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REPORT OF  
UNIVERSITY OF MINNESOTA HOSPITALS

Prepared by  
Office of the Comptroller  
June, 1931

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## REPORT ON UNIVERSITY OF MINNESOTA HOSPITALS

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### HOSPITAL FACILITIES

The original Elliott Hospital had 64,820 square feet of floor area, the building of the Cancer and Todd Units added 54,660 square feet, and the recent construction of the new west wing added 116,870 square feet, so that at the present time, excluding some 4,779 square feet unexcavated, there are available 231,571 square feet. Of this area the Health Service occupies 12,044 square feet and the Laundry 3,432 square feet, leaving 216,095 square feet for hospital purposes. 96,724 square feet are required for corridors, thus 119,371 square feet is the effective area remaining for hospital purposes.

The Medical School is using 8,034 square feet for offices, laboratories, and lecture rooms, and the Out-patient Department 14,869 square feet for its work. Of the remaining amount the housing of internes takes 4,792 square feet, shops and mechanical equipment 2,394 square feet, general service units, such as hospital offices, kitchen, dining room, X-ray, etc., 42,151 square feet, and operating rooms 7,915 square feet. There remains, therefore, of the effective floor area of 119,371 square feet, 37,928 square feet, or slightly over 31% for hospital wards and rooms. Schedule 1 of the appendix to this report shows this information in detail. These wards and rooms have a capacity of 331 adults, 88 children, and 30 bassinets, a total of 449 beds.

The Hospital adult ward space is divided into 81 private rooms, 51 two bed wards, 10 three bed wards, 14 four bed wards, 1 six bed ward, and 7 eight bed wards. The average number of square feet per bed is 90 for all ward space, while the average square feet per bed for 3, 4, 6, and 8 bed wards is 75 feet. On the basis of 75 square feet per bed the single and double rooms converted to larger wards would provide space for 41 more patients. The suitable space of the 8,030 square feet now used for Medical School offices, laboratories and lecture rooms

would provide for 51 additional beds on the basis of 90 square feet per bed. The effect on costs, particularly nursing, of the physical placement of certain of these Medical School offices and laboratories is discussed under Hospital nursing costs.

From the foregoing it is apparent that the addition of private and semi-private rooms and the use of hospital ward space for Medical School offices and laboratories has reduced the effective bed capacity by approximately 92 beds. The effect of these changes in policy is reflected in costs for the overhead costs of administration, physical plant, kitchen, dining rooms, X-ray, and other auxiliary services do not increase proportionately with the increase in patients.

When the Out-patient Department moved to the Hospital 10,451 square feet was vacated in Millard Hall and 29% additional space thus became available for other Medical School uses. Further space approximating 3,860 square feet was released in Millard Hall by the transfer to the Hospital of offices and laboratories of Ophthalmology and Oto-Laryngology, Pediatrics, Preventive Medicine, Surgery, Nursing, and Social Service. The space released has been assigned to Administration, Bacteriology, Medicine, Pharmacology, Physiology, State Board of Health, and for other general purposes. (See Schedule 2). It would not seem, therefore, that the movement of the Medical School offices and laboratories into the Hospital was prompted by lack of space but was rather by motives of convenience.

The assignment of additional space in the Hospital for Social Service and Obstetrics is now under consideration. The capacity would be further reduced by 12 beds if these plans are carried out.

#### HOSPITAL SERVICES

The Hospital offers two major services, care of the bed patient or in-patient and care of the ambulatory or outpatient who is able to visit the Out-patient Department periodically for medical attention. The Out-patient Department has always been of distinct service to the State but in its origin was presumably an

educational laboratory for the training of medical students. The State does not directly subsidize Out-patient activities. This department must depend upon educational funds to supplement its income which income is meager for in general it serves those least able to pay.

#### In-patient Department

The number of patient days - the patients cared for expressed in terms of patients cared for one day - during the past five years is as follows:

	<u>Patient Days</u>				
	1925-26	1926-27	1927-28	1928-29	1929-30
Private Pay	138	655	1,003	1,783	3,703
Pay	9,564	12,409	11,608	11,511	12,659
Free	7,123	9,905	9,881	7,632	9,176
County	49,288	56,011	64,871	81,922	75,803
Health Service					4,527
	66,113	78,980	87,363	82,848	105,868

Private and pay patients in 1929-30 showed an increase of 68.8% over 1925-26; free 28% increase, and county patients 53%, and the total an increase of 60%. Of the total increase of 39,755 patient days 26,515 were county patients and 4,527 were Health Service patients. If every bed were in use every day there would be 163,885 patient days. The total number of patient days during 1929-30 was 105,868. Hospitals ordinarily expect an 80% use. The inability to attain a higher percentage of use is due in part to the various kinds of services and the practical impossibility of having a contagious case ready whenever a contagious ward bed becomes empty. The University Hospital was 64% full in 1929-30. The first seven months indicate that the percentage of occupancy will be about 71% during 1930-31, which occupancy under present per diem costs will be about the maximum available funds will care for. The additional funds of \$15,000 from the State and a like amount from the counties during 1931-32 and 1932-33 should permit about a 76% use of facilities. It is entirely probable that the University Hospital with its long waiting list could approximate a 90% use of its facilities and thereby effect a real reduction in its per diem costs.

The following table indicates the average length of time each class of patient was in the Hospital:

	<u>Average Days</u>				
	1925-26	1926-27	1927-28	1928-29	1929-30
Private Pay	9.20	12.13	9.64	10.55	12.00
Pay	8.16	8.44	10.87	11.16	11.58
Free	11.38	13.44	13.23	10.30	13.53
County	26.64	23.87	26.62	24.46	25.01
Health Service					5.00
	18.09	17.18	21.03	14.01	13.04

This table is significant because of the costs involved in admission and discharge.

The highest number of patients in the Hospital at any one time in 1925-26 was 227 and in 1929-30 this number had increased to 388.

The average number of patients in the Hospital daily is shown in the next table:

	<u>Daily Average</u>				
	1925-26	1926-27	1927-28	1928-29	1929-30
Private Pay	.38	1.80	2.74	4.88	10.14
Pay	26.20	34.00	31.80	31.43	34.68
Free	19.51	27.11	27.07	20.90	25.11
County	135.04	153.35	177.73	169.61	207.88
Health Service					11.80
	181.13	216.36	239.34	226.82	288.69
Highest Daily Census	227	281	273	259	388

This table also indicates that of the 449 available beds only 288 or 64% were in average daily use.

The present policy of restricting pay patients to those who are unable to pay professional fees has, without question, limited admissions in certain departments and prevented to some extent a fuller use of Hospital facilities. This policy has also had its effect upon expenditures for the overhead continues on each bed regardless of whether or not the bed is occupied.

#### Out-Patient Department

In 1925-26 the Out-patient Department of the Hospital had in its day clinic

59,583 patient visits and in 1929-30, 59,347. (See Schedule 11). In its night clinic the patient visits for 1925-26 were 8,326 and in 1929-30 5,834. The total patient visits for 1925-26 were 67,909 and for 1929-30, 65,181. From present indications the number of patient visits for 1930-31 will be about 75,000, an increase of approximately 10,000. A large percentage, however, of the increase will undoubtedly be free patient visits. During the period July 1 to December 31, 1930 the free patient visits numbered 7,849 as compared with 4,424 during the corresponding period in 1929.

In connection with this statement of service as evidenced by patient visits it should be noted that the Out-patient Department including Social Service occupied 10,445 square feet of space in Millard Hall, while in 1929-30 they occupied 14,869 square feet in the new west wing of the Hospital. The actual direct expenditures of the Out-patient Department in 1925-26, excluding Social Service, were \$43,421.97 and \$38,208.79 in 1929-30. During this same period income has increased from \$27,550.40 to \$30,122.95 in 1929-30. The actual cost as set forth in Schedule 3 indicates that the indirect costs of the Out-patient Department are larger than the direct costs shown in the budget and in the statement of expenditures. The removal of the Out-patient Department to the Hospital has added to Hospital costs a substantial amount for telephone, fuel, repairs, electricity, gas, and other similar items.

HOSPITAL INCOME

The Hospital as a whole receives its income from the following sources:

Source	Budget 1929-30	Actual 1929-30
University funds for Educational purposes	70,000	70,000
State share of cost of County indigent patients	150,000	150,000
County share of County indigent patients	150,000	177,713.14
Minnesota Hospital and Home for Crippled Children (Payments to Hospital Income from this source to be based on actual patient days, with a guaranteed minimum allotment for Physical Plant and Administration of \$10,000)	40,000	10,000
Miscellaneous Hospital Receipts	115,000	
Pay beds	\$95,675.89	
X-ray	9,999.05	
Out-patient	16,875.45	
Pharmacy	8,648.71	
Miscellaneous	336.03	131,535.13

In 1927-28 the corresponding figures were:

Source	Budget 1927-28	Actual 1927-28
University funds for Educational purposes	70,000	70,000
State share of county indigent patients (from University funds)	100,000	100,000
County share of county indigent patients	100,000	100,000
Miscellaneous receipts	90,000	79,541

Prior to 1927-28 the budget of the Hospital was so merged with other University Departments that it is not possible to prepare comparative figures. It is interesting to note that although an actual credit of \$10,000 was allowed the Hospital for the care of crippled children the 1929-30 actual per diem billings amount to only about \$2,000.

The Hospital is definitely on a service enterprise basis. Under the present plan it must operate on its own income, which includes reimbursement for county indigent patients, income from pay patients, and the annual subsidy of \$70,000 from University educational funds. This being the case it is important that the Medical School does not originate expenditures to be charged to the Hospital which result in an increase in the per diem costs and cannot be reasonably met by Hospital income and more particularly by the \$70,000 educational subsidy.

The Out-patient Department must depend upon hospital income for its support except in so far as it produces revenue. Its only source of revenue is income from registration and dental fees, drugs, and X-rays. An analysis of the budget for 1930-31 indicates that the full cost of the Out-patient Department will be \$103,880 and that income from X-rays, drugs, fees, etc., will be about \$37,000, leaving a net amount of \$66,880.00 to be provided from other Hospital funds. This budget estimate of expenses and income is shown in detail as Schedule No. 3.

A comparison of Hospital charges made at the University of Minnesota and the University of Iowa is attached as Schedule No. 4. The comparative X-ray charges appear as Schedule No. 5. An examination of these comparative charges indicates that the University of Minnesota would be justified in increasing its charges for a number of the services rendered. X-ray charges appear to be relatively low. Effective January 1, 1931 the per diem charge for county indigent patients was increased from \$3.00 to \$3.25. It still appears to be low as compared with the amount charged at the University of Iowa.

#### HOSPITAL COSTS

The per diem or patient day cost in 1925-26 including all expenditures was \$4.36, in 1926-27 \$4.43, in 1927-28 \$3.85, in 1928-29 \$4.60 and in 1929-30 \$5.07. (See Schedule 6). The per diem cost for capital purposes has decreased slightly but the costs for salaries and wages and supplies and expenses have increased markedly.

The per diem cost, excluding the Out-patient Department, was \$2.69

in 1920-21, \$3.48 in 1925-26, and \$4.10 in 1929-30. In determining the \$4.10 per diem cost there is included the free patient days given Hospital and other University personnel. If these patient days are excluded the resulting cost, exclusive of the Out-patient Department, would be slightly higher. The average charge made for county indigent patients during 1929-30 was \$3.83 per patient day.

#### Salaries and Wages

The salaries and wages per diem cost increased from \$2.23 in 1925-26 to \$2.40 in 1929-30. Schedule No. 7 indicates that although the number of patient days increased between 1925-26 and 1929-30 only 60.2%, the cost of head nurses increased during this period 113.6%, general duty nurses 215%, orderlies 116.2%, janitors 258.3%, elevator men 159%, maids 183.5% and clerical assistance 143.1%. The increase in telephone operators is due to an increase in telephone service within the Hospital; the increase in clerical assistance to additional records and information; and the increase in the number of janitors and maids is reflected by improved maintenance in the Hospital. Apparently the increase in orderlies is in some measure related to the problem of nursing, which is discussed in more detail later in this report. It is probable that during 1930-31 with a more extensive use of Hospital facilities some of these items may proportionately decrease. If a ward which will accommodate 25 beds has only 15 beds occupied there still exists the same expense for elevator men, janitors, and maids.

#### Supplies and Expenses

An examination of Schedule No. 6 indicates at the first glance that the increases for supplies and expense per diem costs have occurred most significantly in food stuffs, drugs, hospital supplies, laboratory supplies, telephone and telegraph, electricity, building repairs, and laundry. In 1925-26 the laundry was operated as part of the Hospital and the .033 represented only the supplies for laundry purposes. In 1929-30 the laundry was operated as a service enterprise and under supplies and expenses, therefore, occurs the total cost of the laundry. The increase of the cost of the laundry item is offset by the decrease in fuel, general

supplies, gas, general expenses, and building repairs. In addition, the laundry help salaries were included in the salary cost in 1925-26, so that the increase in salary per diem cost is really larger than the figures show. The laundry cost of .242 per patient day appears reasonable when compared with the Iowa cost of .25 per patient day, and the Michigan cost of .28 per patient day.

The increases in the per diem costs of food stuffs is presumably represented by better food, and in drugs, hospital, and laboratory supplies by changes in methods of medical treatment. Telephone and telegraph is represented by more service. The increase in the per diem cost of electricity is apparently due to a larger percentage of use of hospital facilities. The increase in building repairs per patient day cost is evident when one compares the present condition of the Hospital with its condition in 1925-26.

The distribution of supplies and expenses between the Dispensary, Medical School and the Hospital appears as Schedule No. 8.

#### Nurses.

The increase in nursing costs is primarily due to the following three reasons:

1. The increase in the ratio of graduate to student nurses.
2. The increase in the number of services and the decrease in the size of the nursing units.
3. Change in class of patients treated.

The Registrar's records indicate that in 1925-26 there were 350 students in nursing, 455 in 1926-27, 655 in 1927-28, 701 in 1928-29, and 650 in 1929-30. In spite of this increase in nursing registration there were in January, 1931, only 111 student nurses as compared with 104 in January, 1928. It has been necessary, therefore, to employ a relatively larger number of general duty nurses at an increased cost. There is indicated below a comparison of the nursing staff in January, 1931 with that of January, 1927.

	<u>General Duty Nurses</u>	<u>Student Nurses</u>	<u>Patients*</u>	<u>Nurses Per Patient</u>
January, 1927	21	104	253	.49
January, 1931	48	111	334	.47

\*Average days for the month

Incidentally this table also indicates that there has been practically no change in the number of nurses per patient. This fact has been verified by other comparisons. It is apparent from the foregoing that the Central School of Nursing with its plan of receiving student nurses for three months preliminary training and assignment to associated hospitals on the basis of patient days has resulted in no assistance to the University Hospital in the matter of keeping patient day costs down through the use of student nurses. It would appear that the plan of the Central School of Nursing should be so revised that the University Hospital would receive its desired number of student nurses. If this is done a substantial reduction in the per diem cost can be effected and the present limited funds of the Hospital may be used to care for more patients. It is interesting to note that the cost of nursing based on 3.81 hours of care using students only is .76 cents per day while if graduates are substituted the cost is \$2.49 per day. Using an average of 50% students the cost is \$1.52 per day per patient. The need for graduate general duty nurses developed during 1926 when the Todd and Cancer Hospitals were opened. Previous to that time general duty nurses were not regularly employed.

The nursing divisions are smaller than they were in 1927. The original Elliot Hospital had five nursing units with approximately 35 beds in each. Today there are 17 departments with an average of 22 beds each. These 17 units are shown on Schedule No. 9. The private and semi-private rooms and smaller nursing units each of which requires a supervisory staff would under ordinary circumstances result in an increased nursing staff. That this is not the case is evidenced by the following tabulation:

<u>Year</u>	<u>Ratio of Patients to Nurses</u>
1924-25	.56
1925-26	.51
1926-27	.56
1927-28	.65
1928-29	.60
1929-30	.51
1930-31	<u>.56</u>
Average	.56

Some consideration might well be given to conversion of private and semi-private rooms to ward purposes which would result in an increase in the size of the nursing units.

The establishment of tuberculosis, contagious, obstetrical, and certain other specialized departments has also had an effect on nursing costs. In the units named the per diem charge hardly pays for the nursing required in these units. Some consideration might be given to a special charge for the additional nursing required.

#### Out-patient Department

The total expenses of the Out-patient Department are set forth in Schedule No. 3. Although the direct expenditures of the Out-patient Department bear some relationship to the decreases in outpatient visits, the Out-patient Department has become a heavy load upon Hospital funds.

#### Comparison of Hospital Costs

Schedule No. 10 compares patient day costs at Minnesota, Iowa, and Michigan, for supplies, expense, and equipment. Minnesota is still low compared with these institutions.

DIVISION OF COSTS BETWEEN HOSPITAL AND  
MEDICAL SCHOOL

The Medical School expenses paid out of Hospital funds involve the use of certain space for Medical School offices, laboratories, and lecture rooms, certain salaries, supplies, expense and equipment; the Out-patient Department and free hospitalization. These expenses have been estimated from detailed studies as follows:

Use of space, including fuel, electricity and supplies	\$ 4,603.00
Medical School salaries	23,710.00
Social Service	8,100.00
Free Hospitalization, including care of unmarried mothers, \$11,290.45, and \$3,000.00 estimated for other special purposes	14,290.45
Out-patient Department, net (Schedule No. 3)	66,880.00
	<u>\$ 117,583.45</u>

\$70,000 is provided from educational funds to meet this estimate of \$117,583.45.

Certain economies can be effected in the Hospital operation and the Medical School expenditures from Hospital funds should be so reduced that they conform with the budget allotment from educational funds of \$70,000. This can be effected by

1. A reduction in the space used for Hospital offices, laboratories, and lecture rooms, and a re-allocation of this space to allow an increase in the size of nursing units.
2. A reduction in the amount of free hospitalization.
3. A reduction in the activities of the Out-patient Department to the minimum required for the training of medical students and the elimination where possible of free service, free drugs and free X-rays.

The annual budget should be so prepared that the total cost of the Out-patient Department, including a proportion of social service, fuel, etc., is known, and definite amounts should be shown for free hospitalization and the physical plant and other expenses of the Medical School offices, laboratories and lecture rooms.

## SUMMARY AND CONCLUSIONS

In the preceding pages we have attempted to set forth in a general way information relative to the management and administration of the University Hospital. Although we recognize that we are laymen in this field, we venture to offer below suggestions which from the standpoint of business management if accepted would result in some improvement in service and some reduction in costs.

### Facilities

1. The location of certain Medical School offices should be changed to other parts of the Hospital so that the size of nursing units might be increased and/or the number reduced, and the cost correspondingly reduced.

Specific examples are the student laboratory on the fourth floor and the Eye, Ear, Nose and Throat offices on the fifth floor.

No further Medical School offices should be added which would decrease the size of nursing units or the space particularly desirable for beds.

2. Certain private and semi-private rooms could be converted into wards, thus increasing the bed capacity of the Hospital and thereby reducing the cost of nursing service.
3. The size of certain private offices as well as their location is questionable particularly in view of the small percentage of time that they are actually in use.
4. The women internes might well be housed outside of the Hospital.
5. The Pediatrics wards might better be consolidated. There are at present four.

### Services

1. The amount of free service given unmarried mothers and in the Out-patient Department should be reduced so that this item of Medical School expense might be proportionately reduced to keep within the limits of the \$70,000 of educational funds provided.
2. Hospital employes now being accorded free hospitalization with pay should be given free hospitalization without pay or be continued on a pay basis and charged for hospitalization.
3. The expenses for social service per patient day appear to be higher than in other Hospitals and might be reduced. The Social Service was at one time wholly financed from Medical School funds.

4. The present practice of restricting private patients to those unable to pay professional fees has limited the number of patients of this class. The Iowa plan which provides that private patients who are able to pay professional fees may be admitted, but allots such professional fees to general medical school income, might be considered.
5. Since funds are limited any reduction in costs should result in an increase in the number of patient days and a consequent extension of Hospital service.

### Income

1. If per diem costs are not reduced below present levels, the rates for county patients, the Health Service, and Eustis should be increased. We believe, however, that certain reductions in costs can be effected, and do not suggest any increases in per diem rates until the possibilities of reductions of present per diem costs are exhausted.
2. X-ray and certain other special service rates which appear as Schedules 4 and 5 might well be increased and still be below private charges. Minnesota charges on the average 67¢ per patient day for extras, while the University of Michigan, for example, collects \$2.15 per patient day for special services. Although Michigan appears high, Minnesota appears low.
3. An effort should be made to reduce bad debts on pay patients. It will become necessary to increase per diem rates on this class of patients unless bad debts can be reduced. The loss during the current year, 1930, appears to be about \$4,053.80. During the period of this loss the revenue from this class of patients was approximately \$75,000.00.

### Costs

With the construction of the Todd and Cancer units and the building of the new west wing the costs of the University Hospital have increased considerably. The increases in costs are due primarily to a failure up to the present to make full use of the Hospital facilities available, the changes in the kind of nursing service provided, the establishment of special new services such as the contagious ward, tuberculosis surgery ward, the Health Service and the Eustis unit, and the increase in free patient visits in the Out-patient Department. Many of these questions revolve around the matter of educational policy upon which we are not able to offer any light. That question is, how large need the University Hospital

facilities and the Out-patient Department be to provide the necessary teaching laboratory for medical students? There only remains for us to accept conditions as they are and point out how under existing conditions some reductions in costs may be made.

It is our belief that the present arrangement and the present method of departmentalizing expenditures in the Hospital might be revised so that more information could be currently and annually provided which would better indicate the activities of the department. It seems to us that the Out-patient department with its full cost should be allocated in the budget and that other special departments such as X-ray, drugs, laboratories, and X-ray Therapy, should be set up as separate units within the Hospital budget, to be charged with costs and credited with the services and materials furnished the operating departments of the Hospital.

#### Salaries

The salaries costs of the telephone operators, nurses, orderlies, janitors, maids, and clerks have been increased out of proportion to the increase in patient days.

1. The telephone service appears to be unnecessarily extended. For example, the Out-patient Department has 23 phones whereas in Millard Hall it had only two.
2. The efficiency of the janitorial staff as measured by the performance of janitors who have been transferred to other University departments is low. The cost of janitorial service might be reduced by the employment of more efficient janitors at higher rates of pay.
3. The number of elevators being fixed, no reduction in the cost of elevator operators can be effected except by a limitation of service on the elevators or an increase in the use of hospital facilities.
4. The expansion of the clerical staff has been due to the maintenance of more and better records and the furnishing of better and more frequent reports to home town doctors. To a large extent this expansion appears to be justified. This item of cost, however, should be carefully watched. It is our belief that the transfer of the accounting records of the admitting office and the centralization of records with regard to vacant beds might result in a lowering of clerical costs.

Certainly it would result in improved efficiency.

5. We can offer no explanation beyond possible improved maintenance of the increase in maid service in the Hospital and nurses' homes. This item of expense should be carefully surveyed.
6. A reduction in the cost of head nurses and general duty nurses can, we believe, be effected by
  - a. Reduction in the number of nursing units
  - b. Increasing the number of student nurses and reducing the number of general nurses, which would probably involve a reorganization of the Central School of Nursing.
  - c. Limiting special nursing service or charging for such service.
  - d. Elimination of the free hospitalization of preliminary students during the quarter of training when they are not in residence in the Hospital.
  - e. Establishment of a schedule of routine visits of doctors on patients in the Hospital.

#### Supplies and Expense

1. The increase in the per diem cost of foodstuffs hardly appears justified. Special diets should be limited or should be charged to individual patients.
2. The increase in drugs and Hospital supplies likewise appears without justification. As a step toward determining the underlying costs Hospital drugs and supplies should be issued from the Drug department, and charged.

#### Division of Expense Between Medical School and Hospital

If the University Hospital is to continue on a service enterprise basis then there must be no expansion of the Medical School offices, free hospitalization, or the Out-patient Department, and every effort should be made to limit these activities so that their costs may be met by the \$70,000 allotted for this purpose. At the present time the cost of these items exceeds the allotment by approximately \$47,000.

SCHEDULE 1

HOSPITAL STUDY

Floor Space Utilization

<u>Floor</u>	<u>First</u>	<u>Second</u>	<u>Third</u>	<u>Fourth</u>	<u>Fifth</u>	<u>Sixth</u>	<u>Total</u>
Wards		2,545	4,613	14,157	8,602		29,894
Wards-Pediatric			2,463	2,500	2,102		7,065
Nursery					969		969
General Service	14,073	7,997	9,579	3,574	6,928		42,151
Operating Rooms				1,435	6,480		7,915
Medical School	1,910	4,071		1,078	975		8,034
Out-Patient	1,825	6,644	6,400				14,869
Shops and Mech. Equip.	2,394						2,394
Eustis						1,288	1,288
Internes						4,792	4,792
	20,202	21,257	23,055	22,744	26,033	6,080	119,371
Corridors, etc.	16,653	19,125	17,327	23,214	19,925	480	96,724
	36,855	40,382	40,382	45,958	45,958	6,560	216,095
Health Service	892	5,576	5,576				12,044
Laundry	3,432						3,432
Unexcavated	4,779						4,779
	45,958	45,958	45,958	45,958	45,958	6,560	236,350

Above 4th Floor wards include 416 ft., 4 beds to be used as office for Dr. Litzenberg  
 Above 3rd Floor wards include 666 ft., 8 beds to be used as office for Social Service.

SCHEDULE 1 (continued)

HOSPITAL STUDY - SPACE - -

SUMMARY

Floor Space Utilization

	Sq. ft.
Cancer Addition 5 x 10288	51,440
Connection to Elliott Hospital 5 x 1288	6,440
Elliot Hospital 5 x 7600	38,000
Connection to Service Building 5 x 1288	6,440
Service Building 5 x 3432	<u>17,160</u>
Total	119,480.
Connection to Eustis 5 x 588	2,940
Eustis 5 x 6485	32,425
West 5 x 9413	47,065
Health Service 5 x 5576	<u>27,880</u>
	229,790
Sixth Floor	<u>6,560</u>
Total Hospital Space	236,350

SCHEDULE 1 (Continued)

HOSPITAL STUDY

Service - Space

	Square feet
Offices	4,915
Lecture Rooms	2,988
Storage and Utility	2,361
Rest Rooms - Girls	585
Photo Room & Dark Room	170
Pharmacy & Storage	942
Record Room	1,494
Dressing Rooms	689
Sewing Rooms	766
Linen Rooms	354
Class Room - Nursing	583
Kitchens	1,527
Diet Kitchen	504
Dining Rooms	3,028
Serving Rooms	1,747
Dishwashing	195
Linen Sorting Room	180
Laboratories	1,520
Physio Therapy	1,521
X-ray - Deep Therapy	910
Metabolism	792
Cardiograph	187
Hydro Therapy	416
X-ray	1,722
Radium	140
Morgues and Autopsy	630
Examining Rooms	990
Research	63
Eustis Service	3,138
Gymnasium	231
Eustis Class Room	490
Eustis Kindergarten	288
Eustis Reception	256
Demonstration Room	585
Demonstration Kitchen	149
Staff Rooms	621
Memorial Room	322
Library	96
Vacant	2,058
Waiting Room	816
Telephone Exchange	104
Treatment Rooms	896
Director of School of Nursing	182
	<hr/> 42,151

Note: Women Internes housed in Wards

SCHEDULE 1 (Continued)  
OFFICES - HOSPITAL

<u>First Floor</u>		<u>Sq. Ft.</u>	
Houskeeper		170	
Steward		<u>66</u>	236
<u>Second Floor</u>			
	1/2 connection	52	
	Connection	104	
	Connection	104	
Dr. Berglund		126	
	Service	153	
	Cancer	85	
	Elliot	221	
	Cancer	129	
	1/2 Eustis	49	
	1/2 Eustis	62	
	1/2 Eustis	84	
X-Ray - Deep		<u>126</u>	1,295
<u>Third Floor</u>			
	Cancer	117	
	Cancer	117	
	Superintendent	234	
	Assistant to Superintendent	198	
	Stenographic Elliot	198	
	Social Service		
	Exam. Priv. Patients Elliot	432	
	Elliot	234	
	Elliot	234	
	Elliot	198	
	Eustis	121	
Cashier	Elliot	308	
Admission	Elliot	99	
	Connection	<u>198</u>	2,688
<u>Fourth Floor</u>			
	Service	132	132
<u>Fifth Floor</u>			
	Cancer	135	
	1/2 Cancer	149	
	Service	168	
	1/2 Cancer	<u>112</u>	564
			<u>4,915</u>

OFFICES - MEDICAL SCHOOL

<u>Second Floor</u>			
Stenstrom		196	
	1/2	84	
	1/2	128	
	1/2	126	
	1/2	52	
	1/2	49	
	1/2	64	
	1/2	<u>85</u>	784

SCHEDULE 1 (Continued)  
OFFICES - HOSPITAL

<u>Fifth Floor</u>		Sq. Ft.	
	1/2	112	
		150	
		120	
		<u>308</u>	690
			<u>1,474</u>

LABORATORIES - HOSPITAL

<u>Second Floor</u>			
	Cancer	126	
	Tissue	169	
	Photo	<u>169</u>	464
<u>Fourth Floor</u>			
	Elliot	544	
	West	<u>176</u>	720
<u>Fifth Floor</u>			
	Eustis	176	
	West	<u>160</u>	336
			<u>1,520</u>

LABORATORIES - MEDICAL SCHOOL

<u>Second Floor</u>			
	Laboratory	480	
		252	
		504	
		<u>252</u>	1,438
<u>Fourth Floor</u>			
		238	
		<u>840</u>	1,078
<u>Fifth Floor</u>			
		<u>285</u>	285
			<u>2,851</u>

OTHER SPACE - MEDICAL SCHOOL

Lecture Room	1/2	1,580	
Lecture Room	1/2	1,407	
Locker Room		330	
Locker Room		88	
Research Room	1/2	63	
Class Room	1/2	133	
Waiting Room	1/2	<u>108</u>	3,709

SUMMARY - MEDICAL SCHOOL SPACE IN HOSPITAL

Offices	1,474
Laboratories	2,851
Other	<u>3,709</u>
	<u>8,034</u>

SCHEDULE 2

MILLARD HALL - Distribution Floor Space  
as of March 24, 1931.

	<u>Past</u>	<u>Present</u>	<u>Increases</u>
Administration	1,226	1,610	384
Bacteriology	7,214	9,928	2,714
Medicine	1,985	2,836	851
Ophthalmology and Oto-Laryngology	231		231*
Pediatrics	1,454	1,075	379*
Pharmacology	3,078	7,438	4,360
Physiology	11,693	14,853	3,160
Preventive Medicine	586		586*
Surgery	2,758	1,272	1,486*
School of Nursing	440	432	8*
General			
General	3,618	5,758	2,140
R.O.T.C.	72	72	
Social Service	696		696*
State Board of Health	1,174	1,492	318
Dispensary	<u>10,541</u>	<u>          </u>	<u>10,541</u>
Total	46,766	46,766	- 0 -

\* Decreases

SCHEDULE 3

OUT PATIENT DEPARTMENT

Budget Estimate

1. Ray Amberg	Manager	
2. Ione Corliss	Registrar	\$2,000.00
3. Etta T. Aamodt	Clerk 3	1,020.00
4. T. Crady	Clerk 2	960.00
5. Carrol Karuse	Jr. Clerk Stenographer 1	840.00
6. Alice Carlson	" "	840.00
7. Esther E. Nelson	Supervisor of Nurses	1,200.00
8. Jennie Shey	Nurse Technician	1,500.00
9. General Duty Nurses (7)		6,250.00
10. Extra Help	Gunn	250.00
	Goldstein	240.00
	Gilbertson	500.00
	Johnson	750.00
	Blethen	375.00
	Bandkler	375.00
	Armstrong	375.00
	Bowers	600.00
	Friburg	840.00
11. Dietitian	1/2 time	600.00
12. Charles Hymes	Refractionist	600.00
13. Albert Herbolsheimer	"	600.00
14. Anton Wethall	Physician	900.00
15. Dale Turnacliff	"	900.00
16. Janitors	2-1/3	2,250.00
17. Maids	2-1/2	1,500.00

Proportion chargeable

Administration	5,000.00
Medical Staff	13,300.00
Social Service	3,100.00
Laboratory Service	2,200.00
Dental Salaries	675.00

SCHEDULE 3 - CONTINUED

Manager	1,800.00	
Maintenance 8 nurses	3,840.00	
Maintenance 6 student nurses	2,880.00	
Lunches 2	120.00	
Telephone Operators - Salaries	720.00	
Fuel	1,365.00	
Repairs	227.00	
Telephones	630.00	
Electricity	1,231.00	
Gas	233.00	
Water	304.00	
Laundry	<u>1,000.00</u>	\$69,880.00
313 Out-patient X-ray	12,000.00	
314 Supplies and Expenses	5,000.00	
315 Optical	5,000.00	
319 Drugs	12,000.00	<u>34,000.00</u>
		103,880.00

Budget Income

X-Ray	9,000.00
Drugs	9,000.00
Fees	15,000.00
Optical	<u>4,000.00</u>
	\$37,000.00

Budget Allotment \$103,880.00

Budget Income 37,000.00

Hospital, Support 66,880.00

SCHEDULE 4

MINNESOTA GENERAL HOSPITAL

COMPARISON HOSPITAL CHARGES

UNIVERSITY OF MINNESOTA and UNIVERSITY OF IOWA\*

	Private		Cost	
	Minnesota	Iowa	Minnesota (Pay-Free-County)	Iowa
<u>Rooms</u>				
Single	\$5.00	6.00		
Single (4 only)	7.00	9.00		
Double	4.25	4.50		
Ward Service - Residents			3.25	4.00
Ward Service - Non-Residents			3.25	4.25
New Born Infants	-0-(1)	1.50	2.00 (1)	1.50
<u>Service Charges</u>				
Operating Room - Major	10.00	15.00	10.00	10.00
Operating Room - Minor	7.50	3.00	7.50	3.00
Anaesthetic	2.50 to 7.50	(2)	Same	(2)
Delivery Room	10.00	15.00	10.00	10.00
Physical Therapy	.25	2.00	.25	2.00
Physical Therapy Superficial	1.50		1.50	
Physical Therapy Orthopedic Wk.		5.00		5.00
Deep X-ray Therapy Treatment	2.50		2.50	
Radium Treatment	10.00 AV.		10.00Av.	
Basal Metabolism	3.00	5.00	3.00	2.50
Electrocardiogram	3.00	5.00	3.00	2.50
Oxygen	.60Hr.		.60Hr.	
Blood Transfusion 100CC (pd.donor)		5.00		5.00
Nurses, Private, 24 hour		7.50(3)		
Nurses, Private, 8 hours	5.50(4)			
Nurses, Private, 10 hours	7.50			
Drugs	As used		As used	
Surgical Dressings	As used		As used	

Notes

\*Report of Committee on Medical Education and Hospitals, Iowa State Medical Society, Dec. 1930.

- (1) New born infants free when mother pay or private - County \$2.00
- (2) Included in Operating Room fee.
- (3) 24 hr. service, one nurse to two patients, per day, per patient.
- (4) 8 hrs. includes \$.50 board; 10 hours include \$1.50 board; \$1.00 extra charged for contagion or tuberculosis

SCHEDULE 5

UNIVERSITY GENERAL HOSPITAL

X-RAY DEPARTMENT - Charges

as of March 28, 1931

		Minnesota		Iowa
	<u>Health Service</u>	<u>Dispensary</u>	<u>Hospital</u>	<u>Hospital*</u>
Abdomen - Preg. or Obst.	3.00	3.00	3.00	
Chest. - Stereo.	2.50	4.00	4.00	
Chest - single	1.75	2.00	2.00	
Colon	2.50	2.50	2.50	8.00
Coptogram	3.00	3.00	3.00	5.00
Esophagus	3.00	1.50	1.50	5.00
Extremities and joints	1.50	1.50	1.50	3.00
	Add.1.00	Add.1.00	Add.1.00	Add3.00
Gall-bladder	2.50	3.50	3.50	8.00
G. I.	3.50	3.50	3.50	12.50
Heart - Plain	1.50	2.00	2.00	
Heart - with esophagus	2.50	3.50	3.50	
Jaw	1.50	2.00	2.00	
K U B	2.00	3.00	3.00	
Mastoids	1.50	2.00	2.00	5.00
Nose	1.50	2.00	2.00	
Orbit	1.50	2.00	2.00	3.00
Pelvis	2.00	2.00	2.00	5.00
Pyleogram	4.00	4.00	4.00	5.00
Ribs	2.00	1.50	1.50	5.00
Sella	1.50	2.00	2.00	
Sinuses - Children	1.50	1.50	1.50	
- Adult	2.00	2.00	2.00	5.00
Skull	3.00	4.00	4.00	8.00
Spine - whole	4.00	4.00	4.00	12.50
- cervacol		1.50	1.50	
- dorsal		2.00	2.00	
- lumbar and pelvis		3.00	3.00	5.00
- sacro eleac and lumbar sacro	2.50	2.50	2.50	
Sternum	2.00	2.00	2.00	
Fluoroscopy without films anywhere	1.00	1.00	1.00	3.00
Encephalogram		5.00	5.00	

Notes

\*Report of Committee on Medical Educations and Hospitals, Iowa State Medical Society, Dec. 1930

Memo. X-ray - Rigler treats private patients. Pays Hospital at time regular rate. Deep X-ray - Stenstrom does work but does not record charge in office. Collects and pays office then. These charges should be made against Stenstrom in office and he pay those.

SCHEDULE 6

Minnesota General Hospital  
Comparison of Hospital Day Costs\*  
1925-26 to 1930-31

	<u>1925-26</u>	<u>1926-27</u>	<u>1927-28</u>	<u>1928-29</u>	<u>1929-30</u>
Patient Days	<u>66,113</u>	<u>78,980</u>	<u>87,363</u>	<u>82,848</u>	<u>105,868</u>
<u>Salaries</u>	2.23	2.27	2.00	2.25	2.40
<u>Supplies and Expenses</u>					
Foodstuffs	.736		.707		.856
Fuel	.149		.145		.103
Uniforms	.026		.043		.017
Drugs )			.073		.144
Hospital Supplies )	.274		.195		.326
Laboratory Supplies	.033		.096		.076
Cleaning Supplies	.032		.045		.042
Construction Supplies			.011		.017
Office	.042		.04		.049
Petty Tools	.061		.021		.08
Photographic	.079		.002		.07
General Supplies	.033		.018		.01
Postage	.005		.007		.007
Telephone and Telegraph	.024		.027		.038
Mimeograph & Printing			.008		.015
Rent	.028		.01		.012
Insurance, Bonds, etc.	.007		.001		.003
Travel - Inside	.004		.003		.008
Travel - Outside			.007		.004
Electricity	.054		.069		.093
Gas	.022		.02		.018
Ice			.006		.015
Water	.02		.021		.023
Laundry	.033		.011		.242
Library Service					.005
General Expense	.07		.015		.013
Repairs - Equipment	.055		.023		.023
Repairs - Building	.151		.068		.196
Total	<u>1.94</u>	<u>1.91</u>	<u>1.69</u>	<u>2.19</u>	<u>2.50</u>
<u>Capital</u>	.19	.25	.16	.16	.17
Total	<u>4.36</u>	<u>4.43</u>	<u>3.85</u>	<u>4.60</u>	<u>5.07</u>

\* Includes all Hospital Expenditures..

SCHEDULE 7

MINNESOTA GENERAL HOSPITAL  
STATEMENT OF SALARY INCREASES

--1929-30 over 1925-26

	1925-26	1929-30	Increase or Decrease	% Increase
Telephone Operators	1,830.58	3,420.45	1,589.87	86.8
Head Nurses	4,264.91	9,113.93	4,849.02	113.6
General Duty Nurses	8,746.20	27,546.25	18,800.05	215.0
Orderlies	2,357.09	5,096.11	2,739.02	116.2
Janitors	4,359.36	15,621.22	11,261.86	258.3
Elevator men	949.08	2,458.29	1,509.21	159.
Maids - Hospital )	5,771.29	11,441.01		183.5
- Nurses Homes )		4,921.68	10,591.40	
Laundry Help	3,457.80	-	3,457.80*	
Maids - Dining room	3,067.20	4,545.19	1,477.99	48.2
Kitchen	757.28	1,402.86	645.58	85.3
Waitresses	2,857.89	4,574.12	1,716.23	60.0
Dishwashers and Helpers		2,731.12	2,731.12	
Assistant Cooks	1,723.02	2,651.19	928.17	53.9
Clerical Assistance	12,535.35	30,470.76	17,935.41	143.1
General Salaries	<u>94,645.95</u>	<u>128,424.82</u>	<u>23,778.87</u>	<u>35.7</u>
	147,323.00	254,419.00	107,096.00	72.7
Patient Days	66,113	105,868	39,755	60.2

\*Decrease

SCHEDULE 8

MINNESOTA GENERAL HOSPITAL

DISTRIBUTION SUPPLIES AND EXPENSE INTO DISPENSARY-MEDICAL-HOSPITAL

	<u>1929-30</u>			
	<u>Total</u>	<u>Hospital</u>	<u>Dispensary</u>	<u>Medical School</u>
<u>Supplies</u>				
Foodstuffs	\$90,745.35	\$90,745.35	\$	
Fuel	10,958.65	8,356.65	1,365.00	737.00
Uniforms	1,768.16	1,768.16		
Drugs	15,254.16	7,254.16	8,000.00	
Hospital Supplies	34,579.14	33,002.14	1,477.00	100.00
Laboratory Supplies (Chemicals, Glassware, Etc.)	8,094.34	7,779.34	315.00	
Cleaning (Soaps, Towels, disinfectants)	4,461.99	3,606.99	555.00	300.00
Construction (Hardware, paints, glass, etc.)	1,325.10	1,475.10	227.00	123.00
Office	5,133.96	4,583.96	500.00	100.00
Petty Tools (Custodial, Kitchen, dishes, Linens, etc.)	8,470.92	7,737.92	560.00	173.00
Photographic	7,437.15	4,121.15	3,316.00	
General	1,082.58	1,037.58	45.00	
<u>Expense</u>				
Postage	697.98	657.98	20.00	20.00
Telephone and Telegraph	3,930.34	3,050.34	630.00	300.00
Mimeographing and Printing	1,640.12	1,340.12	300.00	
Rent	1,254.13	1,254.13		
Insurance, Bonds, etc.	356.72	327.72	29.00	
Travel - Inside	841.21	841.21		
Travel - Outside	407.43	407.43		
Electricity	9,841.63	7,953.63	1,226.00	662.00
Gas	1,874.63	1,515.63	233.00	126.00
Ice	1,547.32	1,547.32		
Water	2,436.98	1,968.98	304.00	164.00
Laundry	25,649.78	24,649.78	1,000.00	
Library Service	500.00	500.00		
General	1,347.43	1,292.43	55.00	
	<u>\$242,237.20</u>	<u>\$219,275.20</u>	<u>\$20,157.00</u>	<u>\$2,805.00</u>
	100.0%	90.5%	8.3%	1.2%

### SCHEDULE 8 (Continued)

The distribution of the total Hospital expenditures by commodity and nature of expense into the divisions - Hospital, Dispensary, and Medical School (meaning those laboratories, lecture rooms and offices used by the Medical School) was difficult, and different bases of distribution were necessary according to the nature of the items.

Those items distributed by floor space were fuel, electricity, gas, water, construction, and cleaning supplies. Actually it would seem as if the Medical School should be charged more for light, gas and water due to the experimental work being done day and night in the laboratories.

The following were charged direct to Hospital as no part could be allocated to the others, i.e., foodstuffs, uniforms, rent, travel, ice and library service.

Purchases by the Dispensary for Hospital and laboratory supplies from their own budget were used here. The Medical School was charged \$100 as an estimated amount used in student laboratories. Using the same percentage as hospital and laboratory supplies distribution was made of other supplies and expense.

In charging dispensary for office supplies, photographic supplies, postage, and insurance actual expenditures on the dispensary budget were used. The charge for mimeographing and printing, and laundry was made on estimates from the dispensary manager. For drugs the amount collected by the dispensary on drugs furnished for 1929-30 was used. This would be a fair figure as certain drugs were furnished that were not collected.

The telephone charge to dispensary and medical school was computed as follows. The total telephone charge less tolls was estimated at \$3600 or \$300 per month. The dispensary was in operation here approximately ten months, and has 21% of the telephones. Twenty-one percent of \$300 is \$63 times ten or \$630 for the total estimated amount chargeable. The Medical School has approximately

SCHEDULE 8 (Continued)

10% of the telephones or a total of \$300.

Petty tools (custodial, lights, kitchen, dishes, linens) were distributed as follows, i.e., custodial and lights on floor space, kitchen and dishes to Hospital, linens on basis of actual linen furnished by house-keeper.

SCHEDULE 9

RATIO OF NURSES TO BED CAPACITY  
March 28, 1931

Station	No. of Beds	No. of Patients	No. of Nurses	Beds per Nurse 100% basis	Patients per Nurse	Hours Nursing per Patient
M 2	30	27	6-1/2	4.61	4.15	1.92
T 3	9	8	5	1.80	1.60	5.00
C 3	27	29	8-1/2	3.17	3.41	2.34
E 3	19	17	6	3.16	2.83	2.82
T 4	34	35	11-1/2	2.95	3.04	2.63
M 4	39	37	10	3.90	3.70	2.16
N 4	17	17	5-1/2	3.09	3.09	2.58
E 4	19	18	6	3.16	3.00	2.66
W 4	47	26	7	4.13	3.71	2.15
HS 4	13 (HS	5)	7-1/2)		(HS 5)	
Cnt	7	9	4	1.75	2.25	3.55
C 5	20	19	6-1/2	3.07	2.92	2.74
M 5	18	14	5-1/2	3.27	2.54	3.14
E 5	56	31	15	3.73	2.06	3.88
OB	26	15	9	2.88	1.66	4.81
HS 5	26	39	6	4.33	2.88	2.77
Total	407	335	119-1/2	3.40		
Bas.	30	6	2	15.00	3.00	2.66
		341			2.80	2.86
Operating Room		13				
Dispensary		13-1/2			Other	.82
						<u>3.68</u>
Supervisors, etc.		<u>25</u>				
		173				

SCHEDULE 10

MINNESOTA GENERAL HOSPITAL

COMPARISON PATIENT DAY COSTS 1929-30\*

MINNESOTA-IOWA-MICHIGAN

	<u>Minnesota</u>	<u>Iowa</u>	<u>Michigan</u>
<u>Patient Days</u>	105,868	199,853	408,102
Foodstuffs	\$ .86	\$ 1.37	\$ .91
Medical supplies and drugs	.59	.68	.58
Office supplies and equipment	.09	.07	.12
Heat, electricity, water, ice	.23	.27	.23
Laundry	.24	.25	.28
Other	.65	.55	.74
	<hr/>	<hr/>	<hr/>
	\$ 2.68	\$ 3.18	\$2.86

\* Figures computed from analysis of the financial reports of these universities for 1929-30- Includes supplies, expense and equipment

SCHEDULE 11

OUTPATIENT DEPARTMENT

Registration and Fees Collected

Year	Attendance		Nights		Registration Fees Collected	Fees Dental	Drugs	X-Rays	Tonsillectomy & Sub mucous	Refractation	Electrocardiograph Orthodiscope & Anesthesia
	Days New	Days Total	New	Total							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(11)	(13)
1921-22	15,602	61,386	296	8,162	6,056.20	247.50	8,507.40	880.50			
Rate					10¢	25¢					
1922-23	14,402	57,173	357	8,749	5,573.75	229.50	7,723.75	1,922.00	2,940.00		
Rate					10¢	25¢			\$10.00		
1923-24	15,478	57,858	266	8,269	4,470.60						
Rate					10¢						
					2,324.30	316.00	7,907.55	2,744.00	4,690.00	248.00	
Rate					20¢	25¢			\$10.00	\$1.00	
1924-25	15,097	55,392	237	7,371	10,279.60						
Rate					20¢						
					85.60	355.75	7,792.50	3,119.00	5,240.00	788.00	
Rate					10¢	25¢			\$10.00	\$1.00	
1925-26	13,704	59,583	218	8,326	10,121.60	418.00	8,009.80	3,743.00	4,240.00	509.00	
Rate					20¢	25¢			\$10.00	\$1.00	
1926-27	14,819	53,974	248	6,920	10,112.40						
Rate					20¢						
					477.00	610.00	8,484.70	4,473.50		828.00	86.00
Rate					25¢	25¢					
1927-28	13,825	51,272	215	7,391	9,817.80	581.00	7,467.65	5,648.50		661.00	155.50
Rate					20¢	25¢					
1928-29	13,346	50,478	224	6,299	10,633.00	692.70	7,337.10	5,825.50	Basal Metabolism	938.00	G.U. 139.25
Rate					20¢				(10)	(12)	
1929-30	15,754	59,347	138	5,834	10,865.80	672.25	8,286.90	7,290.50	768.00	1,043.00	1,032.00 164.50
Comparative Six Months											
1929-30	6 Mo.	26,387		2,882	5,144.30	264.25	3,647.65	2,924.50	263.25*	460.00	
1930-31	6 Mo.	32,266		2,316	6,269.00	297.45	4,386.71	4,189.80	625.75*	474.00	

\* Includes columns 10, 12, and 13.

Note - Free Services July 1 to Dec. 31, 1929 - 4,424 July 1 to Dec. 31, 1930 - 7,849.