johnson, Morris Yorshis and Louis Hermanson.

During the past year we have introduced several new forms of chemical or experimental therapy. Testosterone has been used in treatment of involuntal melancholia in the male, with rather unsatisfactory results. This is in accord with our experience in using female sex hormones for a similar condition in the female, which has also been disappointing. The combination of benzedrine and amytol has been used for a select group of patients suffering from dementia praecox of the catatonic type, but with negative results. (These findings are consistent with results reported from several other institutions in which this combination has been tried.) Treatment by metrazol has been continued during the year, with favorable results in some cases. The use of insulin was discontinued in the summer, because of limited facilities for treatment and also because it seemed that there was no appreciable advantage of insulin as compared with Metrazol. The efficacy of Metrazol is clearly indicated in certain cases, in which the improvement has immediately followed the medication. It appears from our experience that patients who have relapsed after having responded favorably to Metrazol do not respond so well to subsequent courses of medication. Recently we have been using small doses of thyroid for elderly patients. Elixir of belladonna has been administered to patients with Parkinsonian rigidity, and has been found valuable.

Under the guidance of Dr. Abraham Myerson, a "Total Push" experiment was instituted on the male service. The dormitory in ward J-3 was set aside for the care of ten selected patients who had shown no remission after approximately ten years of hospitalization. Several of these patients had been in almost constant seclusion, and had been extremely intractable. During the five months since this program was put into operation, each of the patients has

shown some measure of improvement, especially in respect to attitude and general behavior. They take better care of their personal appearance, and show marked improvement in cooperation. Two patients with post-encephalitic behavior disorder have recently been added to the group, with favorable results. The response of the entire group to "Total Push" therapy is gratifying.

Several research studies have been carried on during the year. Dr. Kent and Dr. Maletz have in progress a study of 100 patients who developed dementia praecox in middle or later life. A study of alcoholic deterioration has been commenced by Dr. Maletz, with the assistance of Dr. Gardner, with a view to ascertaining the psychological and organic factors in the production of mental deterioration. Dr. Inman and Dr. Kent are collecting data for a study which may serve as a check on diagnostic procedure, to be based upon 1,000 approximately consecutive cases.

Psychiatric staff meetings have been held each morning at 8:00 a.m. The various student groups attend these meetings, including medical interns, social workers and psychometrists, students of occupational therapy, and senior student nurses. All effort has been made to utilize these meetings for instruction of students and for stimulation of psychiatric interest. Additional conferences for consideration of "visit" cases have been held in the afternoon, attended by the physicians and social service.

The teaching affiliation with Tufts Medical School has been continued. Each month of the academic year two fourth-year students have been assigned to the hospital for study of clinical psychiatry. Daily staff meetings, ward rounds and an intensive individual study of three or four cases constitute the basis of the month's work. The program includes also visits to the child guidance clinics and other extra-mural activities.

The Lynn mental hygiene clinic for adults has been continued, and a new clinic has been opened at Beverly. These clinics, which are held weekly in the

hospitals of Lynn and Beverly, serve as sources of psychiatric aid to the community.

An intensive campaign has been instituted for returning to the community certain patients who show such improvement as to render hospital care no longer necessary. In some cases the improvement has come about very slowly after many years of institutional life. In the meantime the patient's family may have lost all hope for his recovery, and as a result have established a home in which there is no place for the patient. In order to arrange for the placement of such patients under "family care" provision, if not with their own families, a new worker has been added to the social service staff, and the budget provision for "family care" patients has been increased from 8 to 33 cases. In some instances the "family care" arrangement has served as a stepping stone from the hospital to the patient's own home, and in other cases it has enabled a homeless patient to go into the community under hospital supervision with the hope that he may eventually be discharged on his own responsibility. In the past eight months about 140 patients have been placed in the community, thus affording some relief to the overcrowding of the hospital. More than 90 per cent of these patients have remained in the community.

The problem of destruction by disturbed patients has received careful attention. By means of better segregation of patients, better supervision on the part of nurses and attendants, the use of special garments and the use of bed care for denudative patients, a considerable reduction in destruction has been obtained. Occupational therapy and sedative forms of hydrotherapy have also contributed to this program.

Occupational therapy classes have been formed on each of the disturbed wards, with excellent results. These classes are conducted by the charge nurses, under the guidance of the occupational therapy department.

The activities of the group known as "big detail" have been continued and broadened, with special emphasis upon outdoor recreation. Each day about 130 disturbed patients have been taken to an open field at some distance from the buildings. These patients are taking some part in the work of improving the grounds for the construction of other playing fields. There is a good site for a lodge that might be used throughout the year.

Both the male and female hydrotherapy units have continued to be very active. Tub treatments have been increased from 3 to 6 hours, and arrangements have been made for reeding a patient in treatment. The results of this prolonged treatment have been favorable.

The infirmaries have been busy during the year, and have provided excellent opportunity for the training of student nurses. On the medical and surgical services the following operations have been performed: Plaster casts, 13; reduction of thumb, closed, 1; neck dissection, 1; tonsillectomy and adenoidectomy, 6; dilatation and curettage, 5; partial right oophorectomy, appendectomy, suspension of uterus, 1; left salpingo-oophorectomy with mass of cancer, 1; incision and drainage, 4; hemorrhoidectomy, 1; removal of hairpins from vagina, 1; excision of synovial Cringes and anterior rat pad on knee, 1; bronchoscopy, 1; amputation of index finger below first joint of right hand, 1; resection of distal phalanges, third and middle fingers, 1; mastoidectomy, 1; supra-vaginal hysterectomy, bilateral salpingectomy, right oophorectomy, 1; resection of index finger, 1; right oophorectomy, appendectomy, Gilliam suspension of uterus, 1; plastic of hand, 1; biopsy of cervix, 2; amputation of fifth finger, plastic of hand, 1; cystoscopy, 1; removal of dermoid cyst, 1; rib resection, 2; thyroidectomy, 2; cholecystectomy, 2; laparotomy, 1; plastic graft of abdomen, 1; closed reduction of shoulder, 1.

The venereal clinic reports the following treatments for the year: Male patients, 52 in number. Mapharsen, 222; tryparsamide, 1220; bismuth, 636;

sodium thiosulphate, 17. Female patients, 32 in number. Mapharsen, 331; tryparsamide, 445; bismuth, 463; neoarsphenamine, 26.

The dysentery problem has remained endemic. Minor outbreaks have occurred in the spring and the Fall in both male and female services. The Department of Public Health has cooperated well in controlling this condition. Adequate measures for isolation have been carried out in ward I-3 or the male service and ward B-2 or the female service. For many years the organism responsible for this dysentery has been the Hiss-Y type; but recently we have encountered also the Sonne type. Careful investigation has revealed that only new patients have been affected by the Sonne type of dysentery. It appears, therefore, that the Sonne must have been brought in comparatively recently from the outside.

Efforts along lines of community education have been continued. On Hospital Day, May 12th, approximately 200 visitors came to the hospital and were conducted through the wards. In the evening the public was invited to a psychiatric program in the chapel, and this meeting was attended by about 150 visitors. Throughout the year the hospital has been visited by numerous groups of students from various institutions, also by social and professional groups.

HYDROTHERAPY DEPARTMENT

The comparatively new buildings for this department have again proven their great value for treatment of our patients. They have been put to full use within the capacity of a limited personnel. Dr. Wright, of the Department, has continued to supervise and instruct the hydrotherapists.

The number of treatments given during the past year is shown in the following table:

	<i>Men</i>	<i>Women</i>	<i>Total</i>
<i>Wet sheet packs:</i>			
Number of patients treated	305	412	717
Number of packs given	9,019	9,296	18,315
Number of hours of treatment	25,680	28,213	53,893
Number of new patients	129	194	323
<i>Continuous baths:</i>			
Number of patients treated	286	591	877
Number of baths given	6,607	14,177	20,784
Number of hours of treatment	21,346	65,784	87,130
Number of new patients	124	224	348
<i>Tonic baths:</i>			
Number of patients treated	376	354	730
Number of baths given	6,023	5,464	11,487
Number of new patients	221	214	435
<i>Colonic irrigations:</i>			
Number of patients treated	36	146	172
Number of treatments given	131	115	246
Number of new patients	31	144	175

PHYSIOTHERAPY DEPARTMENT

The physiotherapy has throughout the year divided her time between the x-ray and physiotherapy departments. As a result, the total number of treatments has been lower than in previous years. In order to make adequate use of the equipment in this department a full-time therapist should be employed.

The following is a record of the work done during the year: Infra red, 1,621; sine wave, 352; diathermy, 610; galvanic, 53; massage, 692; exercise,

454; ultra violet, 351; total number of treatments, 4,120; total number of patients, 2,524.

PERSONAL HYGIENE DEPARTMENT

This department is under the direction of one full-time hygienist, who, whenever possible, uses several female patients as aides, largely for the therapeutic value offered to convalescents who are interested in this type of work. As in the past, the work is devoted largely to the more deteriorated patients with a view toward creating interest in personal appearance.

The treatments given during the year were as follow: Hair cuts, 5,282; scalp treatment, 1,656; shampoo, 1,647; marcel or finger wave, 1,506; eyebrow arch and superfluous hair removed, 2,176; facial, 1,748; manicure, 1,484; total, 15,499.

DENTAL DEPARTMENT

This department has continued the work of the previous year, paying particular attention to ward supervision for daily cleaning of teeth. All new patients have been examined and records kept and the necessary work has been done in turn. This year a much needed new dental chair and dental unit were added to our equipment. The old chair and dental unit will be retained for use in extractions and cleanings.

Dr. Joseph Doherty, consultant dental surgeon, visited the hospital on two occasions.

A summary of the work done during the year is as follows: Cleanings, 791; extractions, 1,145. Fillings: silver amalgam, 432; porcelain, 139; zinc oxide and eugenol, 485; red copper, 3; black copper, 1; total, 1,060. Prosthetics: full plates completed, 17; partial plates completed, 5; bridges completed, 1; plates repaired, 21; gold crowns removed, 11; bridges removed, 16; false plates marked for

identification, 234; miscellaneous corrections, 117; total, 422. Treatments: Oral treatments in general: - Vincent infection, canker sores, gingivitis, toothache, abscesses, total 504; removed tumor, 1; referred to x-ray, 57; new patients examined, 843; number of patients treated, 1,343; number of treatments, 3,445; number of re-examinations, 416; lectured 6 hours to student nurses.

PATHOLOGICAL AND MEDICAL LABORATORY SERVICE

For the past two or three months, the laboratory has had the help of two volunteers who are training to be technicians, Miss Norton and Mr. Bracewell. The activities of this department are increasing daily. More adequate temporary accommodations will be forthcoming.

As was done last year, those in charge of the seminar given in Waltham to State employees seeking certification in psychiatry and neurology, requested and obtained postmortem material and the assistance in the teaching of neuroanatomy from this department. For this purpose also wire models of certain neuroanatomical structures were made and used during the course. Several charts were made for the same purpose.

This year some horizontal and frontal sections of interesting brains were made. The Metropolitan State Hospital brain microtome was used for the first and the hospital's Minor microtome was used for the second. In all this work the assistance and skill of a male attendant was invaluable. It is recommended that the Department make special provisions for better remuneration for this type of help than is now prevalent. The work done is as good as that of a more highly paid technician.

The laboratory can use the services of another technician who is skilled in tissue work and photography. The monthly clinico-pathological conference and the research activities to be started by the Department make it quite necessary to have a technician added to our force and devoting his or her time solely for this work. A temporary micro photographic set-up is now in operation in our

laboratory, but much more is left to be desired to bring it up to standard. In projecting lanternslides and microscopic sections for class work or during clinico-pathological conference much light and details are lost because of poor screens. It is recommended that a glass-beaded screen be procured for this purpose.

Several microscopes need reconditioning. New microtome knives are necessary for section work. New instruments could be used to advantage in performing the large number of autopsies in this hospital, especially now that trunk, head, and spinal cords are being examined.

It is the hope of these laboratories, finally, that in the near future all of its activities, including nurses' teaching, the clinico-pathological conferences, postmortem examinations, etc. can be housed under one roof or a modern and adequate building.

The record of work done during the year is as follows. Autopsies performed, 144; percentage of autopsies for the year, 50.88. Laboratory service: Bacterial cultures, 31; bacterial smears, 52; blood sugars, 107; blood bacteria cultures, 8; blood N.P.N., 93; red blood counts, 1,601; white blood counts, 1,654; differential counts, 791; clotting time, 17; bleeding time, 14; reticulocyte counts, 8; platelet counts, 1; blood sedimentations, 3; blood typing, 2; sputum typing, 6; urinalyses; 4,785; gold sols, 165; gynecological smears, 375; sputum examinations, 154; stool examinations, 105; gastric analyses, 8; pleural fluid examinations, 9; phenolsulphonthalein tests, 9; icteric index, 5; fragmentation tests, 3; milk bacteria counts, 48.

PUBLICATIONS

During the year 6 articles prepared by members or the staff were accepted for publication:

1. *"The Use and Abuse of Mental Tests in Clinical Diagnoses"* - Grace H. Kent, Ph.D., published in the Psychological Record; December, 1938, Vol. 2, No.17.

2. *"The Place of the Mental Hygiene Clinic in the Community"* - Leo Maletz, M.D., published in "Mental Hygiene", April 1939, Vol. 23, No.2.

3. *"Experience with a Miniature Newspaper"* - Leo Maletz, M.D., published in the Bulletin of the Massachusetts Association of Occupational Therapy, May, 1939, Vol. 13, No.3.

4. *"A Study of Accidents in a Mental Hospital"* - C. A. Bonner, M.D., and Lois E. Taylor, M.D., published in the American Journal of Psychiatry, September, 1939, Vol. 96, No.2.

5. *"Self-Derived Norms for Institutions"* - Grace H. Kent, Ph.D., published in the Psychological Record, October 1939, Vol.3, No.16.

6. *"Pastoral Psychiatry"* - a book review - John Bonnell, reviewed by Leo Maletz, M.D., in "Mental Hygiene", October 1939, Vol. 23, No.4.

EXTRA-MURAL DEPARTMENT

This department is conducted by a senior physician and a junior physician on a full-time basis. The total number of cases examined during the year was slightly more than 3,500. This includes patients in the 6 child guidance clinics, those in traveling school clinics and district courts, special examination of children for small boarding institutions for children, as well as adult patients in after-care clinics and the usual annual mental and physical examinations at the Danvers State Hospital.

In the child guidance clinics there were no essential changes in time, location, personnel or methods. We saw a total of 510 individual cases of which 307 were new referrals and 203 were continued or reopened cases. To break

these figures down still more, or the total new cases 98 were also seen in speech clinic and 99 were former speech cases carried on for further help. The following table gives data for the: individual clinics:

	All New	All Old	New Speech	Old Speech	
Lynn	73	57	19	13	
Haverhill	78	59	35	50	
Peeverly	45	18	-	-	
Lawerence	18	7	-	-	
Newburyport	22	13	-	-	
Salem	71	49	44	36	
Subtotal	307	203	-	-	
Total					510

The traveling school clinic visited 31 towns this year, (11 more than last year) and examined 531 cases in all. Of these cases 366 were first examinations and 165 were re-examinations. It is always time-consuming to visit more individual schools - especially in the smaller towns where there is not always a full day's work but still too much work exists to visit other schools the same day. This and the fact that some of the larger cities submit requests every other year probably accounts for the drop in number or examinations from the 1937-1938 figure.

At the request of 10 Juvenile Courts we examined 237 boys and girls between the ages of 7 and 17 years. This is 39 more cases than last year. Table No.1 below shows the distribution of cases, and Table No.2 shows the age and diagnosis of children examined.

NOTE: *These tables are not included due to the difficult process of reproduction.*

During the summer, and occasionally as emergencies by special request outside of regular clinic channels, 31 outside cases were seen. These were largely examinations of children at the Plummer Farm School in Salem, new cases admitted to the Salem Children's Home on Carpenter Street, problem cases from the Lynn Child Welfare House and some Mass. Society for the Prevention of Cruelty to Children cases.

With the help of the 5 summer clinical assistants, well over 2,000 patients residing in this hospital were given mental and physical examinations under the direction of this department. We did none of the family care examinations as previously because that type of placement is now carried on too large a scale. Other arrangements were made for those examinations.

In the 9 after-care clinics we saw 202 new patients 582 times with a large additional number of interviews with relatives.

We are most grateful to the W. P.A. and its workers who are revising our filing system. This was a greatly needed service for bringing our card indexes up to date. This represents several months of detailed inspection of old records dating back to approximately 1922. When completed in the near future we shall have about 10,000 cases that have been transcribed from case histories to index cards making the reference to our old and current records much more efficient.

As in previous years senior medical students who have had the month's experience at Danvers State Hospital attended our child guidance clinics to observe methods. The usual number of lectures has been given to various groups in the community on child guidance subjects.

RELIGIOUS SERVICES

Religious services have been conducted as usual in the main group of buildings and at the Middleton Colony. Because of the difficulty in transporting patients from the Colony to the main building, during the latter part of the year it

was decided to have Mass celebrated once a month at the Colony for the benefit of those patients of the Catholic faith. In the main building the Protestant services were changed from the usual time in the afternoon to the early part of Sunday evening. This conformed more to the time that patients were used to attending services and also would not interfere with Sunday afternoon visiting hours. The following Catholic, Protestant and Jewish clergymen have conducted their services during the year: Rev. Remi B. Schuver (Catholic), Rev. Albert F. Bramble (Methodist), Rev. William Grimes (Baptist), Rev. Kenneth Henley, Rev. Russell T. Loesch, Rev. Adrian T. June (Congregational), Rev. Carlton Feener (Unitarian), Rev. Allen W. Clark (Episcopal), Rabbi Moses L. Sedar (Jewish).

SOCIAL SERVICE DEPARTMENT

The total number of cases was 1,522. Of these, 1,136 were hospital cases, 272 child guidance, 114 adult mental hygiene, and 1 outside case.

In January our second adult mental hygiene clinic was started at the Beverly Hospital. This was at the request of the Beverly Hospital which has continued to offer us every cooperation.

The other clinics have continued as in previous years. Each of our 9 outpatient evening clinics for patients on visit from the hospital was held 5 times. There were 202 first visits made to these clinics, with a total attendance of 582 visits.

In February, Miss Betty Rosenbaum was appointed to fill the vacancy caused by Miss Redden's promotion. In March, Mrs. Grace Raynes was added to our staff to place more hospital patients in the community. She gives full time to this work and has succeeded in getting out of the hospital many patients who, for lack of resources, would have still remained here. Miss Sadie Shain and Miss Mildred Israel completed their student training. Miss Shain's thesis was a "Study of the social adjustments of 25 adolescents following their discharge from the Danvers State Hospital as without psychosis." Upon leaving here, Miss Israel

went to the Reformatory for Women to write her thesis in the field of delinquency. In September, Miss Kathryn Clark and Miss Kathleen Toomey began their fieldwork training in our department in connection with their courses at Boston University School of Religious and Social Service, and Simmons College School of Social Work.

TRAINING SCHOOL FOR NURSES

The personnel during the year consisted of the following: Principal of the School of Nursing, 1; assistant principal, 1; chief hospital supervisor, 1; day supervisors, 2; night supervisors, 1; head nurses, graduates of Danvers State Hospital, 17; hydrotherapists, 3; charge attendant positions (graduates), 5; attendant nurse positions (graduates), 2.

There were 81 requests for information in regard to the training school. There were in response to the information sent out. One person changed her mind, 10 could not meet the educational requirements, 2 were too late for the 1939 class, 1 was too old, 2 were undesirable, and 3 reported for duty October 5, 1939. Already there are several candidates and we are anticipating a larger class in 1940.

On November 30, 1939, our students were as follows: Seniors, 7; intermediates, 6; probationers, 3. The affiliated nurses for the year ending November 30, 1939 were as follows; Chelsea Memorial Hospital: Katherine Bilt, Dorothy Hern, Marion H. Dickeson, Kathryn A. Dolan, Dorothy M. Donnelly, Carmel Trickett, Doris Friedman, Mary E. McNeil. Leominster Hospital: Clare Blanchard, Roberta B. Cutter, Mary R. Dooley, Mary C. Bouvier, Helen M. Gage, Mary McGovern, Eileen Walsh, Edna Cunningham, Barbara Dennis. Melrose Hospital: Alberta L. Gates, Evelyn L. Murphy, Gertrude Brennan, Elizabeth Mercier, Dorothy Hennessey, Dorothy M. Shaw. New England Sanitarium: E. Lucas Schmidt, De Verl Strickler. Lowell General Hospital: Flora A. Glow, Phyllis

B. Pascall, Priscilla M. Buchanan, Viola V. Gretchus, Shirley B. Bowles,
Winifred M. Lee, Myrtle Lester, Ruth Small.

The Somerville Hospital will resume its affiliation January 1, 1940 for the next three quarters.

We have arranged an affiliation with the Addison Gilbert Hospital, Gloucester, to begin January 1, 1940. They will send 2 students every 3 months.

A permanent affiliation with the Melrose Hospital has been arranged beginning October 1, 1939.

The graduation exercises were held September 14, 1939. The following nurses received diplomas:

Evelyn Crosscup

Rita Esta Dorris

Grace Marguerite Ginnetty

Camille Hennessey

Helen Mary O'Karski

Ruth Marie Palm

Beatrice Marie Roy

Grace Marguerite Ginnetty was awarded the Alumnae Prize of 110 for the highest rank for three years.

The following nurses resigned during the year; Mary Nock Gill, class of 1938, December 31, 1939, to accept a position at the Garfield Memorial Hospital, Washington, D.C.; Ellen Mary Farley, class of 1936, April, 1939, to be married; Sally K. Kazalska, class of 1936, November 10, 1939, to be married; Helen Mary O'Karski, class of 1939, to accept a position at the Weymouth Hospital; Grace Marguerite Ginnetty, class of 1939, October 14, 1939, to accept a position in the research department at the Worcester State Hospital; Harriet Marguerite Rouleau, class of 1938, June 14, 1939, to be married; Mary Eleanor Higgins, class of 1938, December 30, 1938, to accept a position at the Massachusetts General Hospital; Mary Grace Moran, class of 1937, June 9, 1939, to be married;

Alice Rachel Goodell, class of 1937, returned April 21, 1939; Mildred Katherine Leonard, class of 1938, has accepted a position at the Middleton Colony; Marjorie Harvey Wallcott, class of 1931, is at the Middleton Colony; Marjorie Thornton, graduate of the Salem Hospital, accepted a position in this hospital June 18, 1939; Annella Anna Shuman and Mary Anselm Trainor, class of 1938, have been accepted in the Navy Nursing Corps and are waiting to be called.

The Alumnae Association is planning to celebrate the fiftieth anniversary of the training school for nurses by a banquet in the nurses' home, Thursday evening, December 14, 1939.

Our work is seriously handicapped by the shortage of graduate nurses. In order to have proper ward coverage, nurses for special duty and research work, we need at least 18 more positions for graduate nurses. This would enable us to give our patients more efficient nursing and custodial care.

Attendant nurse instruction: 30-Hour course -Middleton Colony, completed course, 16; did not complete course, 1. 75-Hour course -male ward service, completed, 9; did not complete course, 7; female ward service, completed, 48; did not complete course, 23.

The new 75-hour course for attendant nurses was inaugurated in February. It is an effort to make our attendant nurses, male and female, more valuable to us. To give them a better understanding of the care of the mentally ill and the elementary principles of good nursing; to help them develop habits of observation, system and economy, and to establish a uniform and fine nursing technique; to develop a love for their work, a pride in good workmanship and a keen interest in the human as well as the practical side of their work; to prepare them to meet the problems which will confront them in their daily work in the hospital.

The teaching load is extremely heavy. We should have an instructor. The ward personnel needs more careful supervision, therefore, we should have at least two additional supervisors.

OCCUPATIONAL THERAPY DEPARTMENT

The occupational therapy department is composed of 5 therapists, graduates of the Boston School of Occupational Therapy, 1 physical education instructor, graduate of Posse-Nissen School. The other members of the department include two groups of students of 4, each affiliating from the Boston School of Occupational Therapy for six-month periods, 1 industrial worker, 1 recreational worker and 1 special attendant.

The following changes in personnel took place: Mrs. Russell Loesch, director of the department, resigned to take up her residence in Florida. Mrs. Olive Campbell he replaced her as acting director, leaving one vacancy in the department. The vacancy created by Miss Nancy Pushee, who left in July to be married, was filled by Miss Alison Chapple. An intensive program is carried on by the present staff.

1. *Reception service*: This service consists of an informal visit to the patients made by the occupational therapist, who reads or presents a letter of reassurance from the superintendent and answers his questions about the institution and its facilities. The purpose of this visit is to help in the patient's orientation and to make a satisfactory contact. There were 959 patients seen and interviewed during the year.
2. *Occupational therapy classes*: There are 16 classes conducted daily including - acute treatment classes, 3 physical educational classes, 2 pre-industrial shop classes, and 6 elementary industrial classes for disturbed patients. There were 3,182 articles made as bi-products of these classes and put into hospital use. A total of 1,416 patients were treated.

3. *Educational program: Library:* There is a total of 2,644 books in the patients' library. Most of these have been received through donation. The distribution of books is taken care of in the following ways:
1. Parole patients may visit the library at any time.
 2. A group of non-parole patients is escorted to the library weekly by the occupational therapists and students who help them select their reading.
 3. Two visits a week are made to the wards with books by the occupational therapy student. Other activities connected with the library are reading groups, book reviews, poetry nights and exhibits of interest which are changed monthly, The two patient librarians who have been trained to take charge of the library have daily conferences with the student in charge.

The annual Topsfield Fair booth which was prepared by the department representing practically all the treatment departments in the hospital. A series of placards, supplemented with pictures or exhibits, explained each activity. Groups of parole and non-parole patients were taken to visit the Fair.

Three correspondence courses were given this year, one in Spanish, one in English, and one in shorthand.

"Hill Topics", the hospital newspaper, has grown to 3, and sometimes 4, sheets this year. It is published every two weeks and 500 copies are being printed and distributed. Patients continue to offer contributions and help in the actual printing and delivering of the paper.

4. *Physical education:*

The classes are conducted in the chapel during the winter, and outdoors during the summer. All patients coming under this form of treatment are

prescribed for by the physicians. There are six groups receiving physical education as treatment,

1. Male-acute. Average attendance 40.
2. Female-acute. Average attendance 60.
3. Female-deteriorated -active.
4. Female-deteriorated -inactive. Average attendance 25-30.
5. Male-deteriorated - TOTAL PUSH. Average attendance 15.
6. Male-deteriorated - BIG DETAIL. Average attendance 50.

A physical education program is planned for deteriorated male patients outdoors from early spring until fall under supervision of a male attendant.

General activities of BIG DETAIL:

Male-acute: Marching, day's order, relay and group games, volley ball, tumbling, dancing, hikes, skating, tennis, shuffleboard, horseshoes, ping-pong, clock golf, etc.

Female-acute: Marching, day's order, folk dancing, relay and group games, hikes, skating, croquet, deck tennis, music therapy, corrective exercises.

Male-deteriorated: Marching, rhythmic exercises, relay and group games, dancing, hiking, baseball, ping-pong, etc.

Total Push:

Female-deteriorated: Marching, rhythmic exercises, relay and group games, dancing, group singing.

Male-deteriorated: Volley ball, baseball, horseshoes, basket ball, medicine ball, group games, card games, checkers, cribbage, etc. Parole patients: Yearly pool tournament.

We are badly in need of a gymnasium, which would not only stimulate interest in classes for the patients, but for the employees as well.

5. Recreational therapy: Three classes in recreation are conducted daily. Cards, checkers, bowling, beano, and other games are played for the purpose of their stimulating and socializing value. Special game nights have been conducted in the evening for the benefit of the industrial workers. Weekly choir and community sings are included in our musical program. Band concerts and other entertainments have been secured and given under department supervision. On July 4th of this year a carnival was sponsored by the department at which games and competitive sports were participated in and prizes awarded. The month of December, at the beginning of the fiscal year, was entirely devoted to recreation, music and dramatics as treatment. An elaborate program included parties on the admission wards, a pageant by the choir, in addition to the customary dance, carnival, shop parties and caroling.

Psychology Department

At the beginning of the year the departmental assistants were Josephine Tinsley of Tufts College, Elaine Kelleher also of Tufts, and Norma Monroe of New Hampshire University. Miss Monroe and Miss Kelleher left in June, and their places were taken by Marjorie Burnham of Tufts and Barbara Foster of New Hampshire University.

During the year the department conducted 1,707 psychometric examinations, individually administered. Following is a classified list of the cases examined:

Newly admitted hospital patients	470
Examinations in child guidance clinics	309

Juvenile delinquents, under Section 215	235
Children examined in school clinics	512
Hospital employees individually examined	137
Children examined for school entrance	18
Special examinations, unclassified	26
Total cases	1,707

In addition to the cases enumerated above, 71 attendants and nurses were given group-administered tests in small groups; 64 ward notes were written concerning patients who could not be brought to the office for complete examination; and 77 notes were entered in the cases of readmitted patients who had been previously examined by the department.

Student interns and student social workers have received informal instruction, either individually or in small groups, concerning the use of psychometric tests; and a course of ten lectures has been presented by the assistants of the department for each group of affiliate nurses. Outside of the hospital, a lecture on psychometric tests was presented at the Breed Junior High School of Lynn, and was attended by about 35 teachers or that school.

In collaboration with Dr. Maletz, six rating scales have been formulated, for evaluating.

Two papers have come to publication this year in Psychological Record. "Use and Abuse of Mental Tests in Clinical Diagnosis" appeared in December, and was mentioned in last year's report as having been accepted for publication. The second paper, entitled "Self Derived Norms for Institutions", was published in October of this year. In addition to these papers, four reviews have been contributed to the Mental Measurements Yearbook published by Rutgers University. The four tests reviewed are as follows: Ferguson Form Boards, Alexander's "Passalong" Test, Dearborn's Form Board No, 3, and Kuhlmann's Tests of Mental Development.

Several tests have been formulated for further development, including a six-year test for school entrance examinations. The routine examination of hospital attendants has made possible the tentative standardization at the adult level of new tests which will in the near future be useful for examination of patients.

CONSTRUCTION DEPARTMENT

During the fiscal year this department made ordinary daily repairs to 16 ward and dormitory buildings, 5 buildings housing nurses and other employees, the laundry building, 2 kitchen buildings, 2 hydrotherapy buildings, 2 power plants, the surgical building, industrial shops, store building, administration building, 10 cottages, and barns, sheds, etc. on the farm.

The repair work consisted of carpentry, masonry, plastering, sheet metal work, roofing, light ironwork, blacksmithing, painting and glazing.

The personnel of the department consists of 5 carpenters, 3 painters, 2 masons or plasterers, 1 sheet metal worker and roofer, 1 blacksmith, and 2 construction handymen.

We were assisted with the painting by patients, working as a therapy treatment and under supervision of a male attendant.

Repairs were made to floors, sash, doors, trim, walls, ceilings, roofs, hardware and general hospital furniture and fittings.

Besides this general work several alterations were made in the buildings to comply with fire inspection, fireproofing certain portions of the buildings and installing and building into the walls 37 new fire hose cabinets. There was installed on the wards: 18,000 feet of new flooring. Extensive repairs were made to ceilings, new composition floors were laid in the barns, and one cottage was completely rebuilt for occupancy by the Superintendent. During the year the

chapel was redecorated and certain improvements were made in the administration building corridors and reception spaces. This department also assisted in the building of roads, drives and in the landscaping of grounds. .

ENGINEERING DEPARTMENT

The main power plant, although heavily overloaded on the electric end, has been kept up to an excellent standard. Requests for much needed additions to the generating equipment have been made, but so far have not been honored.

We have two generating units with a combined rating of 250 K.W. Our peak loads go to 340 K.W. At this load the engines labor heavily. We must have relief from this overloaded condition in the near future or purchase power at an increased cost to the hospital.

Our main boiler plant, which was new in 1936 and 1937, is ample for our needs. This year we have maintained an overall efficiency of 81.3%, which we believe is not equaled by any other State plant with comparable equipment.

The most troublesome feature of the boiler maintenance has been the brick checker work through which the secondary air enters the furnace. This checker brick was originally supported by steel angle bars. They failed within the year guarantee period, and were replaced by the boiler-setting contractor at his expense with cast iron angle bars. These bars were better than the steel but were not good enough. They failed after about one year's run.

We have redesigned the checker work and installed an all firebrick checker. No metal is used in any part. The results of nearly a year's run show this to be the right answer to the checker problem.

Electric current for power and light is transmitted by an under ground cable from our main plant to Middleton Colony, a distance of about one mile. During the first part of March this cable developed a fault and electric service to

the Colony was cut off. This interruption was very serious as the oil burners at the Colony depend on electricity for their operation. An emergency connection was obtained from the town of Middleton by using our two walk-lighting wires and putting up a third wire of whatever we could find. Heating service was out for about 12 hours.

We now have a permanent emergency connection with Middleton so that such an interruption will now be practically impossible. A double throw switch has been installed in the Middleton Colony plant so that to switch from our cable line to Middleton service is only a matter of seconds.

The Middleton Colony buildings were completely rewired for lighting and all new fixtures installed. A system of flood lighting of the grounds was part of this project. The flood lighting will be extremely useful in case of fire or other emergency at night.

There is a project underway to build an incinerator at the Middleton Colony boiler plant. This incinerator will handle all combustible refuse from the institution and will be operated by the present boiler house crew. Materials for this job are on order.

Better fire protection: There were installed throughout the main hospital 37 steel cabinets. Each cabinet contains 100 feet of 1 and a half inch linen fire hose connected to the hydrant system, also one 2 and a half gallon soda acid type fire extinguisher. Each cabinet is located in a central position in the ward and its location is indicated by a red light.

This equipment takes the place of hose that formerly was hung on the back of a closet door in a patient's room.

The main ventilating duct in the kitchen has been equipped with steam inlets from a high-pressure steam line. In case of a fire in the duct, live steam will be admitted to smother the fire.

We have a fire alarm box located at the barn, but no coded signal is given outside of buildings. In order that the farm employees in the fields may be called to a fire at the barn, we have installed a steam fire whistle at the powerhouse. This whistle will be blown whenever the barn box is rung as indicated on the recording tape in the powerhouse.

Recording tape register and official gong have been installed in each of the male and female supervisors' offices. This gives the supervisors immediate indication of the location of the box from which an alarm is coming.

Repairs and renewals to plumbing: During the summer months, drinking water in the fountains is warm and unpalatable. We were able to correct this condition in the female hydrotherapy building by taking cooled water from the cooling system in the B building. Other buildings are to be equipped as soon as money is available.

The laundry, machine shop, carpenter shop and industrial building have been piped for cooled drinking water from the cooling system at the cafeteria.

Safety against scalding in the use of hot water is always a problem. No measure has been spared to make its use safe. We have just installed 35 high-grade dial thermometers for the guidance of the operators. Fourteen thermostatic-type shower mixers have just been received, also one main line mixer. These will be installed right away and will make our hot water system as nearly scald-proof as is humanly possible.

The first 12 tubs installed in the hydrotherapy treatment sections were equipped with double drainage, one hand-operated and one electric-operated valve on each tub.

After several months of actual use, it was found desirable for sanitary reasons to eliminate the electric drain valve. This work has been done and the last twelve tubs installed were equipped with hand-operated valve only.

We have a central section in our sub-basement from which tunnels connect to each building. Fresh air supply passes through these tunnels. There were several sewer cleanouts in the floor of this section which leaked sewer gas. These have been replaced with Boston pattern cleanouts and are now tight.

There are over 110 cow cups at the barn which we reset and re-piped with copper tubing.

Steam fitting and maintenance of machinery. An oil-fired boiler was installed in cottage No.10 to replace the hand-fired boiler, which was not satisfactory. This hand-fired boiler was used at cottage No.7 (a double house) to heat one apartment. Another boiler was purchased and installed to heat the other apartment. These two systems are now hot water. They replaced two worn out warm air systems.

A 50-foot steel pipe flagpole was built and set up at Middleton Colony. A center rail was added to the steel pipe railing on the Harrington porch. A steel pipe frame for an awning was built for the Harrington porch.

The heating lines under the Middleton Colony dining room have been renewed and the old radiators on one side of the room have been reset. Those on the opposite side will be reset as soon as work on the new outside wall is completed.

A new tumbler for drying clothes was set up in the laundry. A general rearrangement of all dryers was carried out to make room for the new machine.

Several machines in the laundry have been equipped with gear guards. Guardrails were built for two machines to protect them from damage by clothes' trucks.

A new Frialator was installed for the bakery. This included hood and ventilating duct to the kitchen ventilating system.

A boiler compound tank and feeder was made and installed at the power plant. Over 1,500 radiator traps were tested and repairs and replacements made where necessary.

The ammonia condenser at the power plant was given a treatment with rust inhibitor and then a coat of waterproofing to prevent rapid corrosion.

Two up-take damper operating devices were built and installed at the main power plant.

The brine cooler on our main refrigerating system was opened for cleaning and inspection. We found the through-stay rods badly corroded and had to renew them.

Electrical maintenance: A surveyor of our power lines to the laundry and kitchen showed our power factor to be about 65%. Corrective equipment is necessary to bring this up to 90%. This will require an expenditure of about \$500, which is not available now.

We removed an under loaded 15 h.p. motor in the laundry and installed a 7 h.p. motor in its place. This will help raise the power factor and is about all we can do at the present time.

Repairs to domestic refrigerating equipments are handled by the electrical department. We do not care for all of this work yet as some makes require special tools, however, we expect to acquire more of these specialties as soon as possible so that the greater part of this work can be handled by our men.

There were 192 fire extinguishers recharged. All of the old wiring at the Middleton Colony ward buildings was removed. Most of the work of this department consists of routine inspections, small repairs and replacements and a lot of minor wiring jobs.

New construction: The Superintendent's new house was completed during this year. The heating, lighting and plumbing was installed by this department with some help from W.P.A. labor.

FARM AND GROUNDS

The growing season of 1939 was marked by one of the most serious droughts recorded in meteorological history. Despite this adverse condition the yields were, in most cases, fairly satisfactory. The dry hay will be insufficient to carry through the winter season and it will be necessary to purchase more than in previous years.

The work with hay ensilage has been continued this year with good results. In excess of 300 tons were ensiled with molasses. This product makes a satisfactory substitute for corn ensilage or dry hay. This method makes it possible to harvest part of the hay without regard to weather and may in time lead to the ultimate elimination of corn ensilage.

The garden yields have been fairly satisfactory. The tomato crop, in particular, was most abundant and yielded a harvest of 145,000 lbs., which was nearly ample for the needs of the institution. The sweet corn yielded 35,970 lbs. This crop was a failure due to the prevalence of the corn borer and corn worm, which prevented its utilization for canning and table use. Turnips yielded 95,903 lbs. and string beans 32,941 lbs. The cannery has amply proven its value in the handling of production above the immediate requirements of the hospital.

By agreement between the hospital and the Federal Erosion Control Administration certain practices have been recommended, which will be, so far as is consistent, put into effect this coming year. It is hoped that through this cooperation we may reduce to a minimum water erosion of the valuable topsoil which has already reached dangerous proportions.

Dairy: Through careful -selection of breeding stock, culling or unprofitable animals and improved reeding, the yield or milk per cow has been raised approximately 1,300 lbs, this year. It is believed that through a continuance of these proven methods the gain may be sustained or made greater.

In cooperation with the United States Bureau of Animal Industry, we are carrying on a program of Bang's disease control which appears to be giving excellent results. It is hoped that in time we may have a herd free from this dangerous and destructive trouble.

Periodic examinations by a veterinary for sterility conditions have resulted in a more comprehensive breeding program, and the brom-thymol tests for mastitis have disclosed the fact that this dangerous malady is being kept under control.

The new equipment in the dairy has given excellent results. The weekly bacteria count enables us to keep an accurate check on the efficiency of our sanitary methods, pasteurization and cooling systems. These checks have shown generally that we are producing milk of a good quality and compares favorably with the product of any modern dairy.

Poultry: The poultry is in high production and appears in condition to continue so throughout the winter. Arrangements have been made for deliveries of chicks this coming season at such intervals as will tend to give a more equal egg production throughout the year.

Swine: The swine have shown an improvement over previous years. The production has been the greatest of all time - 110,000 lbs. of first-quality dressed pork. This large production has been made possible by the garbage collection route to three other institutions. This route has proven a profitable venture and has resulted in a large saving of purchased grain.

By the use of patient labor and our own second-hand lumber, 22 A-type colony houses have been constructed which constitute a valuable addition to our plant equipment.

Work has progressed with the removal of rocks and stones from the fields as time and weather conditions permitted. These have been used for filling where required and the surplus taken to the crusher.

Approximately 3/4 acre in the rear of the Colony powerhouse has been put under the plow for the first time in many years. A large tonnage of rocks of all sizes was removed and this area will be available for planting in the spring.

The ditches through the meadows have been thoroughly cleaned out and the material removed was used for top dressing on gravel-soiled knolls. It was possible to do this work at this time due to the drought of the past summer.

The summer of 1939 has witnessed the completion of the grounds and landscape work about the Superintendent's cottage at Middleton Colony. A large number of shrubs, largely obtained from the hospital nursery, have been set out, shade trees planted and a rock garden built. Loam was hauled and the lawns surfaced and seeded. The new road from the Middleton Colony leading to the cottage was constructed of field-tones and crushed rock, rolled and surfaced with 88phalt. The short road leading from the garage to Gregory Street was scarified, rolled and surfaced with asphalt.

The main Colony road from the base of the hill to its junction with Gregory Street at the rear of the Colony was scarified, graded, under-drained in several places, new gravel added and surfaced with asphalt. This treatment has resulted in a hard, smooth surface which is a decided improvement upon its former condition.

The lawns and orchards have been thoroughly raked and the dead grass and leaves used as bedding, effecting a substantial saving in the amount purchased.

A number of stumps resulting from the hurricane of September, 1938, have been removed and the ground leveled. The shade tree and woodland damage of the hurricane have been cared for, although considerable work still remains to be done on the shade trees.

ACKNOWLEDGMENTS

To all the friends of the hospital we extend cordial thanks for the many contributions and services received, and we owe a special debt of gratitude to those who have so kindly aided us in the entertainment of the patients. It is a pleasure to acknowledge the cooperation and interest of the Board of Trustees and the Department of Mental Health; and it is fitting to mention also with appreciation the conscientious services of the staff and employees.

Respectfully submitted,

CLARENCE A. BONNER, M.D. Superintendent