Sterling Garrison

# FUTURE PLANNING FOR THE HEALTH SCIENCES

## Part II

## PROGRAM, PERSONNEL AND SPACE PROJECTIONS

## (DRAFT)



UNIVERSITY OF MINNESOTA

Minneapolis, Minnesota

October, 1966

# SECOND REPORT TO THE PRESIDENT ON THE RESULTS OF A STUDY OF PROGRAM, PERSONNEL AND SPACE PROJECTIONS FOR THE HEALTH SCIENCES

by the

Minnesota. University.

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

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UNIVERSITY OF MINNESOTA
Minneapolis, Minnesota

October 1, 1966

# OUTLINE OF PROGRAM, PERSONNEL AND SPACE REPORT

# I. INTRODUCTION

At the close of some introductory remarks to the January 1, 1966 Preliminary Planning Report of Roles, Objectives and Programs within the Health Sciences, it was stated:

> "In conclusion, the reasons for beginning this study still seem valid as we complete our preliminary program report. There is an internal need for study; external pressures have made such a study a necessity; and finally, many circumstances in the history of the health science units indicate that we are about to embark on a new era. This does not mean that this report should be put in tablet form or shelved for the next twenty years, but there is a clear recognition that the health science units must respond to the internal and external pressures for change in a coordinated, integrated manner."

Within months after the completion of the preliminary report, the committee was faced with the necessity of estimating the space implications of their first report. University Administration needed this data for the overall University Building Program request for the 1967 legislative session. The space data was presented to University Administration in May 1966 and subsequently to the Board of Regents. After being accepted by both, it was presented to the Minnesota Legislative Building Commission in July, 1966. In essence, the Health Sciences projected a need for at least 1,140,000 gross square feet in new construction, at a cost of 47.3 million by 1973. Another 216,000 gross square feet could be remodeled at a cost of 5.4 million. To effect these programs, it would be necessary to request the 1967 legislature for $650,000 for land purchase and $500,000 for planning assistance.

Implicit in this kind of projection, and its acceptance by the University Administration and the Board of Regents, is that 54 million dollars represents the approximate commitment of University and State resources to the health sciences expansion program (assuming 50% of the 54 million is provided by Federal matching funds).

If this is true, one might question whether it wouldn't have been simpler in the fall of 1964 to assign a figure of $54 million to health sciences expansion, and then let the faculty plan from this given starting point. The fact that $30 million had been projected for the health sciences over the next ten years, before the planning group had been appointed, suggests that the group's efforts have had some material impact. More important is that, in any case, certain priority judgments would have to be made about the future development of the health sciences. If the faculty didn't approach the problem in an organized manner and take responsibility for priority judgments, then someone more distant and less informed would have to perform the same function. Also, with a well documented expansion program, it may be possible to increase the support for health sciences expansion. The fact that this report indicates needs in excess of the amount that appears to be what the University and the State can realistically support at this time, is to be expected.

The merit of this report is that it attempts to provide a sound system for presented precise data in an easy to understand format. It is for this reason that the programs are listed on a priority basis. The long range plan also enables the legislature to consider individual requests as part of an overall plan and thus the sequence of requests becomes more urgent and more significant.

There were outside pressures that made it important to develop a coordinated health sciences plan. These outside pressures include increased demand on the already short supply of health personnel by new federal health programs, and the improvement in provision of services by other health care institutions. The first

planning report noted that the "Health Manpower For The Upper Midwest" study by Dr. Osler Peterson, would call for a faculty reaction about the role and future objectives of the health science units. This report is a responsible reaction to the recommendations made in the Manpower Study. More will be said about the relationship of the two reports in Section IV of this report.

Another outside pressure was a study by a special state legislative committee, headed by Representative Richard Fitzsimons, of the quantity and distribution of physicians in the State of Minnesota. While the health science units are not in a position to evaluate needs, through this report they have indicated how the objectives and resources of the University can be related to the health manpower question.

Finally, while health science education is never a static process, such an introspective examination as reflected in these two reports seems particularly appropriate at this time, because of the widespread ferment in dental education, medical education, nursing education and schools of public health throughout the country. Even if there were no thoughts or pressure for physical expansion at this time, there still would be pressure for a hard look at what the health science units are doing, how they are doing it, why they are doing it and what they should be doing in training young people to meet the challenges of their professions.

This report is not a definitive statement of the correct path for the health science units to take in the next twenty years or even the next five years. Many difficult issues remain. For example:

1. What is the nature of the mandate for medical care, and what are the elements of individual, personal family care that we must recognize, preserve, and provide for?

2. What is the future of dental practice, and what is the role of preventive dentistry and dental research in this school? What is going to be the future relationship to the other health science units, particularly the medical school?

3. How can the basic sciences best continue to develop their graduate and research programs, while continuing to meet the needs of the medical students and establishing a workable relationship to the newly formed College of Biological Sciences within the University?

4. What is a nurse? How can the school of nursing best continue its innovative role with regard to nursing practice and still be adaptive to other professions?

5. What should be the role of the School of Public Health as more demands are put on the profession to expand from an administrative role to a more clinical role?

6. How can the Minnesota health science units best develop the already large and diversified associated health professions to meet what appears to be a radically new set of demands and expectations?

7. How can the hospital best fulfill its service obligations to the other health science units, as well as develop its role in relationship to research and training programs? How can the hospital best define its role in relationship to the community?

In a sense, these and similar issues will be discussed long after the deliberations of this committee have been forgotten. The complexity of issues makes them no less urgent and the tentative nature of some of our findings makes them no less important. A start must be made on the problems facing the health sciences. We anticipate and will welcome the participation of our colleagues in the health sciences as the planning continues.

## II. CHRONOLOGICAL TABLE

| | |
|---|---|
| JUNE 1962 | The University is asked by the State Legislature to estimate costs for expansion of the dental and medical school. |
| SEPTEMBER 1963 | The University, after reviewing the request to increase the dental and medical school class sizes, recommends the first step be a study of health manpower needs. Then, if it were determined additional graduates were needed, judgments could be made about who should do the training. |
| FEBRUARY 1964 | The medical school, dental school, hospital, schools of public health and nursing are independently demonstrating needs for additional space. With limited land available to the health sciences, it is apparent that a coordinated planning approach is necessary. |
| MAY 1964 | The Hill Family Foundation accepts the recommendation of the University of Minnesota Board of Regents and agrees to sponsor a regional study of health manpower needs for dentists and physicians. |
| OCTOBER 1964 | President Wilson appoints a Committee for the Study of Physical Facilities for the Health Sciences. Elmer W. Learn, Assistant to the President, is named chairman of the committee and coordinator for all long range University Planning. |
| JANUARY 1965 | The first meeting of the Health Sciences Planning Committee under Dr. Learn is held. |
| MARCH 1965 | The committee organizes into seven subcommittees and decides that a role and program study must precede any space and faculty projections. |
| OCTOBER 1965 | A preliminary role and program report is completed. James A. Hamilton Associates, Inc. are retained as consultants. |
| JANUARY 1966 | The preliminary role and program report is presented to President Wilson. The report is accepted by University Administration. |
| MAY 1966 | The Learn Committee is asked by University Administration to project space implications of role and program report for purposes of the legislative building request. With the assistance of James A. Hamilton Associates, Inc., consultants, the committee projects the need for over 1,000,000 gross square feet, at a total cost of over $53,000,000.<br><br>The Minnesota Legislature appoints a committee, headed by Representative Fitzsimons, to investigate the need for more dentists and physicians in the state, with particular emphasis on the needs of rural areas. |
| JUNE 1966 | The Hill Family Foundation study by Dr. Osler Peterson is completed. Among other recommendations, it calls for the University to expand as soon as possible the size of its medical and dental classes, and cites the need for a second medical school in the state at a later date. |

| | |
|---|---|
| JULY 1966 | University Administration and the Board of Regents accept the Learn Committee projection of long range space needs and the information is presented to the Minnesota Legislative Building Commission and to the Fitzsimons Committee.<br><br>The 1967 legislative request for the health sciences is $650,000 for land acquisition, $500,000 for planning and $50,000 for a study to determine the nature and future of family practice. |
| OCTOBER 1966 | The second Learn Committee report on programs, personnel and space projections is completed. |
| DECEMBER 1966 | The second Learn Committee report will be presented to President Wilson. If President Wilson approves the report, it will be combined with the first report in summary fashion to be presented to the state legislature. |
| JANUARY 1967 | The Health Sciences Building Request and report will be presented to the legislature. |
| JUNE - SEPTEMBER 1967 | If the report is accepted and funds appropriated, an architectural firm will be hired to work with the health sciences. Prior to an architect being hired, the planning committees will work out desired space relationships and designate priorities. |

## III. SUMMARY OF HEALTH SCIENCES PLANNING

### A. PROGRAM PROJECTIONS

This program is devised to assist the health science units achieve their objectives in patient care, teaching and research. The objectives are based on the realization that the health sciences are going through a time of unusual change. This change is generated by the pressure of both internal and external circumstances. Some of the major changes involve an assessment of the public mandate for health services and a search to identify the essential elements in the effective delivery of those services. Without the health sciences building program, including projected programs and objectives, it would be extremely difficult for the University of Minnesota health science units to respond to the challenges in their respective areas.

The major programs involved are:

* An increase in student body for dental, medical and nursing school professional programs and an increase in graduate, public health, and associated health professional programs.

* The construction of a new dental school will facilitate major programmatic changes involving preventive dentistry, team teaching, increased emphasis on dental research, and closer liaison with the medical sciences.

* The well planned programs in ambulatory care and teaching, can take shape in the space provided by the new outpatient facility. This includes a closer relationship with the dental clinics.

* The start of a new University Hospital will allow the hospital departments to implement program changes and medical school departments to inaugurate new programs in the expanded clinical space.

* The vacated Mayo complex space can be effectively used for clinical teaching and laboratory space, providing for the functional breakdown of more clearly identifiable areas of teaching, research, and patient service space.

* The Phillips-Wagensteen building provides for badly needed clinical research space and makes possible a closer tie-in with the Diehl Hall and Masonic research programs.

* The vacated Mayo complex space will also allow the School of Public Health, perhaps the most crowded unit in the health sciences, to undertake new programs and expand existing programs.

* The vacated dental space will allow the basic sciences to expand, an essential first step in increasing the class size of medical and dental students.

* The School of Nursing will be able to expand into vacated Mayo complex space, to increase the scope of present programs and undertake new programs, particularly those that require closer proximity to the clinical services.

* Additional animal space is provided for.

* Expansion of Bio-medical Library space is also provided for.

Summary - Personnel

September 29, 1966

B. PERSONNEL PROJECTIONS*

| | 1966 (150 m.s.) | 1973 (200 m.s.) | 1985 (250 m.s.) |
|---|---|---|---|
| Ancillary Professions+ | 34.5 | 65 | 106 |
| Basic Sciences | 71 | 96 | 123 |
| Clinical Medicine | 246 | 355 | 482 |
| Clinic Directors++ | | | |
| School of Dentistry | 33 | 102.5 | 128.5 |
| School of Nursing | 38 | 61 | 71 |
| School of Public Health | 44# | 87# | 110# |
| * * | * | * | |
| Hospital Personnel | 1,965 | 2,299 | ## |
| * * | * | * | |

* Includes only full-time faculty

+ Included in Basic Sciences and Clinical Medicine Projections

++Included in Clinical Medicine Projections

# Includes faculty at other locations

##Not yet estimated

C. SPACE PROJECTIONS

| | 1966 | 1973 | 1985 |
|---|---|---|---|
| Ancillary Professionals* | 19,707 | 34,576 | 47,145 |
| Basic Sciences | 160,000 | Incomplete at this time | |
| Clinical Medicine** | 238,378 | 423,623# | 502,460# |
| Clinic Directors+ (O.P. Space) | 25,439 | 160,000 | ## |
| School of Dentistry++ | *+67,397 | +#313,588 | +#417,424 |
| Hospital | 445,246 | 276,440 | ## |
| School of Nursing | 12,482 | 29,918 | ## |
| School of Public Health | 40,520 | 102,000 | 165,000 |
| TOTALS | 1,009,169 | 1,501,145# | 1,758,391# |

* Included in Clinical Medicine projections.

**Nursing Stations, OR's, O.P. Clinics excluded.

+ Included in Hospital Space.

++Does not include 10,615 Square Feet centrally assigned classrooms in Dental School-Basic Sciences area.

# Not complete.

##Not yet estimated.

*+This figure differs from that shown by Hamilton Associates' analysis, since space in biochemistry, physiology and some shared clinical space is included.

+#Includes classroom space.

## IV. RELATIONSHIP OF THIS REPORT TO "HEALTH MANPOWER FOR THE UPPER MIDWEST - A Study of the Needs for Physicians and Dentists in Minnesota, North Dakota, and Montana," dated June, 1966.

The Part I - Preliminary Report on Roles, Objectives and Programs, by the Committee for the Study of Physical Facilities for the Health Sciences, was written with the knowledge of the Regional Health Manpower Study. In fact, the Hill Family Foundation was also supporting the University Study and Mr. A. A. Heckman, Executive Director of the Foundation, was kept informed of the University findings.

One of the impacts of the Health Manpower Study would be to expand the regional educational role of the medical school. While some students are now accepted from the North Dakota and South Dakota two-year medical schools, the Health Manpower Study recommendation was that the numbers be increased from 6 - 10 per year to 25 - 30 students per year. There are already well-established regional patient referral patterns. The School of Dentistry has a less formal arrangement for acceptance of students from the Dakotas and Montana. There was no recommendation about Minnesota accepting students into the dental school from these states.

The qualitative aspects of the program would not be affected by the recommendation that the medical school increase the size of its student body. The fact that ...d be enlarged while the programs were expanded or started, does mean that the University would qualify for certain federal matching monies related to ...l.

...ealth Manpower Study recommendation concerning the need for the personal physician is similar to the findings of the University Planning Group. Both Medicine and the Clinic Directors Committees recognized the need for the personal or family physician. The Clinic Directors are directly involved in the ...sive Clinic Program, which was designed with the future of general practice very much in mind. The goals of the Comprehensive Clinic Program and the ...e American Academy of General Practice about the training of physicians for family practice are strikingly similar.

...he Health Manpower Study recommends an increase in the number of dentists and dental hygienists trained at the University. It also recommends a new pro... training men to relieve the dentist of some of his more routine tasks.

The University Planning report shares the objectives of the Health Manpower Report and suggests programs to implement the above recommendations.

# V. PROGRAM, PERSONNEL AND SPACE REPORTS FROM THE PLANNING SUBCOMMITTEES

V. A. ANCILLARY PROGRAM

In the Preliminary Report, the Subcommittee outlined what might be the major trends in the six established programs in the ancillary professions, and suggested the creation of seven new programs. Present programs are in Medical Technology, Occupational Therapy, Physical Therapy, Radiologic Technology, Vocational Rehabilitation Counseling, and Speech Pathology and Audiology. Proposed programs are in Bioengineering, Biomedical Data Processing and Information Retrieval, Electroencephalography Technicians, Inhalation Therapy, Medical Art, Medical Record Librarians, and Medical Social Work.

The established programs are under the Medical School Departments (e.g., Clinical Laboratories and Physical Medicine & Rehabilitation) and thus the roles and objectives of the programs are presumably a part of those departments' long range plans. No judgment was made as to which department or University unit should be responsible for the development of the new programs. However, the Data Processing unit, the Division of Neurology, and the Hospitals would be involved to some extent.

The idea of a School of Associated Health Sciences under the College of Medical Sciences was discussed. This School would be responsible for the administrative aspects of these courses and could develop some kind of core curriculum. The Subcommittee did not favor the exploration of this idea. It was thought that the crucial identity was with the department involved and another School within the College might dilute these programs, or at least would not be in the position to strengthen them. Therefore, the space projections of the various programs should be viewed as part of the departments with which they are involved, and the space estimates for the new programs should be considered as a guide to the appropriate adminstrative agency or individual who will be responsible for establishing those programs.

The criteria for the establishment of new programs and the retention of old programs was accepted by the Learn Committee (page 40-Preliminary Report).

## Ancillary Professions

### Faculty Projections*

| | 1965 | 1975 |
|---|---|---|
| Medical Technology | 15.5 | 30 |
| +Occupational Therapy | 4 | 7 |
| +Physical Therapy | 5 | 7 |
| Radiologic Technology | 1 | 1 |
| +Rehabilitation Counsellors | 3 | 4 |
| Inhalation Therapy | 0 | 2 |
| Medical Art & Photography | 1 | 5 |
| Medical Social Service | 1 | 3 |
| Mortuary Science | 4 | 6 |
| TOTAL | 34.5 | 65 |

*Derived from Tabulation Sheet of Ancillary Subcommittee Preliminary Report.

+Included in the Faculty Projections of the Clinical Medicine Departments.

Detail of this table in Clinical Medicine, Hospital and Basic Science Reports.

## Ancillary Professions

Space Projections*

| | 1966 | 1975 |
|---|---|---|
| Medical Technology | 1,590 | 8,100 |
| Occupational Therapy | 5,386 (2,243 shared with P. T.) | 5,386 |
| Physical Therapy | 4,689 (2,243 shared with O. T.) | 4,689 |
| Radiologic Technology | 1,210 | 1,360 |
| Rehabilitation Counsellors | 551 | 1,200 |
| Inhalation Therapy | 0 | 1,800 |
| Medical Art & Photography | 3,000 | 5,000 |
| Medical Social Science | 1,781 | 3,641 |
| Mortuary Science | 1,500 | 3,400 |
| TOTAL | 19,707 | 34,576 |

*Derived from Tabulation Sheet of Ancillary Subcommittee Preliminary Report.

V. B. BASIC SCIENCES PROGRAM

There have been no fundamental changes in the Basic Sciences Program (pp 49-51 of the Preliminary Report). The expansion of the size of the Medical School classes from 150 to 200 students is dependent on immediate increases of staff and space in the basic science departments. No space projections are ready at this time, but staff needs have been estimated. The Subcommittee is studying the possibility of joint usage of additional laboratories in the 69,000 square feet which will be provided in the space to be vacated by Dentistry and Nursing.

In addition, the Subcommittee is trying to project the limits of the graduate program, recognizing that the next 15 years will not permit unlimited growth in the individual departments. The relationship to the College of Biological Sciences will become better understood as the College develops. At the time of the Preliminary Report, the College of Biological Sciences had just been created.

## PRELIMINARY - BASIC SCIENCES

### Faculty Projections*

| | Present | | 1973 (200 Students) | | 1986 (250 Students) | |
|---|---|---|---|---|---|---|
| | FT | PT | FT | PT | FT | PT |
| Anatomy | 14 | 3 | 20 | 4 | 26 | 5 |
| Biochemistry | 13 | 0 | 16 | 0 | 19 | 0 |
| Microbiology | 11 | | 14 | | 17 | |
| Pathology | 8 | | 16 | | 20 | |
| Pharmacology | 9 | 5 | 11 | 7 | 19 | 7 |
| Physiology | 16 | 2 | 19 | 3 | 22 | 4 |
| Total | 71 | | 96 | | 123 | |

*Received by telephone from Dr. Eugene Grim on September 19, 1966.

## BASIC MEDICAL SCIENCES

### Existing Net Square Feet By Type of Room

| Department | Staff Faculty Offices | Clerical Offices | Research Labs | Teaching Labs | Classrooms Conf. Rms. Seminar Rm. | Animal Quarters | Toilets Showers | Accessory Service Rooms | Reception Waiting | Lockers Lounges | Storage | Hospital Autopsy Room | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anatomy | 2,235 | 1,553 | 10,849 | 8,614 | 525 | 3,005 | 19 | 6,868 | | 249 | 2,531 | | 36,448 |
| Biochemistry | 1,457 | 1,616 | 12,349 | 3,462 | 474 | 689 | 101 | 2,112 | 177 | | 958 | | 23,395 |
| Microbiology | 1,828 | 472 | 10,327 | 2,717 | 690 | 709 | 38 | 3,266 | 1,010 | 152 | 1,174 | | 22,383 |
| Pathology | 1,553 | 750 | 9,850 | 3,286 | 1,087 | 3,480 | 95 | 2,765 | | 752 | 2,528 | 658 | 26,804 |
| Pharmacology | 1,578 | 812 | 9,751 | | 918 | 2,387 | 36 | 2,722 | | 101 | 882 | | 19,187 |
| Physiology | 2,687 | 2,521 | 15,707 | 2,559 | 1,459 | 2,732 | 382 | 2,898 | | 157 | 1,176 | | 32,278 |
| TOTAL | 11,338 | 7,724 | 68,833 | 20,638 | 5,153 | 13,002 | 671 | 20,631 | 1,187 | 1,411 | 9,249 | 658 | 160,495 |

Prepared by:

James A. Hamilton Associates

## BASIC MEDICAL SCIENCES

Existing Space By
Major Function & Type of Room

| Department | Staff Faculty Offices | Clerical Offices | Research Labs | Teaching Labs | Classrooms Conf. Rms. Seminar Rm. | Animal Quarters | Toilets Showers | Accessory Service Rooms | Reception Waiting | Lockers Lounges | Storage | Hospital Autopsy Room | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anatomy | | | | | | | | | | | | | |
| Teaching | | | | 8,614 | | | | 1,460 | | 249 | 2,426 | | 12,749 |
| Research | 2,050 | 842 | 10,849 | | | | 19 | 3,599 | | | | | 17,359 |
| Administration | 185 | 711 | | | 525 | | | 861 | | | | | 2,282 |
| Animal Rooms | | | | | | 3,005 | | 948 | | | 105 | | 4,058 |
| TOTAL | 2,235 | 1,553 | 10,849 | 8,614 | 525 | 3,005 | 19 | 6,868 | | 249 | 2,531 | | 36,448 |
| Biochemistry | | | | | | | | | | | | | |
| Teaching | | | | 3,462 | 210 | | 51 | 368 | | | 538 | | 4,629 |
| Research | 326 | 1,135 | 12,230 | | | | | 1,303 | | | 353 | | 15,347 |
| Teaching & Research | 938 | 54 | 119 | | 264 | | | | | | | | 1,375 |
| Administration | 193 | 427 | | | | 689 | 50 | | 177 | | | | 1,536 |
| Animal Rooms | | | | | | | | 441 | | | 67 | | 508 |
| TOTAL | 1,457 | 1,616 | 12,349 | 3,462 | 474 | 689 | 101 | 2,112 | 177 | | 958 | | 23,395 |
| Microbiology | | | | | | | | | | | | | |
| Teaching | 59 | | | 2,717 | | | | 1,050 | 1,010 | | 464 | | 5,300 |
| Teaching & Research | 1,462 | 112 | 10,327 | | | | | 1,952 | | 152 | 524 | | 14,529 |
| Administration | 307 | 360 | | | 690 | | 38 | 60 | | | 158 | | 1,613 |
| Animal Rooms | | | | | | 709 | | 204 | | | 28 | | 941 |
| TOTAL | 1,828 | 472 | 10,327 | 2,717 | 690 | 709 | 38 | 3,266 | 1,010 | 152 | 1,174 | | 22,383 |
| Pathology | | | | | | | | | | | | | |
| Teaching | | 93 | | 3,286 | 1,087 | | | 99 | | | 997 | | 5,562 |
| Research | 143 | 167 | 5,617 | | | 403 | 55 | 1,482 | | 752 | 528 | | 9,147 |
| Teach & Research | 1,080 | 138 | 4,233 | | | | | 265 | | | 662 | | 6,378 |
| Administration | 230 | 352 | | | | | 40 | | | | 36 | | 658 |
| Animal Rooms | | | | | | 3,077 | | 821 | | | 236 | | 4,134 |
| Hospital Service | 100 | | | | | | | 98 | | | 69 | 658 | 925 |
| TOTAL | 1,553 | 750 | 9,850 | 3,286 | 1,087 | 3,480 | 95 | 2,765 | | 752 | 2,528 | 658 | 26,804 |

(Table continued on following page.)

BASIC MEDICAL SCIENCES EXISTING SPACE - Cont'd

| Department | Staff Faculty Offices | Clerical Offices | Research Labs | Teaching Labs | Classrooms Conf. Rms. Seminar Rm. | Animal Quarters | Toilets Showers | Accessory Service Rooms | Reception Waiting | Lockers Lounges | Storage | Hospital Autopsy Room | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pharmacology | | | | | | | | | | | | | |
| Teaching | 871 | 220 | | | 918 | | 36 | | | | 94 | | 2,139 |
| Research | | | 8,634 | | | | | 1,040 | | | 399 | | 10,073 |
| Teaching & Research | 477 | 121 | 1,117 | | | | | 230 | | | 224 | | 2,169 |
| Administration | 230 | 471 | | | | | | 240 | | 101 | | | 1,042 |
| Animal Rooms | | | | | | 2,387 | | 1,212 | | | 165 | | 3,764 |
| TOTAL | 1,578 | 812 | 9,751 | | 918 | 2,387 | 36 | 2,722 | | 101 | 882 | | 19,187 |
| Physiology | | | | | | | | | | | | | |
| Teaching | | | | 2,559 | 819 | | 319 | 482 | | | 673 | | 4,852 |
| Research | 1,895 | 1,640 | 15,707 | | | | 63 | 2,193 | | 157 | 486 | | 22,141 |
| Teaching & Research | 432 | | | | 640 | | | | | | 17 | | 1,089 |
| Administration | 360 | 881 | | | | | | 144 | | | | | 1,385 |
| Animal Rooms | | | | | | 2,732 | | 79 | | | | | 2,811 |
| TOTAL | 2,687 | 2,521 | 15,707 | 2,559 | 1,459 | 2,732 | 382 | 2,898 | | 157 | 1,176 | | 32,278 |
| OVERALL TOTALS | 11,338 | 7,724 | 68,833 | 20,638 | 5,153 | 13,002 | 671 | 20,631 | 1,187 | 1,411 | 9,249 | 658 | 160,495 |

Prepared by:

James A. Hamilton Associates

March 15, 1966

V. C. CLINICAL MEDICINE PROGRAM

The space and personnel projections in clinical medicine reflect the priority of certain programs.

1. Additional beds for expansion of certain clinical services.

2. A new Ambulatory facility to accommodate the programs outlined in the Clinic Directors' Outpatient Planning Report.

3. New operating rooms to accommodate new surgical programs.

4. Conversion of existing Mayo complex space into an area for clinical medicine teaching, laboratories and office space.

5. An expanded commitment by the Medical School to Continuation Education, reflected in the projection of 56,000 square feet of space for that purpose. (This also indicates the University's willingness and ability to play a major role in the regional Heart, Cancer and Stroke program.)

6. An increase in student enrollment far beyond the capacity of our clinical facilities, thus underscoring the need for expanded and strengthened clinical affiliations.

7. Provision in the new facility for a new University Children's Hospital, to replace the obsolete Eustis Wing facilities.

8. Space for the expansion of clinical research programs.

Other programs suggested in the Preliminary Report are compatible with the projections for new and remodeled space, but cannot be so easily tied in to specific square footage figures. Some of these include:

1. The possible reorganization of traditional Medical School departments to reflect the realities of what we are now doing and will likely be doing in the future (see Dr. French's letter of February 8, 1965).

2. With the new projections, the need for a new medical education specialist is even more important.

3. The concern for the development of family practitioners expressed in the Preliminary Report has taken on greater urgency with publications such as the Millis Report and Health Manpower for the Upper Midwest. This may lead to the establishment of some academic department within the School which would combine the elements of community medicine, preventive medicine and family practice. There is no question that the public expectation from an increase in Medical School size will be tied into some program by the medical center to train physicians for family practice.

## CLINICAL MEDICINE DEPARTMENTS

*Faculty Projections

| | Existing 1966 | 200 Students | 250 Students |
|---|---|---|---|
| Anesthesia | 7 | 10 | 12 |
| Laboratory Medicine | 29 | 44 | 55 |
| Department of Medicine | | | |
| Internal Medicine | 32 | 42 | 51 |
| Dermatology | 1 | 5 | 11 |
| Obstetrics/Gynecology | 5 | 10 | 12 |
| Opthalmology | 4 | 10 | 16 |
| Otolaryngology | 4 | 10 | 12 |
| Pediatrics | 40 | 44 | 50 |
| Physical Medicine & Rehab. | 36 | 45 | 70 |
| Psychiatry/Neurology | | | |
| Neurology | 21 | 30 | 50 |
| Adult Psychiatry | 7 | 10 | 14 |
| Child Psychiatry | 3 | 5 | 7 |
| Clinical Psychology | 11 | 16 | 20 |
| Psych. Research | 6 | 12 | 16 |
| Radiology Department | | | |
| Diagnostic | 9 | 14 | 18 |
| Therapeutic | 6 | 12 | 15 |
| Department of Surgery | | | |
| General Surgery | 15 | 22 | 33 |
| Neurosurgery | 4 | 5 | 6 |
| Orthopedic Surgery | 3 | 4.5 | 7 |
| Urology | 3 | 4.5 | 7 |
| Proctology | | | |
| TOTAL | 246 | 355 | 482 |

*Includes full-time faculty at the University of Minnesota only; excludes part-time faculty and other personnel.

## COMPREHENSIVE CLINIC+

### Faculty/Staff Projections

| | Existing 1966 | Needed by 1973 |
|---|---|---|
| Faculty | 4 | 8 |
| Non-faculty staff | 3 | 6 |

### Space Projections

By Net Square Feet

| | Existing 1966 | Needed by 1973 |
|---|---|---|
| Faculty/Staff Offices | 128 | 1,360 |
| Clerical Offices | 148 | 390 |
| Assembly Rooms* | | 2,000 |
| Reception-Waiting | | 140 |
| Supporting Service Rooms* | | 1,000 |
| Storage | 84 | |
| | 360 | 4,890 |

+This information was derived from the Clinic Directors Outpatient Planning Report, page 51.

*Could be shared space.

# CLINICAL MEDICINE

## Summary of Existing and Projected Space By Departments*

| | Existing 1966 | 200 Students | 250 Students |
|---|---|---|---|
| Anesthesia | 2,220 | 10,506 | 12,300 |
| Laboratory Medicine | 32,989 | 63,500+ | 85,000+ |
| Department of Medicine | (26,068) | | |
| Internal Medicine | 20,383 | 47,243 | 58,779 |
| Dermatology | 3,343 | 17,450 | 22,900 |
| Dept. Facilities | | | |
| Obstetrics/Gynecology | 5,175 | 11,954 | 14,129 |
| Opthalmology | 4,155 | 25,450 | 37,200 |
| Otolaryngology | 3,839 | 12,356 | 13,756 |
| Pediatrics | 31,344 | 49,800 | 54,600 |
| Physical Medicine & Rehab. | 40,051 | 44,000 | Not available at this time |
| Psychiatry/Neurology | (29,595) | | |
| Neurology | 13,286 | 44,175 | 85,047 |
| Adult Psychiatry | 2,778 | 25,515 | 30,710 |
| Child Psychiatry | 1,883 | 3,874 | 4,274 |
| Clinical Psychology | 1,746 | 5,750 | 8,600 |
| Psych. Research | 8,505 | 16,000 | 20,600 |
| Dept. Facilities | 1,397 | | |
| Radiology | (26,374) | | |
| Diagnostic | 13,597 | 25,000 | 30,000 |
| Therapeutic | 6,754 | 21,050 | 24,565 |
| Dept. Facilities | | | |
| Department of Surgery | (36,568) | Not available at this time | |
| Dept. Facilities | 10,956 | | |
| General Surgery | 20,341 | Not available at this time | |
| Neurosurgery | 2,681 | | |
| Orthopedics | 871 | Not available at this time | |
| Proctology | | | |
| Urology | 1,719 | Not available at this time | |
| GRAND TOTAL | 238,378 | 423,623# | 502,460# |

*Nursing Stations, Operating Rooms, Outpatient Clinics excluded.

+Exclusive of departmental research space.

#Totals incomplete

# CLINICAL MEDICINE DEPARTMENTS

## Faculty/Staff Projections

### Existing 1966

| | Faculty U of M | | Faculty Affil. I. | | Teaching Assts. | | Research Assoc./Asst. | | Fellows & Residents | | Civil Service | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FT | PT | FT | PT | FT | PT | FT | PT | U of M | Affil. I. | Clerical | Technical | Other |
| Anesthesia | 7 | | 6 | | | | | 3 | 12 | 2 | 3 | 3 | 1 |
| Laboratory Medicine | 29 | | | | | 2 | 8 | | 15* | | 18 | 126 | |
| Department of Medicine | | | | | | | | | | | | | |
| Internal Medicine | 32 | 1 | 35 | | | | 5 | | 21 | 79 | 23 | 54 | 7 |
| Dermatology | 1 | 8 | | 2 | | | 1 | | 6 | 6 | 3 | 11 | 1/2 |
| Obstetrics/Gynecology | 5 | 1 | 2 | 2 | | | | | 6 | 8 | 3 | 10 | 1 |
| Opthalmology | 4 | 22 | | 22 | | | 1 | | 8 | 7 | 3-1/2 | 14 | |
| Otolaryngology | 4 | 9 | 1 | 10 | | | | | 12 | | 2-1/2 | 1/2 | |
| Pediatrics | 40 | 13 | 4 | 1 | | | 27 | | 15 | 7 | 27 | 93 | |
| Physical Medicine & Rehab. | 36 | 9 | 7 | 6 | | | 9 | 1 | 22** | 2 | 26 | 71 | |
| Psychiatry/Neurology | | | | | | | | | | | | | |
| Neurology | 21 | | | | | | | | 14 | 7 | 14 | 40 | |
| Adult Psychiatry | 7 | 18 | 13 | 17 | | | 2 | | 5 | 5 | 9 | 6 | |
| Child Psychiatry | 3 | 1 | | | | | | | 4 | | 3 | 2 | |
| Clinical Psychology | 11 | 16 | 11 | | | 1 | 1 | 6 | 6 | 20 | 1-1/2 | 2 | |
| Psych. Research | 6 | 5 | | 2 | | | 3 | 12 | 20 | 1 | 6 | 4 | 3 |
| Radiology Department | | | | | | | | | | | | | |
| Diagnostic | 9 | 1 | 7 | 10 | | | | | 16 | 28 | 16 | 22 | 4 |
| Therapeutic | 6 | 1 | 1 | | | 1 | 1 | 1 | 7 | 4 | 5 | 5 | |
| Department of Surgery | | | | | | | | | | | | | |
| General Surgery | 15 | | 9 | | | | 2 | | 65 | 61 | 21 | 84 | |
| Neurosurgery | 4 | | | 6 | | | | 2 | 6 | 2 | 3 | 7 | |
| Orthopedic Surgery | 3 | | 1 | | | | | | 11 | 11 | 2 | 1 | |
| Urology | 3 | | 1 | | | | | | 4 | 13 | 3 | 4 | |
| Proctology | | | | | | | | | | | | | |
| TOTAL | 246 | 105 | 98 | 78 | 0 | 4 | 60 | 25 | 275 | 263 | 192-1/2 | 559-1/2 | 16-1/2 |

*Graduate students (School of Med. Tech.) at U of M included.

**Graduate students in Allied Health Science programs at U of M included.

# CLINICAL MEDICINE DEPARTMENTS

## Faculty/Staff Projections

For 200 Medical Students

| | Faculty U of M | | Faculty Affil. I. | | Teaching Assts. | | Research Assoc./Asst. | | Fellows & Residents | | Civil Service | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FT | PT | FT | PT | FT | PT | FT | PT | U of M | Affil. I. | Clerical | Technical | Other |
| Anesthesia | 10 | 1 | 10 | 5 | | | 3 | 3 | 25 | 15 | 5 | 6 | |
| Laboratory Medicine | 44 | | | | | 12 | 15 | | 28* | | 24 | 168 | |
| Department of Medicine | | | | | | | | | | | | | |
| Internal Medicine | 42 | | 44 | | | | 7 | | 28 | 103 | 30 | 70 | 9 |
| Dermatology | 5 | 9 | 2 | 3 | | | 4 | | 10 | 8 | 10 | 26 | 2 |
| Obstetrics/Gynecology | 10 | 1 | 6 | 4 | | | | | 12 | 12 | 5 | 12 | 2 |
| Opthalmology | 10 | 25 | | 25 | | | 3 | | 11 | 10 | 5 | 30 | |
| Otolarygology | 10 | 15 | 1 | 15 | | | 8 | | 15 | 6 | 7 | 3 | |
| Pediatrics | 44 | 18 | 11 | 2 | | | 37 | | 16 | 14 | 34 | 116 | |
| Physical Medicine & Rehab. | 45 | 12 | 10 | 8 | | | 16 | | 44** | 6 | 30 | 90 | |
| Psychiatry/Neurology | | | | | | | | | | | | | |
| Neurology | 30 | | 5 | | | | 1 | | 20 | 10 | 20 | 60 | |
| Adult Psychiatry | 10 | 14 | 16 | 6 | | | 3 | | 15 | 8 | 9 | 8 | |
| Child Psychiatry | 5 | | | | | | | | 6 | | 6 | 7 | |
| Clinical Psychology | 16 | 20 | 20 | | | 6 | 3 | 10 | 20 | 30 | 3-1/2 | 4 | |
| Psych. Research | 12 | 8 | | 4 | | 10 | 6 | 20 | 30 | 3 | 10 | 8 | 6 |
| Radiology Department | | | | | | | | | | | | | |
| Diagnostic | 14 | 3 | 10 | 15 | | | | | 20 | 35 | 24 | 33 | 6 |
| Therapeutic | 12 | | 3 | | 2 | | 3 | 1 | 10 | 4 | 10 | 10 | |
| Department of Surgery | | | | | | | | | | | | | |
| General Surgery | 22 | | 14 | | | | 3 | | 65 | 61 | 31 | 126 | |
| Neurosurgery | 5 | | 2 | 9 | | | | 3 | 7 | 4 | 5 | 10 | |
| Orthopedic Surgery | 4-1/2 | | 1-1/2 | | | | | | 11 | 11 | 3 | 1-1/2 | |
| Urology | 4-1/2 | | 1-1/2 | | | | | | 4 | 13 | 4-1/2 | 6 | |
| Proctology | | | | | | | | | | | | | |
| TOTAL | 355 | 126 | 157 | 96 | 2 | 28 | 112 | 37 | 397 | 353 | 276 | 694-1/2 | 25 |

*Graduate students (School of Med. Tech.) at U of M included.

**Graduate students in Allied Health Science programs at U of M included.

# CLINICAL MEDICINE DEPARTMENTS

## Faculty/Staff Projections

For 250 Medical Students

| | Faculty U of M | | Faculty Affil. I. | | Teaching Assts. | | Research Assoc./Asst. | | Fellows & Residents | | Civil Service | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FT | PT | FT | PT | FT | PT | FT | PT | U of M | Affil. I. | Clerical | Technical | Other |
| Anesthesia | 12 | 2 | 15 | 5 | | | 4 | 4 | 30 | 20 | 7 | 10 | |
| Laboratory Medicine | 55 | | | | | 20 | 20 | | 48* | | 30 | 210 | |
| Department of Medicine | | | | | | | | | | | | | |
| Internal | 51 | | 53 | | | | 9 | | 35 | 127 | 38 | 86 | 11 |
| Dermatology | 11 | 14 | 3 | 3 | | | 6 | | 12 | 12 | 10 | 26 | 4 |
| Obstetrics/Gynecology | 12 | 1 | 8 | 6 | | | | | 14 | 14 | 6 | 14 | 2 |
| Opthalmology | 16 | 30 | 30 | | | | 5 | | 14 | 13 | 7 | 42 | |
| Otolaryngology | 12 | 15 | 1 | 15 | | | 12 | | 18 | 8 | 9 | 5 | |
| Pediatrics | 50 | 23 | 18 | 3 | | | 42 | | 17 | 20 | 36 | 122 | |
| Physical Medicine & Rehab. | 70 | 20 | 18 | 10 | | | 24 | | 76** | 16 | 48 | 140 | |
| Psychiatry/Neurology | 50 | | 7 | | | | 2 | | 40 | 14 | 26 | 80 | |
| Adult Psychiatry | 14 | 18 | 20 | 8 | | | 4 | | 20 | 12 | 12 | 12 | |
| Child Psychiatry | 7 | | | | | | | | 8 | | 6 | 9 | |
| Clinical Psychology | 20 | 30 | 30 | | | 10 | 10 | 20 | 25 | 45 | 5 | 6 | |
| Psych. Research | 16 | 10 | | 4 | | 14 | 8 | 25 | 40 | 6 | 14 | 12 | 9 |
| Radiology Department | | | | | | | | | | | | | |
| Diagnostic | 18 | 5 | 14 | 20 | | | | | 24 | 42 | 32 | 44 | 8 |
| Therapeutic | 15 | | 3 | | | | 4 | 2 | 15 | 6 | 12 | 12 | |
| Department of Surgery | | | | | | | | | | | | | |
| General Surgery | 33 | | 21 | | | | 4-1/2 | | 65 | 61 | 46 | 189 | |
| Neurosurgery | 6 | | 3 | 12 | | | | 3 | 8 | 6 | 6 | 12 | |
| Orthopedic Surgery | 7 | | 2 | | | | | | 11 | 11 | 4-1/2 | 2 | |
| Urology | 7 | | 2 | | | | | | 4 | 13 | 7 | 9 | |
| Proctology | | | | | | | | | | | | | |
| TOTAL | 482 | 168 | 248 | 86 | 0 | 44 | 154-1/2 | 54 | 524 | 446 | 361-1/2 | 1,042 | 34 |

*Graduate students (School of Med. Tech.) at U of M included.

**Graduate students in Allied Health Science programs at U of M included.

## *SUMMARY OF CLINICAL FACILITIES - EXISTING NET SQUARE FEET

By Department and Type of Room

| | Faculty Staff Offices | Clerical Offices | Research Labs Animal OR's | Service Labs | Observation Classrooms Conference Library Seminar | Animal Quarters | Toilets Showers | Support Service Rooms | Reception Waiting | Locker Lounge | Storage | Treatment Exam Diagnostic | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Anesthesia | 541 | 240 | 1,167 | | | | 25 | 210 | | | 37 | | 2,220 |
| Laboratory Medicine | 3,967 | 872 | 2,233 | 13,438 | 742 | | 391 | 3,496 | 441 | | 3,545 | 3,864 | 32,989 |
| Dept. of Medicine - Total | (4,255) | (2,042) | (13,446) | (328) | (653) | (1,848) | (50) | (1,885) | (168) | | (689) | (704) | (26,068) |
| Dept. Facilities | 241 | 305 | 565 | | 334 | 434 | 50 | 361 | | | 52 | | 2,342 |
| Internal Medicine | 3,580 | 1,590 | 10,794 | 328 | 319 | 1,254 | | 1,210 | | | 604 | 704 | 20,383 |
| Dermatology | 434 | 147 | 2,087 | | | 160 | | 314 | 168 | | 33 | | 3,343 |
| Obstetrics-Gynecology | 950 | 197 | 1,757 | 1,025 | 568 | 137 | 249 | | | 128 | 164 | | 5,175 |
| Ophthalmology | 501 | 625 | 1,410 | | 466 | 335 | 60 | 609 | | | 149 | | 4,155 |
| Otolaryngology | 1,027 | 178 | 1,535 | | 317 | 189 | 56 | | | | 87 | 450 | 3,839 |
| Pediatrics | 5,240 | 2,508 | 11,515 | 1,229 | 982 | 2,756 | 130 | 3,927 | 152 | 46 | 2,391 | 468 | 31,344 |
| Physical Medicine & Rehab. | 6,844 | 1,452 | 6,424 | | 5,795 | | 1,015 | 1,611 | 717 | 1,429 | 2,340 | 12,424 | 40,051 |
| Psychiatry-Neurology - Total | (8,507) | (2,967) | (9,075) | (429) | (2,278) | (951) | (83) | (2,632) | | | (1,380) | (1,293) | (29,595) |
| Dept. Facilities | 221 | 115 | | | 695 | | 29 | 144 | | | 193 | | 1,397 |
| Neurology | 2,418 | 600 | 5,951 | 429 | 760 | 616 | 34 | 1,777 | | | 201 | 500 | 13,286 |
| Adult Psychiatry | 1,422 | 624 | | | | | 20 | | | | 201 | 511 | 2,778 |
| Child Psychiatry | 914 | 265 | | | 285 | | | | | | 137 | 282 | 1,883 |
| Clinical Psychology | 1,180 | 234 | | | 166 | | | | | | 166 | | 1,746 |
| Psychiatric Research | 2,352 | 1,129 | 3,124 | | 372 | 335 | | 711 | | | 482 | | 8,505 |

*Nursing Stations, Operating Rooms, and Outpatient Clinics excluded.

SUMMARY OF CLINICAL FACILITIES - EXISTING NET SQUARE FEET (Cont'd)

| | Faculty Staff Offices | Clerical Offices | Research Labs Animal OR's | Service Labs | Observation Classrooms Conference Library Seminar | Animal Quarters | Toilets Showers | Support Service Rooms | Reception Waiting | Locker Lounge | Storage | Treatment Exam Diagnostic | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Radiology - Total | (2,006) | (1,955) | (2,636) | | (853) | (2,222) | (591) | (5,007) | (771) | (355) | (3,192) | (6,786) | (26,374) |
| Dept. Facilities | 363 | 276 | 2,636 | | | 2,222 | 27 | 398 | | | 101 | | 6,023 |
| Diagnostic | 681 | 1,199 | | | 720 | | 345 | 3,854 | 408 | 217 | 2,532 | 3,641 | 13,597 |
| Therapy | 962 | 480 | | | 133 | | 219 | 755 | 363 | 138 | 559 | 3,145 | 6,754 |
| Dept. of Surgery - Total | (4,188) | (2,521) | (13,890) | | (2,764) | (9,573) | (188) | (1,360) | (716) | (102) | (822) | (444) | (36,568) |
| Dept. Facilities | 383 | 946 | | | 1,532 | 7,984 | 36 | | | | 75 | | 10,956 |
| General Surgery | 2,036 | 1,159 | 11,483 | | 925 | 1,589 | 130 | 1,360 | 478 | 102 | 635 | 444 | 20,341 |
| Neurosurgery | 610 | 150 | 1,911 | | | | | | | | 10 | | 2,681 |
| Othopedic | 451 | 155 | 243 | | | | 22 | | | | | | 871 |
| Proctology | | | | | | | | | | | | | |
| Urology | 708 | 111 | 253 | | 307 | | | | 238 | | 102 | | 1,719 |
| GRAND TOTAL | 38,026 | 15,557 | 65,088 | 16,449 | 15,418 | 18,011 | 2,838 | 20,737 | 2,965 | 2,060 | 14,796 | 26,433 | 238,378 |

James A. Hamilton Associates, Inc.

March 17, 1966

Revision of July 1, 1966

V. D. CLINIC DIRECTORS REPORT

The Clinic Directors Building Subcommittee was made a subcommittee of the Clinical Medicine and Hospital Subcommittee last spring. Both the Hospital and Clinical Medicine Reports make reference to the Clinical Directors' Report.

The Hospital Report outlines the Hospital objectives and programs in the clinics. This supplements the prior Clinic Directors Report, which was weighted more toward teaching and research programs, although representatives of Hospital Administration participated in writing the Preliminary Report.

The Clinic Directors have outlined in some detail their concepts and programs in ambulatory medicine (Outpatient Planning Report). The space projections in the Clinic Directors Report were reduced approximately 25% in President Wilson's presentation to the Board of Regents and the Legislative Building Committee. Through the use of shared space and more efficient scheduling of patients, the current projected figure of approximately 100,000 net square feet should be adequate.

There appears to be no need to restate the programs contained on pp 7-10 of the Clinic Directors Report. Attention should be drawn to the definition of patterns of care on page 15 of the report. Specific programs are outlined from page 15 to page 20.

Since the first report, the literature and reports from other medical schools indicate a growing awareness of the importance of ambulatory medicine and a willingness to transform this awareness into new facilities and programs.

V. E. DENTISTRY PROGRAM

The preliminary report of the Dentistry Subcommittee contained a detailed program statement, starting on page 81 of the full report by the Learn Committee. These programs were classified as teaching, research, or service. This is to summarize the priority programs.

Another section of this report indicates our justification for the increased space projections. The projections in the President's report were based on early estimated data. After more thorough consultation with our faculty, the enclosed figures represent a more accurate portrayal of the objectives of the School and the School's obligation to the dental profession and society.

Therefore, if the School is to implement programs that realistically provide for the fulfillment of our roles and objectives, the following priority items indicate how the School would utilize the additional space and personnel.

## RESEARCH AND PREVENTIVE DENTISTRY

It is impossible to accurately establish a long range blueprint of research activities. By definition, this area will develop future programs into the unknown. Ambitious fundamental and applied research is necessary, however, to determine the cause and means of elimination or oral diseases. Faculty members are now pursuing, or wish to pursue immediately, research in the following general areas:

a. Caries and Hard Tissues

b. Peridontal Disease and Soft Tissues

c. Oro-Facial Growth and Development

d. Biomaterials Used in Dental Practice

In addition to the basic research aspects of preventive dentistry focused on the elimination of oral diseases, other facets of preventive dentistry are included in our program. It is designed to inculcate in the student a basic understanding of the epidemiology of oral disease, how it is measured and methods of control available for such disease processes. To help the student apply these concepts, this program will create an awareness of the effect of social and cultural learning upon the attitudes and practices relating to oral health and health in general. This will be further implemented by examining the communication process, emphasizing its importance in the relationships of the dentist to his patient, assistants, other health professionals, and the community.

## TEAM DENTISTRY

The School is the logical place where new patterns of practice will be tried and eventually adopted by practitioners. Team dentistry implies the sharing of more duties with associated dental professionals, developing more and different kinds of people who can relieve the dentist of some of his present duties, and requires a new kind of physical arrangement of the clinics to permit maximum development of this scheme. The dental student will be exposed to the team approach throughout his training period. This exposure will range from practicing with a minimum of one assistant to working in a unit with dental specialists, technicians, hygienists, and dental assistants. The team program implies the obligation to increase the numbers and duties of dental auxiliaries. One major phase of this program is to promote and teach comprehensive oral health care for our pediatric and adult patients.

## INTEGRATION WITH OTHER HEALTH SCIENCES

The existing relationships with the basic sciences and clinical divisions of the Medical School can be strengthened by joint curriculum programs, cooperative clinical experience, and a combined approach in certain research programs. The previously mentioned preventive dentistry program implies a closer relationship with the School of Public Health. The Hospital and Clinic Directors' reports indicated the direction of a better integrated oral health program with the medical clinics and the Hospital.

## GREATER BIOLOGICAL ORIENTATION

This involves a shift in curriculum with more in-depth basic science courses, such as in neuroanatomy. The dentist must be increasingly concerned with and knowledgeable about the patient's general health and how oral health care will both affect and be affected by the patient's physical condition. This kind of training will allow the dentist to practice comprehensive oral health care. In a sense, the dentist would be a specialist of the oral cavity with the same kind of background and depth of training of the physician.

## DEVELOPMENT OF A NEW SECTION OF ORAL BIOLOGY

This is necessary to organize and coordinate interdisciplinary research and so establish a "critical mass" of people who will reinforce one another's research, as well as provide a further resource for dental research training. The section would bring together teachers and researchers whose specialized areas have common ground but differ in acknowledged core goals. The research program of this section will be sufficiently comprehensive to participate effectively in research and training beyond that identified strictly with clinical or applied dental problems. Once the program is soundly established and adequately staffed, we propose to offer graduate degrees in oral biology (dentistry, stomatology) at the M.S. and Ph.D. levels. Certainly, the biology of the oral tissues constitutes a distinct body of knowledge and research needs equal to several other more traditional Ph.D. majors.

## HOSPITAL PROGRAM IN DENTISTRY

This program is described in a section of the Hospital Report.

## CONTINUATION EDUCATION

This program, described in the Preliminary Report, recognizes the School's obligation to ensure the continuing effectiveness of the practicing dentist and offer several new patterns of communication with the practitioner.

## GRADUATE EDUCATION

This program was also described in some detail in the Preliminary Report. To provide high quality graduate level training for careers in research, dental education, and specialty practice, the programs will have to be greatly expanded in terms of space, personnel, and school priority.

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

SUMMARY OF EXISTING AND PROJECTED FACULTY AND SPACE

| Item | Existing | 1973 | 1986 |
|---|---|---|---|
| University Budgeted Full Time Faculty | 33.0 | 102.5 | 128.5 |
| University Budgeted Part Time Faculty in Full Time Equivalents | 28.7 | 48.0 | 70.5 |
| Net Square Feet Space | *67,397 | #313,588 | #417,424 |

* Excludes 10,615 square feet of centrally assigned classrooms. Also, this figure would not coincide with total shown in Hamilton Associates' analysis since we are including space in biochemistry, physiology and some shared clinical space.

# Includes Classroom space.

# UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

## EXISTING AND PROJECTED FACULTY AND STAFF

| PROGRAMS and ACTIVITIES | EXISTING 1966 | | | | | | | | | | PROJECTED 1973 | | | | | | | | | | PROJECTED 1986 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F-T FACULTY | | P-T FACULTY | | CIVIL SERVICE | | | | | | F-T FACULTY | | P-T FACULTY | | CIVIL SERVICE | | | | | | F-T FACULTY | | P-T FACULTY | | CIVIL SERVICE | | | | | |
| | TOTAL | UNIV. | TOTAL FTE | UNIV. FTE | TOTAL CLERICAL | UNIV. CLERICAL | TOTAL TECH. | UNIV. TECH. | TOTAL OTHER | UNIV. OTHER | TOTAL | UNIV. | TOTAL FTE | UNIV. FTE | TOTAL CLERICAL | UNIV. CLERICAL | TOTAL TECH. | UNIV. TECH. | TOTAL OTHER | UNIV. OTHER | TOTAL | UNIV. | TOTAL FTE | UNIV. FTE | TOTAL CLERICAL | UNIV. CLERICAL | TOTAL TECH | UNIV TECH | TOTAL OTHER | UNIV. OTHER |
| I. RESEARCH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANIMAL QUARTERS | — | — | — | — | — | — | 1 | — | | | — | — | — | — | — | — | 3 | — | — | — | — | — | — | — | — | — | 4 | — | — | — |
| BIOCHEMISTRY | 1 | — | — | — | 1 | — | 10 | — | — | — | 3 | 2 | — | — | 1 | 1 | 10 | 2 | — | — | 4 | 2 | — | — | 2 | 1 | 12 | 2 | — | — |
| BIOMATERIALS | — | — | — | — | — | — | — | — | — | — | 2 | 1 | — | — | 1 | 1 | 1 | 1 | — | — | 3 | 1 | — | — | 2 | 1 | 2 | 1 | — | — |
| GENETICS | 3 | 3 | — | — | — | — | — | — | — | — | 10 | 5 | — | — | 3 | 2 | 8 | 2 | 2 | 2 | 16 | 6 | — | — | 4 | 2 | 14 | 3 | 3 | 2 |
| MICROBIOLOGY | 2 | 1 | — | — | — | — | 6 | — | — | — | 4 | 3 | 1 | — | 1 | 1 | 20 | 4 | — | — | 7 | 4 | 1½ | — | 2 | 1 | 35 | 6 | — | — |
| ORAL BIOLOGY | — | — | — | — | — | — | — | — | — | — | 16 | 8 | — | — | 4 | 2 | 50 | 10 | — | — | 20 | 10 | — | — | 6 | 2 | 60 | 12 | — | — |
| ORAL PATHOLOGY | 3 | 3 | ½ | — | 1 | 1 | 2 | — | — | — | 5 | 3 | 1½ | 1 | 2 | 1 | 3 | 1 | — | — | 6 | 3 | 1½ | 1 | 2 | 1 | 4 | 2 | — | — |
| PHYSIOLOGY | 1 | — | — | — | 1 | — | 3 | — | — | — | 2 | 1 | | | 1 | — | 6 | 1 | — | — | 3 | 2 | — | — | 2 | 1 | 9 | 2 | — | — |
| PREVENTIVE DENTISTRY | 1 | 1 | 1 | 1 | — | — | ½ | — | — | — | 13 | 6 | — | — | 6 | 3 | 5 | 1 | — | — | 13 | 6 | — | — | 6 | 3 | 5 | 1 | — | — |
| TOTALS | 11 | 8 | 1½ | 1 | 3 | 1 | 22½ | — | — | — | 55 | 29 | 1½ | 1 | 19 | 11 | 106 | 22 | 2 | 2 | 72 | 34 | 3 | 1 | 26 | 12 | 145 | 29 | 3 | 2 |
| II CLINICAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CLEFT PALATE | — | — | ½ | ½ | 1 | 1 | — | — | — | — | 4 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | — | — | 5 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | — | — |
| GRADUATE STUDENT CLINIC FOR RESTORATIVE-PERIODONTICS | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | 1 | 2 | 2 | — | — | — | — | — | — | 1 | 1 | 2 | 2 | — | — |
| INTEGRATION CLINIC FOR FRESHMEN-SOPHOMORES | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | 2 | 4 | 3 | — | — | — | — | — | — | 2 | 2 | 6 | 4 | — | — |
| ORAL DIAGNOSIS | 2 | 2 | 1½ | 1½ | 3 | 3 | 3 | 3 | 2 | 2 | 9 | 7 | 2 | 2 | 5 | 5 | 10 | 8 | 3 | 2 | 14 | 10 | 2½ | 2½ | 7 | 6 | 12 | 10 | 3 | 2 |
| ORAL SURGERY | 1 | 1 | 1½ | 1½ | 1 | — | 2 | 2 | — | — | 3 | 3 | 4 | 4 | 2 | 2 | 4 | 4 | — | — | 4 | 3 | 8 | 8 | 3 | 3 | 6 | 5 | — | — |
| ORTHODONTICS | 2 | 2 | 1½ | 1½ | 1 | 1 | 1 | — | — | — | 6 | 5 | 3 | 3 | 6 | 5 | 4 | 3 | — | — | 10 | 8 | 4 | 4 | 8 | 6 | 5 | 3 | — | — |
| PEDODONTICS | 2 | 2 | 2 | 2 | 1 | 1 | — | — | — | — | 12 | 7 | 6 | 4 | 6 | 5 | 10 | 8 | — | — | 16 | 9 | 8 | 8 | 8 | 6 | 12 | 9 | — | — |
| PERIODONTICS | 3 | 3 | 3 | 3 | — | — | 2 | — | 2 | — | 6 | 4 | 6 | 6 | 3 | 2 | 6 | 3 | — | — | 9 | 6 | 10 | 8 | 5 | 4 | 10 | 5 | — | — |
| POSTGRADUATE CLINIC | — | — | — | — | — | — | — | — | — | — | 1 | ½ | — | — | 2 | 2 | — | — | — | — | 1 | ½ | — | — | 2 | 2 | — | — | — | — |
| RESTORATIVE DENTISTRY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. CROWN AND BRIDGE | 3 | 3 | 4 | 4 | 1 | 1 | 1 | 1 | — | — | 5 | 5 | 7 | 7 | 2 | 2 | 4 | 4 | — | — | 8 | 7 | 8 | 8 | 2 | 2 | 7 | 6 | — | — |
| 2 OPERATIVE-ENDODONTICS | 4 | 4 | 7 | 7 | 2 | 2 | 11 | — | — | — | 10 | 9 | 12 | 10 | 5 | 3 | 8 | 6 | — | — | 15 | 12 | 15 | 13 | 7 | 5 | 11 | 9 | — | — |
| 3. PROSTHODONTICS | 2 | 2 | 3½ | 3½ | 1 | 1 | 2 | 2 | — | — | 6 | 5 | 7 | 7 | 4 | 4 | 4 | 4 | — | — | 11 | 9 | 14 | 12 | 6 | 5 | 6 | 5 | — | — |
| TOTALS | 19 | 19 | 24½ | 24½ | 11 | 10 | 22 | 8 | 4 | 2 | 62 | 47½ | 48 | 44 | 40 | 35 | 58 | 47 | 3 | 2 | 93 | 66½ | 71½ | 65½ | 53 | 44 | 80 | 60 | 3 | 2 |
| III PRECLINICAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ORAL ANATOMY AND HISTOLOGY | 1 | 1 | 2 | 2 | — | — | 1 | 1 | — | — | 1 | 1 | 3 | 3 | 1 | 1 | 2 | 2 | — | — | 1 | 1 | 4 | 4 | 1 | 1 | 3 | 3 | — | — |

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

EXISTING AND PROJECTED FACULTY AND STAFF

| PROGRAMS AND ACTIVITIES | EXISTING - 1966 | | | | | | | | | | PROJECTED - 1973 | | | | | | | | | | PROJECTED - 1986 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F-T FACULTY | | P-T FACULTY | | CIVIL SERVICE | | | | | | F-T FACULTY | | P-T FACULTY | | CIVIL SERVICE | | | | | | F-T FACULTY | | P-T FACULTY | | CIVIL SERVICE | | | | | |
| | TOTAL | UNIV. | TOTAL FTE | UNIV. FTE | TOTAL CLERICAL | UNIV. CLERICAL | TOTAL TECH. | UNIV. TECH. | TOTAL OTHER | UNIV. OTHER | TOTAL | UNIV. | TOTAL FTE | UNIV. FTE | TOTAL CLERICAL | UNIV. CLERICAL | TOTAL TECH. | UNIV. TECH. | TOTAL OTHER | UNIV. OTHER | TOTAL | UNIV. | TOTAL FTE | UNIV. FTE | TOTAL CLERICAL | UNIV. CLERICAL | TOTAL TECH | UNIV. TECH | TOTAL OTHER | UNIV. OTHER |
| * DENTAL HYGIENE + DENTAL ASSISTING | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DENTAL HYGIENE | 2 | 2 | 1/5 | 1/5 | — | — | — | — | — | — | 4 | 4 | — | — | 2 | 2 | 1 | 1 | — | — | 6 | 5 | — | — | 2 | 2 | 2 | 2 | — | — |
| DENTAL ASSISTING | 1 | 1 | — | — | — | — | 6 | 6 | — | — | 2 | 2 | — | — | 2 | 2 | 10 | 8 | — | — | 3 | 2 | — | — | 2 | 2 | 15 | 10 | — | — |
| TOTALS | 3 | 3 | 1/5 | 1/5 | — | — | 6 | 6 | — | — | 6 | 6 | — | — | 4 | 4 | 11 | 9 | — | — | 9 | 7 | — | — | 4 | 4 | 17 | 12 | — | — |
| V HOSPITAL PROGRAM | 1 | 1 | — | — | 1 | — | 1 | — | — | — | 14 | 14 | — | — | 9 | 3 | 26 | 13 | — | — | 14 | 14 | — | — | 9 | 3 | 26 | 13 | — | — |
| VI MISCELLANEOUS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ADMINISTRATION | 1 | 1 | 1/2 | 1/2 | 5 | 4 | — | — | — | — | 5 | 5 | — | — | 7 | 7 | — | — | — | — | 6 | 6 | — | — | 8 | 8 | — | — | — | — |
| BUSINESS OFFICE | — | — | — | — | 4 | 4 | — | — | — | — | — | — | — | — | 7 | 7 | — | — | — | — | — | — | — | — | 9 | 9 | — | — | — | — |
| CAFETERIA-LOUNGE | — | — | — | — | — | — | — | — | — | — | — | — | — | — | ? | ? | ? | ? | ? | ? | — | — | — | — | ? | ? | ? | ? | ? | ? |
| DATA COLLECTION AND TRANSCRIPTION FOR CLINICS | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6 | 6 | 1 | 1 | — | — | — | — | — | — | 8 | 8 | 1 | 1 | — | — |
| PHOTOGRAPHY-TELEVISION | — | — | — | — | — | — | 4 | 3 | — | — | — | — | — | — | 1 | 1 | 5 | 4 | — | — | — | — | — | — | 1 | 1 | 6 | 5 | — | — |
| READING ROOM | — | — | — | — | 1 | 1 | — | — | — | — | — | — | — | — | 1 | 1 | — | — | — | — | — | — | — | — | 2 | 2 | — | — | — | — |
| TOTALS | 1 | 1 | 1/2 | 1/2 | 10 | 9 | 4 | 3 | — | — | 5 | 5 | — | — | 22 | 22 | 6 | 5 | — | — | 6 | 6 | — | — | 28 | 28 | 7 | 6 | — | — |
| SUMMARY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RESEARCH | 11 | 8 | 1 1/2 | 1 | 3 | 1 | 22 1/2 | — | — | — | 55 | 29 | 1 1/2 | 1 | 19 | 11 | 106 | 22 | 2 | 2 | 72 | 34 | 3 | 1 | 26 | 12 | 145 | 29 | 3 | 2 |
| CLINICAL | 19 | 19 | 24 1/2 | 24 1/2 | 11 | 10 | 22 | 8 | 4 | 2 | 62 | 47 1/2 | 48 | 44 | 40 | 35 | 58 | 47 | 3 | 2 | 93 | 66 1/2 | 71 1/2 | 65 1/2 | 53 | 44 | 80 | 60 | 3 | 2 |
| * PRE CLINICAL | 1 | 1 | 2 | 2 | — | — | 1 | 1 | — | — | 1 | 1 | 3 | 3 | 1 | 1 | 2 | 2 | — | — | 1 | 1 | 4 | 4 | 1 | 1 | 3 | 3 | — | — |
| DENTAL HYGIENE AND DENTAL ASSISTING | 3 | 3 | 1/5 | 1/5 | — | — | 6 | 6 | — | — | 6 | 6 | — | — | 4 | 4 | 11 | 9 | — | — | 9 | 7 | — | — | 4 | 4 | 17 | 12 | — | — |
| HOSPITAL PROGRAM | 1 | 1 | — | — | 1 | — | 1 | — | — | — | 14 | 14 | — | — | 9 | 3 | 26 | 13 | — | — | 14 | 14 | — | — | 9 | 3 | 26 | 13 | — | — |
| MISCELLANEOUS | 1 | 1 | 1/2 | 1/2 | 10 | 9 | 4 | 3 | — | — | 5 | 5 | — | — | 22 | 22 | 6 | 5 | — | — | 6 | 6 | — | — | 28 | 28 | 7 | 6 | — | — |
| TOTALS | 36 | 33 | 28 7/10 | 28 7/10 | 25 | 20 | 56 1/2 | 18 | 4 | 2 | 143 | 102 1/2 | 52 1/2 | 48 | 95 | 76 | 209 | 98 | 5 | 5 | 195 | 128 1/2 | 78 1/2 | 70 1/2 | 121 | 92 | 278 | 123 | 6 | 4 |

* MOST OF FACULTY FOR THIS AREA WOULD COME FROM CLINICAL DISCIPLINES

FULL-TIME FACULTY WOULD BE PRIMARILY PROFESSORS, ASSOCIATE PROFESSORS AND ASSISTANT PROFESSORS ABOUT EQUALLY DIVIDED
A FEW RESEARCH ASSOCIATE AND ASSISTANT APPOINTMENTS ARE ANTICIPATED
PART-TIME FACULTY WOULD BE DIVIDED APPROXIMATELY AS: CLINICAL PROFESSOR (5%) CLINICAL ASSOCIATE PROFESSOR (20%)
CLINICAL ASSISTANT PROFESSOR (25%) CLINICAL INSTRUCTOR (50%)

EXPLANATION OF HEADINGS:
1. TOTAL - COMPLETE FACULTY OR CIVIL SERVICE NEEDS
2. UNIV. - REQUESTED SUPPORT FROM UNIVERSITY FUNDS
3. FTE - FULL TIME EQUIVALENTS
4. TECH. - TECHNICAL
5. OTHER - NON TECHNICAL POSITIONS REQUIRING NO SPECIAL TRAINING
6. F-T FULL TIME
7. P-T PART TIME

# UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

## EXISTING AND PROJECTED SPACE

| PROGRAMS AND ACTIVITIES | NET SQUARE FEET EXISTING | NOW NEEDED | 1973 NEED | 1986 NEED |
|---|---|---|---|---|
| I RESEARCH | | | | |
| ANIMAL QUARTERS | 1 121 | 2 030 | 11 560 | 14 520 |
| BIOCHEMISTRY | 3 000 | 4 120 | 6 050 | 6 850 |
| BIOMATERIALS | 622 | 1 200 | 1 940 | 2 250 |
| GENETICS | 3 155 | 3 631 | 7 249 | 10 944 |
| MICROBIOLOGY | 1 450 | 2 950 | 7 430 | 10 100 |
| ORAL BIOLOGY | — | 4 500 | 10 000 | 20 000 |
| ORAL PATHOLOGY | 950 | 3 110 | 3 410 | 4 000 |
| * PHYSIOLOGY | 2 863 | 5 160 | 8 650 | 12 270 |
| PREVENTIVE DENTISTRY | 260 | 600 | 8 239 | 8 239 |
| RESEARCH TRAINING | 3 545 | 4 920 | 17 500 | 24 000 |
| TOTALS | #16 966 | 32 221 | 82 028 | 113 173 |
| II CLINICAL | | | | |
| CLEFT PALATE | 314 | 1 000 | 3 550 | 3 550 |
| GRADUATE STUDENT CLINIC FOR RESTORATIVE-PERIODONTICS | — | 2 000 | 6 000 | 8 000 |
| INTEGRATION CLINIC FOR FRESHMEN-SOPHOMORES | — | 4 500 | 6 000 | 8 000 |
| ORAL DIAGNOSIS | 3 707 | 6 912 | 12 270 | 17 274 |
| ORAL SURGERY | 1 666 | 4 421 | 6 540 | 8 760 |
| ORTHODONTICS | 2 735 | 6 465 | 12 000 | 18 225 |
| PEDODONTICS | 1 506 | 3 000 | 18 000 | 22 700 |
| POSTGRADUATE CLINIC | — | 2 000 | 4 000 | 6 000 |
| RESTORATIVE-PERIODONTICS | 18 356 | 41 200 | 75 810 | 98 950 |
| DENTAL HYGIENE MULTI-PURPOSE CLINICS AND ASSOCIATED FACILITIES | | | | |
| TOTALS | # 28 284 | 71 498 | 144 170 | 191 489 |
| III PRECLINICAL FACILITIES FOR FRESHMEN AND SOPHOMORES | 12 638 | 16 000 | 24 434 | 31 680 |

* INCLUDES PERIODONTICS, ORAL PHYSIOLOGY AND GENERAL PHYSIOLOGY

\# TOTALS WILL NOT COINCIDE WITH HAMILTON+ASSOCIATES' ANALYSIS PRIMARILY BECAUSE SPACE INDICATED HERE FOR BIOCHEMISTRY AND GENERAL PHYSIOLOGY NOT INCLUDED BY HAMILTON AND ASSOCIATES. ALSO SOME SHARED FACILITIES INCLUDED.

| PROGRAMS AND ACTIVITIES | NET SQUARE FEET EXISTING | NOW NEEDED | 1973 NEED | 1986 NEED |
|---|---|---|---|---|
| IV DENTAL HYGIENE AND DENTAL ASSISTANT FACILITIES | 2 111 | 5 304 | 15 000 | 20 000 |
| V HOSPITAL PROGRAM | 487 | 3 966 | 20 564 | 18 958 |
| INACTIVATION OF MAYO COMPLEX WILL BE COORDINATED WITH TRANSFER OF REMAINING PATIENTS TO NEW HEALTH SCIENCE CENTER. ∴ 1986 NEED LESS THAN 1973 | | | | |
| VI MISCELLANEOUS | | | | |
| ADMINISTRATION (DEAN'S OFFICE) | 1 660 | 2 360 | 3 210 | 3 610 |
| BUSINESS OFFICE | 185 | 600 | 1 200 | 1 500 |
| CAFETERIA LOUNGE | — | 5 000 | 10 000 | 12 000 |
| CIVIL SERVICE MEN'S LOCKERS AND LOUNGE | — | 200 | 400 | 500 |
| CIVIL SERVICE WOMENS LOCKERS AND LOUNGE | 251 | 500 | 700 | 800 |
| DATA COLLECTION AND TRANSCRIPTION FOR CLINICS | — | 300 | 600 | 700 |
| LECTURE ROOMS | SHARED | — | 16 000 | 20 500 |
| LOCKER ROOMS - JUNIORS AND SENIORS | 1 698 | 3 000 | 4 500 | 6 000 |
| LOCKER ROOM FOR MEN FACULTY | 473 | 600 | 806 | 1 000 |
| LOCKER ROOM FOR WOMEN FACULTY | — | 100 | 200 | 300 |
| LOUNGE FOR FACULTY | — | 400 | 600 | 800 |
| PHOTOGRAPHY-TELEVISION | 1 657 | 3 066 | 3 346 | 4072 |
| READING ROOM | 1 089 | 1 089 | 2 000 | 3 000 |
| SEMINAR ROOMS - GENERAL PURPOSE | 285 | 1 000 | 2 400 | 3 600 |
| SPECIAL GRADUATE STUDY AREA | — | — | 500 | 700 |
| STORAGE | 100 | 1 000 | 1 500 | 2 000 |
| TOTALS | 7 398 | 19 215 | 47 956 | 61 082 |
| SUMMARY | | | | |
| RESEARCH | 16 966 | 32 221 | 82 028 | 113 173 |
| CLINICAL | 28 284 | 71 498 | 144 170 | 191 489 |
| PRECLINICAL | 12 638 | 16 000 | 24 434 | 31 650 |
| DENTAL HYGIENE AND DENTAL ASSISTING | 2 111 | 5 304 | 15 000 | 20 000 |
| MISCELLANEOUS | 7 398 | 19 215 | 47 956 | 61 082 |
| SCHOOL OF DENTISTRY TOTALS | *67 397 | 144 238 | 313 588 | 417 424 |
| HOSPITAL PROGRAM | 457 | 3 966 | 20 564 | 18 958 |

* EXCLUDES LECTURE ROOM SPACE. 1973 AND 1986 PROJECTIONS INCLUDE SPACE FOR LECTURE ROOMS

# JUSTIFICATION OF SPACE, FACULTY, AND STAFF NEEDS

Owre Hall was built in 1932 for a three-year undergraduate dental program. Virtually no space was provided for research, graduate education, auxiliary programs, or continuation education. While additional space has been created since that time, the present facilities are inadequate for current programs and grossly inadequate for projected needs for the future.

The estimates of needed space and staff for the next two decades reflect our desire to provide for the expected marked increases in enrollment in our teaching programs. However, dentistry as a discipline is undergoing a fundamental change from the more technical to the biological. It must be emphasized in this planning that we will train a new type of dental health professional for the challenging role of the future in providing and directing oral health care for the public. This plan requires considerably more space and improved student-teacher ratios than our present system and is mandatory in facing our responsibility of providing wide spread quality service.

The space needs based on enrollment increases were projected for an entering freshman dental class of 150 students in 1973 and 200 students in 1986. In addition, marked enrollment increases in graduate education, auxiliary programs and continuation education are an integral part of developing the dental health professional of tomorrow. The Dentistry Building Subcommittee has adhered in its space projections to the guidelines set forth by the Learn Committee, but we consider it unwise to build teaching laboratories, clinics and classrooms for 150 students if an increase to 200 students is expected by 1986. It is our judgment that it is extremely difficult to expand these facilities. THEREFORE, IT IS OUR RECOMMENDATION THAT SERIOUS CONSIDERATION BE GIVEN TO PLANNING THE TEACHING AREAS FOR THE GROWTH EXPECTED IN 20 YEARS RATHER THAN IN 7 YEARS.

The following statements substantiate our space, faculty, and staff needs.

1. The teaching of comprehensive oral health care requires additional faculty and space. A patient oriented concept is best implemented in a multipurpose clinic where virtually all dental services can be rendered by the student at one station. Faculty representing most clinical disciplines must be available for consultation and instruction. While the multipurpose clinics require more space and faculty than the discipline oriented clinics, the teaching and practice of oral health care can be exercised more efficiently and more flexibility is available. Many details of this program will be managed by data processing providing increased control but requiring additional personnel.

2. Team dentistry in a teaching environment demands sufficient space for the dental students to work effectively with auxiliary personnel. The multipurpose clinics proposed for this program will allow the dental students to operate with a single assistant or to guide and direct dental services rendered by dental hygienists, assistants, and technicians. This system involves more students, results in more services rendered, and requires more faculty and civil service personnel.

Further, we will need more faculty and technical people to train increased numbers of auxiliary personnel as an integral part of teaching team dentistry to the dental students. Experimental programs in extending clinical duties to auxiliaries will demand generous faculty and staff time. Certainly, the expanded role of auxiliary personnel is essential in increasing dental services available to the public.

3. Our projections include major increases in space and staff to permit new and expanded programs in pediatric dentistry. At this time, 56 million persons in the country are under 13 years of age. This figure is expected to rise to over 80 million by 1986. Besides the expanding population, increased utilization of dental services can be anticipated because of public dental health education, third party payments, and social legislation. This is particularly true for the child population as evidenced by the implications of Tital XIX of the Social Security Act of 1965 and other existing and proposed federal legislation to provide health services for children.

We intend to structure our pediatric dentistry program on patient needs and to teach the students coordinated, comprehensive care. In addition to requiring faculty to teach routine dental care for the children, specialists in pediatrics, speech, psychology, orthodontics, preventive and public health dentistry, and oral biology will be needed to insure the development and success of this essential program.

4. The preventive dentistry program will be a major effort. The faculty and staff need to be adequate to permit diversified teaching and research in the epidemiological, psychological, sociological and public health aspects of human disease with emphasis on oral disease. The program will include field investigations and programs in several associated teaching hospitals. Over 8000 square feet of space has been requested. One major item is a space request for clinical research facilities. Since periodontal disease is one of the two major causes of tooth loss, the teaching and research program in periodontics needs marked increased space and staff to permit expansion of this vital aspect of our preventive dentistry program.

5. We are requesting increased space and staff to permit expansion of our cleft palate-maxillo facial clinic so it may better serve as a statewide or regional center for consultation, service, and research in this general field. This clinic and the diversified consultative and school staff represent a clear example of what can be achieved by an integrated, cooperative effort by various health science disciplines.

6. Our research and research training programs are active, productive and growing rapidly. Yet we have started from such a low base that there is the opportunity and responsibility to considerably expand these activities. We have projected a 5 times increase in research space and a 3-1/2 fold increase in budgeted research faculty for 1973 compared to our existing situation. New research programs being developed in genetics, oral biology, biomaterials, oral physiology, and preventive dentistry will require adequate support. We consider it our responsibility to provide opportunities by 1973 to train 3-1/2 times as many research investigators, dental educators, and clinical specialists than we are currently training.

7. The hospital program will be expanded and made more diversified. The clinical and associated facilities will be in the hospital, but faculty needs have been projected in this report since this support will be from the School of Dentistry budget rather than the hospital budget.

8. Space requests have been made for facilities which are now totally lacking or only minimally available. These very essential needs would include centralized business facilities; a data collection and transcription area for clinical services; lounge and locker areas for students, faculty and staff; seminar rooms; and faculty office space.

Space Projection Increases in Present Report
Compared to Tentative Estimates Made in March 1966

1. The space estimate requested in February-March, 1966 was at a time when study in depth of our needs had not been made. The Dentistry Building Subcommittee had just been formed and had not had the opportunity to do a thorough job. The committee and the administration of the School of Dentistry were assured that the March proposal was to be considered as a very tentative estimate.

2. Time did not permit nor were we sufficiently knowledgeable in space planning to judge the realism of all the projections submitted by the faculty. We have since discovered that certain previous projections were exceedingly low. For example, estimates for student locker space prepared by a faculty member were based on the existing square footage per locker and adding space to accommodate 150 entering dental students. A check of the existing areas showed that they were grossly inadequate. A comparison of our projection in March with the recommendation in the Dental School Planning* booklet revealed that we underestimated three-fold. Similar but less gross conservative errors were made in estimating classroom space and some other facilities.

3. Since the March estimates, a special committee of our clinical faculty has worked out more thoroughly the space needs for our comprehensive care and team dentistry programs. The existing space used by periodontics and restorative disciplines for clinical teaching and office space is 18,356 square feet. The estimate of space needs for the new building is substantially greater than would be expected on the basis of current student loads as compared to anticipated student loads of the future because:

a. Our existing one room open and impersonal clinic is archaic and certainly not the best environment for clinical teaching. It is designed for specific discipline teaching in some areas making them unusable for other divisions. The proposed facilities would be in the form of 10 smaller clinics (for 1973) having 30 operatories with sufficient space for auxiliaries and maximum efficiency. The rooms would be divided with semi-partitions to provide visual separation for the patients but allowing overview by the instructors. An allowance of 100 square feet per operatory was made as compared to the 49 to 64 square feet in our existing clinics. These clinics will be multipurpose, posing no restrictions for any dental procedure. There would also be maximum facility for teaching comprehensive oral health care.

b. The individual clinics would be complete with radiographic facilities, demonstruction rooms, space for technicians and other auxiliaries, reception rooms, and work area for the teaching staff.

c. Ten such clinics providing 300 operatories for two classes of 150 each would require 62,000 square feet. Since dental students would not be assigned full time to these clinics, it is anticipated that sufficient space would be available for dental hygienists requiring operatories to render dental treatment.

d. The faculty and graduate student office spaces being requested for the restorative disciplines and periodontics totals 13,810 square feet giving a total need of 75,810 square feet by 1973.

*Dental School Planning, Public Health Service, Publication No. 940.

4. New divisional chairmen have been appointed for preventive dentistry and pediatric dentistry since last March. The Division of Preventive Dentistry is a newly created division and program in our school. Both of these chairmen submitted substantially greater needs than the previous estimates. Their proposals represent progressive, exciting programs for two of our essential operations.

5. The Dentistry Building Subcommittee and research personnel have had more time to assess the needs for research and research training. It was determined that the previous space request for animal quarters was limited to research and research training personnel in one phase of our total program. We are proposing that centralized animal quarters be provided for all faculty requirements. In our previous estimates, however, the needs for animal quarters for school wide research programs were not provided in the space projection for the centralized facility.

6. Planning consultants advise that one of the most common errors in health science planning is estimating insufficient space for graduate students, residents, and employees. Our Dentistry Building Subcommittee studied these needs carefully and adjusted our estimates where deemed necessary.

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

EXISTING AND PROJECTED STUDENT ENROLLMENT

| Category | Existing 1966 | | Projected 1973 | | Projected 1986 | |
|---|---|---|---|---|---|---|
| | Entering | Total | Entering | Total | Entering | Total |
| Undergraduate D.D.S. | 110 | 400 | 150 | 560 | 200 | 740 |
| Graduate Study and Advanced Clinical Training* | -- | 47 | -- | 163 | -- | 246 |
| University Hospital Program | | | | | | |
| Rotating Interns | -- | -- | -- | 8 | -- | 14 |
| Resident Dental Fellows | -- | -- | -- | 8 | -- | 14 |
| Dental Hygiene (2 year) | 50 | 81 | 150 | 290 | 200 | 360 |
| Dental Assisting (1 year) | 43 | 35 | 150 | 140 | 200 | 175 |
| Postgraduate # | -- | 6 | -- | 20 | -- | 35 |
| Continuation Education | -- | 495 | -- | 800 | -- | 1000 |

* In the future some students in this category would be seeking advanced clinical training but would not be registered in graduate school and would not be pursuing a graduate degree.

Totals in the undergraduate D.D.S., Dental Hygiene, and Dental Assisting programs reflect possible attrition.

# Non-degree programs less than one year in length.

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

CURRENT AND PROJECTED ENROLLMENT OF GRADUATE STUDENTS, RESIDENTS, AND INTERNS

| Discipline or Programs | Existing | | 1973 | | 1986 | |
|---|---|---|---|---|---|---|
| I. RESEARCH | | | | | | |
| Biochemistry | 2 | | 9 | | 12 | |
| Genetics | 1 | | 8 | | 12 | |
| Microbiology | 3 | | 16 | | 28 | |
| *Oral Biology | 9 | | 30 | | 40 | |
| Oral Pathology | 3 | | 6 | | 8 | |
| Physiology | 3 | | 6 | | 9 | |
| Preventive Dentistry | 0 | | 12 | | 18 | |
| Total | 21 | 21 | 87 | 87 | 127 | 127 |
| II. CLINICAL | | | | | | |
| Cleft Palate | 0 | | 2 | | 3 | |
| Crown and Bridge | 1 | | 4 | | 6 | |
| Operative-Endodontics | 2 | | 6 | | 8 | |
| Oral Diagnosis | 0 | | 5 | | 12 | |
| Oral Surgery | 7 | | 12 | | 16 | |
| Orthodontics | 12 | | 22 | | 38 | |
| Pedodontics | 0 | | 12 | | 16 | |
| Periodontics | 3 | | 8 | | 12 | |
| Prosthodontics | 1 | | 5 | | 8 | |
| Total | 26 | 26 | 76 | 76 | 119 | 119 |
| III. UNIVERSITY HOSPITALS PROGRAMS | | | | | | |
| Rotating Interns | 0 | | 8 | | 14 | |
| Resident Dental Fellows | 0 | | 8 | | 14 | |
| Total | 0 | 0 | 16 | 16 | 28 | 28 |
| Complete Totals | | 47 | | 179 | | 274 |

*New proposed program. Existing graduate students listed are in fields now which would come under the new program.

The preceding figures indicate the number of students in training. However, there is and will be crossover of groups I and II. Most of the Ph.D. research students will major in a basic science and minor in a special field of dentistry represented in group II. Many of the students in advanced clinical study will be pursuing the M.S.D. degree with a major in a special area of dentistry and a minor in a basic science or related field. THEREFORE, THE SPACE AND FACULTY MUST BE ADEQUATE TO SUPPORT VIRTUALLY TWICE THE NUMBERS PROJECTED ABOVE SINCE THE STUDENTS WILL BE WORKING CONCURRENTLY IN BOTH THE CLINICAL AND RESEARCH AREAS.

All of the above students will be involved in some phase of our teaching and research programs and should be compensated for services rendered. We are projecting that approximately 55% will be on research training stipends if federal funding continues. About 35% of the funds will be needed from University funds to provide sufficient support for teaching assistantships, dental fellowships, etc. Another 10% must be available to support interns and residents in associated teaching hospitals.

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

ANNUAL CURRENT AND PROJECTED PATIENT LOADS

| Discipline | Existing | | 1973 | | 1986 | |
|---|---|---|---|---|---|---|
| | No. Patients | No. Visits | No. Patients | No. Visits | No. Patients | No. Visits |
| Cleft Palate | 100 | 250 | 200 | 800 | 300 | 1,200 |
| Crown and Bridge | 800 | 8,800 | 1,300 | 14,300 | 1,800 | 19,800 |
| Dental Hygiene | 2,400 | 3,000 | 6,500 | 8,000 | 9,600 | 15,000 |
| Genetics | 50 | 100 | 250 | 500 | 350 | 700 |
| Operative-Endodontics | 8,000 | 33,000 | 11,000 | 44,000 | 16,000 | 64,000 |
| Oral Diagnosis | 4,000 | 4,000 | 6,500 | 6,500 | 9,000 | 9,000 |
| Oral Pathology | 600 | 1,200 | 900 | 1,800 | 1,200 | 2,400 |
| Oral Roentgenology | 6,250 | 6,250 | 9,000 | 9,000 | 11,000 | 11,000 |
| Oral Surgery | 2,550 | 5,800 | 3,750 | 8,550 | 5,000 | 11,500 |
| Orthodontics | 600 | 6,000 | 1,800 | 18,000 | 2,700 | 27,100 |
| Pedodontics | 1,900 | 5,500 | 9,000 | 18,000 | 15,000 | 30,000 |
| Periodontics | 1,000 | 8,000 | 1,500 | 9,600 | 2,000 | 14,000 |
| Preventive Dentistry | 200 | 300 | 2,500 | 10,000 | 3,300 | 12,000 |
| Prosthodontics | 1,500 | 19,000 | 2,250 | 27,000 | 3,000 | 36,000 |
| Totals | 29,950 | 101,200 | 56,450 | 176,050 | 80,250 | 253,700 |

These projections represent the best estimates we can provide at this time. Future patient loads will be dependent on many factors. Federal legislation, third party payments, and availability of ample parking for patients are three examples of influencing factors. We must have modern, efficient facilities and provide exemplary care if we expect to attract and retain sufficient numbers and kinds of patients to satisfy our teaching needs.

March 15, 1966

## SCHOOL OF DENTISTRY

Existing Net Square Feet By Type Of Function And Type Of Room

| | Faculty Offices | Staff and Graduate Student Offices | Clerical Offices | Research Labs and Workrooms | Teaching Labs and Workrooms | Classrooms Conf. Rooms Seminar Rooms | Animal Quarters | Toilets | Support-ing Service Rooms | Waiting Reception and Lobby | Locker Lounge | Storage | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Administration | | 878 | 1,194 | | | | | 87 | | 97 | | 238 | 2,494 |
| Teaching | 2,546 | | 274 | | 31,545 | 1,827 | | 410 | 3,340 | 2,735 | 3,910 | 1,474 | 48,061 |
| Research | 840 | 1,501 | | 8,163 | | 334 | 1,011 | | 699 | | | 87 | 12,635 |
| TOTAL | 3,386 | 2,379 | 1,468 | 8,163 | 31,545 | 2,161* | 1,011 | 497 | 4,039 | 2,832 | 3,910 | 1,799 | 63,190* |

Note: *Does not include 10,615 square feet Centrally Assigned Classrooms in Dental School-Basic Medical Science Area.

James A. Hamilton Associates

## V. F. HOSPITAL PROGRAM STATEMENT

Early in the long range planning, an evaluation was made of the long term use of the Mayo Complex. By Mayo complex we mean the 584 beds in the original Eliott Wing, the Eustis Childrens Wing, the Todd and Christiansen Wings, the beds in the outpatient wing, the beds in the old health service wings, the adult and child psychiatric beds and the approximately 120 beds in the 1954 Mayo Hospital addition. It is anticipated that the Variety Club Heart Hospital, the Rehabilitation Hospital and Masonic Memorial Hospital would continue to function in their present locations.

However, there are several problems connected with trying to use the Mayo complex beds for the long range future. It is agreed that the existing outpatient department is completely inadequate, thus a new facility has been planned for. Less conspicuous, but equally serious problems exist in the layout of nursing station units, nursing station control desks, future expansion of laboratory and radiology, space for pharmacy and central supply, pediatric in-patient accommodations, and operating room facilities. The existing units are now deficient in several respects and expansion possibilities are not possible. Therefore, many of the proposed future programs would be impossible to carry out because of physical limitations.

In addition, major overall systems are lacking. There is no good physical pattern for patients getting in and out of the hospital. There is no mechanical supply system. Transportation of goods and patients within the complex is cumbersome and expensive. There is no logical, efficient personnel traffic system within the complex. There is no mechanical communications system between the patients and the nurses.

Because of these existing inadequacies, and since we now have experience and evidence of better design of hospital units, it seemed logical and necessary to plan for the eventual replacement of the main university hospital complex at this time. With the construction of new facilities for the outpatient clinics, 276 new beds, and well planned space for supporting services, the following programs could be implemented.

1. The programs in the Clinic Directors Outpatient Planning Report could be implemented in a new outpatient facility. Of particular interest to the hospital are programs designed to provide larger areas for clinic units. With larger areas it would be possible to install automated systems for delivery of goods, patient appointments, recording of patient data, facilitating the students and medical staff in the arrangements for personal care, and provision of hospital associated health professionals who would have a more direct supportive role in the evaluation and health management plan for the individual patient.

Collectively, a well organized comprehensive ambulatory service could result in better utilization of in-patient facilities. Model teaching arrangements could have an influence on the eventual practice techniques and attitudes of the student. The clinics would be an area where experimentation in the delivery of care could be carefully measured and evaluated. The clinics represent a logical interface with the health agencies of the community and could serve as an extension of the health science programs in a cooperative arrangement with community health agencies.

The proposed plan to integrate activities with the dental clinics provides both an opportunity and a challenge. It is anticipated that dentistry could share such common diagnostic and treatment services as Radiology, Pathology, Clinical Laboratory and Pharmacy. It is also anticipated that certain administrative arrangements could be shared with the medical clinics, such as lobby entrance, registration, cashier's office and record keeping. There are also some possible relationships between specific clinics. Among these are:

a. Locating oral surgery near E.N.T., Plastic and General Surgery, which in turn could relate to maxillo-facial prosthodontics.

b. Locating Pedodontics near or with Pediatric clinic.

c. Locate oral pathology with neurology.

d. Locate Periodontics and Endodontics with Medicine.

2. Additional beds will allow for an urgent increase in such under-bedded services as Opthalmology, Otolaryngology, Orthopedics and University Health Service. In addition, the bed increase will allow for the introduction of new programs in Medicine, Surgery, and Dentistry. The total expansion of beds will be from 824 to 1008. This bed addition is not proportional to the increase in students. This means there must be greater use of non-University clinical resources.

3. In addition to the increased space for the outpatient program and inpatient services, space is provided for the development of hospital supporting services. Among these supporting services are:

a. A new operating room area, including recovery rooms and surgical pathology laboratory. These rooms would be larger than the existing rooms and would incorporate the many advances in operating room construction since the present 1950 design.

b. A new arrangement of floors, essentially stacked on one another instead of spread out, will allow the design of automatic transportation systems, improved traffic control patterns, construction of single rooms with a nurse communication system, and the design of nursing stations that more realistically serve the functions of what a nurse does.

c. Hospital Pharmacy has many exciting changes where it is becoming an integral part of the nursing floor patient care team interacting with other health professionals and less of a prescription filling shop tucked away in a corner of the basement. Pharmacists, Social Service Workers, Dietitians, Ward Managers, Nursing Service and Education Supervisors and Instructors and other health professionals would have offices near the nursing units and have much more interaction.

d. Medical Records needs to develop a rapid delivery system to high usage areas, such as the clinics. This would indicate the development of a mechanical distribution system. Operations research applied to the contents of the record may lead to a new definition of what a medical record is, why we keep it, and what is the most desirable form of access by the staff. A number of special registries and statistics could be converted to data processing machinery.

e. A major overall program, touching on all departments, is the development of an instant communication system internally to inform the staff of patient appointments and results of diagnostic tests and externally to inform the referring physician or agency of what has happened to the patient. A cooperative health plan for an individual patient is an exercise in futility without this successful communication.

f. The Clinical Laboratory and Radiology departments have outlined their space and program projections in another section. It should be noted here that much of the space for these projections will be located in the new teaching hospital.

g. Utilization of automatic data processing capabilities in comprehensive application to Hospitals' operations. An on-live patient accounting system providing
automatic pricing of room and board services,
automatic pricing of laboratory and x-ray services,
detailed itemization of each service performed for the patient,
automatic processing of all Blue Cross bills,
detailed itemized bills for transmittal to the patient automatically prepared,
census of all patients.

The automatic data processing in the patient accounting system will assist in revision of accounting systems . . . h. & f.

New systems could be developed to perform information processing in different areas:

a) collection of admission data

b) listing laboratory test requests and reporting laboratory test results

c) ordering, listing and charting medications

d) entering doctor's orders

e) reporting patient condition

f) forecasting staff needs of the patient care unit

g) scheduling appointments

h) performing clinical research on medical records

i) adapting data processing methods for medical records

j) developing mathematical procedures in research laboratories.

# UNIVERSITY OF MINNESOTA HOSPITALS

## Staff Projections

| | Existing, Budgeted Full Time Positions September, 1966 | 1973 |
|---|---|---|
| Administration | 116 | 145 |
| Blood Bank | 15 | 19 |
| Central Services and Supply | 37 | 46 |
| Child Psychiatry | 31 | 39 |
| Electrocariography | 6 | 8 |
| Electroencephalography | 5 | 6 |
| Food Service | 136 | 170 |
| Housekeeping | 209 | 261 |
| Hospital Laboratories | 106 | 133 |
| Interns | 39 | 49 |
| Maintenance And Operations | 38 | 48 |
| Masonic Hospital | 105 | 131 |
| Multiple Schlerosis Clinic | 10 | 13 |
| Outpatient Department | 83 | 104 |
| Pharmacy | 21 | 26 |
| Powell Hall | 26 | 33 |
| Professional Care Of Patients | 403 | 504 |
| Professional Care Of Patients - O.R. | 109 | 137 |
| Professional Care Of Patients Aux. | 205 | 232 |
| Psychopathic Hospital | 65 | 81 |
| Radiation Therapy | 16 | 20 |
| Rehabilitation Center | 67 | 84 |
| Social Service | 18 | 23 |
| Special Medical Services | 16 | 20 |
| Telephone And Telegraph | 12 | 15 |
| X-Ray Diagnosis | 60 | 75 |
| Medical Art and Photography | 11 | 14 |
| | 1,965 | 2,299 |

# UNIVERSITY OF MINNESOTA HOSPITALS

## Summary of Projected Space Needs 1973

| New Construction | | Net Square Feet | Gross Square Feet |
|---|---|---|---|
| A. | Hospital Beds | 70,240 | 108,800 |
| B. | General Support Areas | 26,600 | 48,400 |
| C. | Professional Care Departments | 94,900 | 173,000 |
| | Special Diagnostic<br>Emergency Room<br>Laboratory<br>Social Service<br>Medical Art & Photography<br>Physical Medicine<br>Radiology (Diagnostic)<br>Radiology (Therapeutic)<br>Operating Room<br>Surgical Pathology | | |
| D. | Support Departments | 40,700 | 74,100 |
| | Central Supply<br>Employee Facilities<br>Housekeeping<br>Public Toilets<br>Receiving<br>Storage<br>Pharmacy | | |
| E. | Mechanical Equipment | 44,000 | 86,000 |
| | | 276,440 | 490,300 |

# UNIVERSITY OF MINNESOTA HOSPITALS

## Summary of Existing Space By Department

| | Net Square Feet |
|---|---|
| Administration | 6,129 |
| Building Services | 7,545 |
| Business Office | 9,350 |
| Central Supply | 6,523 |
| Emergency Outpatient | 1,269 |
| Employee and Visitor Facilities | 17,578 |
| Employee Health Service | 324 |
| Housekeeping | 18,458 |
| Maintenance and Operations | 31,529 |
| Medical Art and Photography | 2,962 |
| Medical Records | 5,922 |
| Newborn Nurseries | 1,394 |
| Nursing Service Administration | 2,476 |
| Nursing Stations | 170,187 |
| Nutrition | 18,243 |
| OB Delivery Suite | 1,894 |
| Operating Room Areas | 16,184 |
| Outpatient Clinics | 25,439 |
| Personnel | 685 |
| Pharmacy | 4,164 |
| Post-Anesthesia Recovery | 918 |
| Residences and On-Call Quarters (in Powell Hall) | 73,137 |
| Rosemount Storage | 10,400 |
| Social Service | 2,041 |
| Special Services | 8,127 |
| Variety Club Heart Hospital Association | 2,368 |
| Total | 445,246 |

# SPACE AND STAFF REQUIREMENTS FOR THE DEPARTMENT OF DENTISTRY, UNIVERSITY OF MINNESOTA HOSPITALS, 1970-1980

By Dr. Severn Olsen, Chairman, Hospital Dentistry

1. The following space requirement projections are predicated upon the presumption that 270 hospital beds will be located in the new Health Science Center by 1970, and that the Mayo-Heart-Rehabilitation Hospital complex will continue to serve as a facility for patient care until 1980.

2. The professional staff and supporting personnel estimates are based upon an average population of 150 undergraduate dental students in each of two classes, 150 student dental hygienists, 150 student dental assistants, and 75 graduate students in the various clinical specialties of dentistry.

3. The University Hospitals Dental Service will include a comprehensive (in and out-patient) dental care clinic in the new Health Science Center, and an in-patient dental clinic in the Mayo complex. Clinical services in all disciplines of dentistry including maxillo-facial and cleft palate prosthetics will be offered.

4. Project floor space requirements* are:

| | | 1970 | 1980 |
|---|---|---|---|
| a. | Departmental Administration | 720 | 920 |
| b. | Comprehensive Care Clinic | 16,598 | 18,958 |
| c. | Mayo Complex Clinic | 3,966 | 0** |

5. Staff and personnel requirements for implementation of the anticipated educational, research, and service programs are:

---

* Square foot dimensions exclusive of corridors and mechanical service facilities - detailed schedule attached.

** Inactivation of the Mayo Complex Clinic will be coordinated with the transfer of the last remaining patients to the new Health Science Center. Emergency dental treatment will continue to be provided rehab or heart patients in a multi-purpose room within the Rehab Center or at bedside as indicated. Routine dental therapy after 1980 will be provided in the new comprehensive care clinic or in the OR suite.

a. Professional Staff

| | 1966 | 1970 | 1980*** |
|---|---|---|---|
| Chairman, Department of Dentistry, School of Dentistry | 1 | 1 | 1 |
| Vice-Chairman, Department of Dentistry, School of Dentistry, and Director, Univ. of Minnesota Hospitals Dental Clinics | 0 | 1 | 1 |
| Chief, Section on Oral Surgery | 1/3 | 1 | 1 |
| Attending Staff Oral Surgeon | 0 | 1 | 1 |
| Chief, Section on Periodontics | 0 | 1 | 1 |
| Attending Staff Periodontist | 0 | 1 | 1 |
| Chief, Section on Prosthodontics, and Director, Maxillo-Facial, Cleft Palate Program | 0 | 1 | 1 |
| Attending Staff Prosthodontist | 0 | 1 | 1 |
| Chief, Section on Pedodontics | 0 | 1 | 1 |
| Attending Staff Pedodontist | 1/10 | 1 | 1 |
| Chief, Section on Restorative Dentistry (operative and endodontics) | 0 | 1 | 1 |
| Attending Staff Operative Dentist | 0 | 1 | 1 |
| Chief, Section on Oral Diagnosis and Oral Medicine | 1/6 | 1 | 1 |
| Attending Staff Clinical Oral Pathologist or otherwise qualified oral diagnostician | 0 | 1**** | 1**** |
| | 1.6 | 14 | 14 |

Consultants on Orthodontics, Oral Pathology, Microbiology, Anatomy, Physiology, Pharmacology, Radiology, Anesthesiology, and other medical and/or basic science areas will be requested periodically, but no provision is included in this report.

*** Additional University of Minnesota Hospitals professional staff requirements are not anticipated in 1980 in that the staff serving the Mayo Complex Clinic may be reassigned to the Comprehensive Care Clinic at that time.

**** If the "Multiphasic Clinic" is adopted by or prior to 1970 and dental screening is included as a function of that clinic, one more oral diagnostician will be needed.

The staff of the Department of Dentistry, University of Minnesota Hospitals, should be either Board Certified or otherwise recognized as authorities in their particular dental specialties. The academic rank of this staff should be commensurate with the qualifications and experience of the individual appointees, and in accordance with existing School of Dentistry personnel policies. The following recommendations are offered for consideration:

(1) The Department Chairman and Vice Chairman as full professors. (2)

(2) The Section Chiefs as either associate or full professors. (6)

(3) The Attending Staff as either assistant or associate professors. (6)

b. Civil Service Staff (Clinical and Administrative)

| | 1966 | 1970 | 1980 |
|---|---|---|---|
| Dental Healty Coordinator (dental hygienist) | 0 | 2 | 2 |
| Registered Nurse (OR Assistant) | 0 | 3 | 3 |
| Clinical Dental Hygienist | 1 | 3 | 3 |
| Dental Assistant (Clinical) | 0 | 12 | 12 |
| Dental x-ray technician | 0 | 3 | 3 |
| Dental laboratory technician | 0 | 2 | 2 |
| Secretary, departmental administration | 1 | 1 | 1 |
| Secretary, Clinic administration | 0 | 1 | 1 |
| Receptionist, Clerk typist | 0 | 1 | 1 |
| Receptionist, Clerk filing | 0 | 2 | 2 |
| Clerk Typist, dictaphone transcriber | 0 | 4 | 4 |
| Data (key-punch) Operator | 0 | 1 | 1 |
| | 2 | 35 | 35 |

Additional civil service personnel requirements are not anticipated prior to 1980. However, if the hospital adopts the "Multiphasic Clinic" concept, and if dental screening is included as a routine diagnostic adjunct, two additional full time dental x-ray technicians and one additional receptionist-clerk typist will be needed. Position grades and salaries should be in conformity with positions of comparable responsibility in other areas of the School of Dentistry and the University Hospitals.

6. The foregoing space and staff projections are exclusive of affiliated hospital facilities and staff since no budget requirements are anticipated.

# ADDENDUM

## Space Requirements for the Department of Dentistry

## University of Minnesota Hospitals

(Revised August 1966)

| | | 1966 | 1970 | 1980 |
|---|---|---|---|---|
| 1. | Departmental Administration | 86 | 720 | 920 |
| 2. | Comprehensive Hospital Dental Clinic (In-Outpatient) | | | |
| | Faculty, Staff Offices | - | 3,250 | 4,000 |
| | Clerical Offices | - | 850 | 1,150 |
| | Research Laboratories | - | 1,000 | 1,360 |
| | Clinical Laboratories (technical service and diagnostic) | - | 700 | 900 |
| | Observation Classrooms (conference, seminar and reference) | - | 1,150 | 1,500 |
| | Diagnosis Rooms (including panographic, cephalometric, and regular dental x-ray facilities) | - | 1,040 | 1,040 |
| | Treatment Rooms | - | 4,320 | 4,320 |
| | Storage and Service Rooms | - | 560 | 760 |
| | Toilets and Showers | - | 572 | 572 |
| | Reception and Waiting | - | 1,500 | 1,500 |
| | Men's Locker and Lounge | - | 600 | 600 |
| | Women's Locker and Lounge | - | 336 | 336 |
| | Total (exclusive of corridors and mechanical service facilities) CHDC | 86 | 16,598 Sq. Ft. | 18,958 Sq. Ft. |
| | Hospital Bed Space (New Center) | | 10 | 20 |
| | Hospital OR Space (New Center) | | 2 OR | 3 OR |

| 3. Mayo Complex Clinic (In-Patient) | Listed | 1970 | 1980 |
|---|---|---|---|
| Faculty, Staff Offices | 0 | 660 | 0 |
| Clerical Offices | 0 | 360 | 0 |
| Research Laboratory | 0 | 360 | 0 |
| Clinical Laboratories | 0 | 120 | 0 |
| Observation Classrooms | 0 | 224 | 0 |
| Diagnosis Rooms (x-ray) | 49 | 220 | 0 |
| Treatment Rooms | 224 | 744 | 0 |
| Storage and Service Rooms | 0 | 292 | 0 |
| Toilets and Showers | 0 | 200 | 0 |
| Reception and Waiting | 128 | 250 | 0 |
| Men's Locker and Lounge | 0 | 336 | 0 |
| Women's Locker and Lounge | 0 | 200 | 0 |
| Total MCC | 401 | 3,966 | 0 |
| TOTAL - DEPARTMENT OF DENTISTRY - Floor Space Requirements | 487 | 20,564 | 18,958 |

# PROPOSED OUTPATIENT CLINIC SPACE

September, 1966

Detailed breakdown of this space will be furnished later. It is anticipated that there will be approximately five floors of outpatient space in the base of the hospital-clinic building. While other departments will use part of the floors, it is anticipated that the clinics will occupy approximately 20,000 net square feet per floor or perhaps 10 clinic areas of 10,000 square feet each.

Revised August 1, 1966

## OUT-PATIENT CLINICS

### Existing Net Square Feet By Clinic and By Type of Room

I. Clinical Departments

| Corridor Location | (Shared Space) | Faculty Offices | Clerical Offices | Research Labs | Service Labs | Classrooms Conf. Rooms Seminar Rms. | Animal Quarters | Toilets Showers | Service Rooms | Reception Waiting Control | Lockers Lounges | Storage | Treatment Exam Room Diag. Room | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mayo | | | | | | | | | | | | | | |
| D-3 | Proctology and OB-GYN | | | | | | | | | | | | 116 | 116 |
| D-2 | Surgery and Pediatrics | | | | | | | 28 | 96 | 227 | | 150 | 384 | 885 |
| D-3 | Dermatology, Neurosurgery and Pediatrics | | | | | 183 | | 21 | 170 | 232 | | | 420 | 1,026 |
| D-3 | OB-GYN and General Surgery | | | | | | | | 61 | 246 | | | 510 | 817 |
| No. Clinic A-3 | (Medicine, Gen. Surg., Peds, Neurosurgery, Neurology, OB-GYN, Orthopedics) | | 60 | | | 206 | | 55 | 388 | 1,224 | | 129 | 1,864 | 3,926 |
| Heart Hospital | (Medicine & Pediatrics) | | | | | | | 50 | 110 | 510 | | 82 | 1,236 | 1,988 |
| TOTAL SHARED | | | 60 | | | 389 | | 154 | 925 | 2,439 | | 361 | 4,530 | 8,758 |

II. Clinical Departments

(Exclusively Assigned Areas)

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mayo | | | | | | | | | | | | | | |
| D-3 | General Surgery | | 168 | | | | | | 93 | 224 | | | 761 | 1,246 |
| A-2 | Laboratory Medicine | | | | 669 | | | | | | | | | 669 |
| D-3 | Psychiatry-Neurology | 159 | 220 | | | 324 | | | | 462 | | | 1,494 | 2,659 |
| D-3 | Otolaryngology (and Audio Clinic) | 196 | 55 | | | | | | 72 | 370 | | | 1,565 | 2,258 |
| A-2 | *Comprehensive Clinic | 128 | 148 | | | | | | | | | 84 | | 360 |
| A-2 | Dermatology | 51 | | | | | | | | | | | | 51 |
| D-3 | Dental Clinic | | | | | | | | | 128 | | | 359 | 487 |
| D-3 | Ophthalmology | | | | | 180 | | | | 413 | | | 1,359 | 1,952 |
| D-2 | Pediatrics | 231 | | | | 148 | | 54 | | 854 | | 171 | 1,125 | 2,583 |
| D-2 | Medicine (New Patients) | 60 | | | | | | 38 | 210 | 364 | | | 531 | 1,203 |
| A-2 | Medical Specialties | 125 | | | | | | | 267 | 435 | | | 1,307 | 2,134 |
| EXCLUSIVE SPACE TOTAL | | 950 | 591 | | 669 | 652 | | 92 | 642 | 3,250 | | 255 | 8,501 | 15,602 |

*Project space needs will not appear in the Clinic Directors' Report, but in the Clinical Medicine Space Projections.

III. Supporting Hospital Departments

| Corridor Location | Hospital Departments | Faculty Offices | Clerical Offices | Research Labs | Service Labs | Classrooms Conf. Rooms Seminar Rms. | Animal Quarters | Toilets Showers | Service Room | Reception Waiting Control | Lockers Lounges | Storage | Treatment Exam Room Diag. Room | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mayo | | | | | | | | | | | | | | |
| A-2 | Steno Pool | | 56 | | | | | | | | | | | 56 |
| A-3 | Nursing Service | 120 | 70 | | | 71 | | | | | | | | 261 |
| A-3, A-2, D-2 | Social Service | 460 | | | | | | | | | | | | 460 |
| D-2 | Nutrition | 302 | — | — | — | — | — | — | — | — | — | — | — | 302 |
| | HOSPITAL DEPARTMENT TOTAL | 882 | 126 | | | 71 | | | | | | | | 1,079 |
| | GRAND TOTAL | | | | | | | | | | | | | 25,439 |

Prepared by:

JAMES A. HAMILTON ASSOCIATES, INC.

September 1, 1966

# HOSPITAL POWELL HALL AREAS

(To be assigned to the College of Medical Sciences, Fall 1966)

| Location | | Square Footage for Maintenance |
|---|---|---|
| Room 3321 | (Empty) | 202' |
| Room 3319 | (Dr. Fusaro) | 213' |
| Room 3313 | (Computer) | 213' |
| Room 3307 | (Lab. Aide) | 213' |
| Room 3305 | (Lab. Aide) | 213' |
| Room 3303 | (Dr. Branthaver) | 221' |
| Room 3302) | (Usable when Nursing | 116' |
| ) | Service Area is | |
| Room 3304) | Complete) | 122' |
| 3rd Floor Inner Corridor | | 519' |
| | | 2,032 sq. ft. |
| 1000 Corridor (Interns Quarters) | | 2,323 sq. ft. in 15 rooms |
| | | 684 sq. ft. in corridor |
| | Total = | 3,007 sq. ft. (for maintenance) |

# UNIVERSITY OF MINNESOTA HOSPITALS

## Summary of Bed Capacity By Service and By Building

| Clinical Service | Number of Beds by Building | | | |
|---|---|---|---|---|
| | Mayo | Heart | Masonic | Rehab. |
| Anesthesia | 4 | | | |
| Dermatology | 8 | | | |
| Dentistry | 1 | | | |
| Gynecology | 40 | | | |
| Intensive Care (Surgery) | 17 | | | |
| Isolation | 25 | | | |
| Medicine | 63 | 30 | 40 | |
| Neurology | 26 | | | |
| Neurosurgery | 24 | | | |
| Obstetrics | 20 | | | |
| Opthalmology | 24 | | | |
| Orthopedics | 24 | | | |
| Otolaryngology | 10 | | | |
| Pediatrics | 84* | 40 | | |
| Physical Medicine and Rehabilitation | | | | 40 |
| Psychiatry - Adult | 68 | | | |
| Psychiatry - Child | 20 | | | |
| Student Health | 30 | | | |
| Surgery | 73 | 10 | 40 | |
| Urology | 23 | | | |
| Unassigned | — | — | 40 | — |
| Bed Totals | 584* | 80 | 120 | 40 |

*Does not include 22 bassinets in Newborn Nursery.

| | |
|---|---|
| Bed Total - Mayo | 584 |
| Bed Total - Other Buildings | 240 |
| Total Capacity | 824 Beds and 22 Bassinets |

March 1, 1966

UNIVERSITY OF MINNESOTA HOSPITALS

Bed Distribution By Room Accommodations

| | Mayo | Variety | Masonic | Rehab. | Total |
|---|---|---|---|---|---|
| Single Rooms | 170 | 8 | 34 | | 212 |
| Two-Bed Rooms | 202 | 37 | 80 | 8 | 328 |
| Three-Bed Rooms | 54 | 18 | 6 | | 78 |
| Four-Bed Rooms | 128 | 16 | | 32 | 176 |
| Five-Bed Rooms | 15 | | | | 15 |
| Six-Bed Rooms | | | | | |
| Seven-Bed Rooms | 7 | | | | 7 |
| Eight-Bed Rooms | 8 | | | | 8 |
| Total Beds | 584 | 80 | 120 | 40 | 824 |

# SUMMARY OF EXISTING BEDS BY STATION, BY SERVICE, BY NET SQUARE FEET AND BY BUILDING

(170,187 Net Sq. Ft.)

. 1. Mayo Complex

| Station | Total Beds | Beds by Service | Square Feet Beds | Square Feet Other | Square Feet Total | Medicine Beds | Medicine Other | Dermatology Beds | Dermatology Other | Surgery Beds | Surgery Other | Dentistry Beds | Dentistry Other | Pediatrics Beds | Pediatrics Other | Otolaryngology Beds | Otolaryngology Other | Opthalmology Beds | Opthalmology Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 24 | 24-Ophthalmology | 2,583 | 1,694 | 4,277 | | | | | | | | | | | | | 2,583 | 1,694 |
| 22 | 27 | 27-Surgery | 3,013 | 2,412 | 5,425 | | | | | 3,013 | 2,412 | | | | | | | | |
| 30 | 18 | 18-Medicine | 2,785 | 962 | 3,747 | 2,785 | 962 | | | | | | | | | | | | |
| 31 | 30 | (8-Dermatology<br>(22-Medicine | 3,697 | 1,821 | 5,518 | 2,711 | 1,335 | 986 | 486 | | | | | | | | | | |
| 32 | 23 | 23-Medicine | 2,379 | 1,683 | 4,062 | 2,379 | 1,683 | | | | | | | | | | | | |
| 35 | 12 | 12-Pediatrics | 1,173 | 1,670 | 2,843 | | | | | | | | | 1,173 | 1,670 | | | | |
| 40 | 20 | ( 9-Surgery<br>(10-Otolaryngology<br>( 1-Dentistry | 2,580 | 1,010 | 3,590 | | | | | 1,161 | 454 | 129 | 50 | | | 1,290 | 505 | | |
| 41 | 23 | 23-Urology | 3,017 | 1,100 | 4,117 | | | | | 3,017 | 1,100 | | | | | | | | |
| 42 | 37 | 37-Surgery | 5,701 | 2,544 | 8,245 | | | | | 5,701 | 2,545 | | | | | | | | |
| 44 | 17 | 17-Surgery<br>(Intensive Care) | 1,869 | 969 | 2,838 | | | | | 1,869 | 969 | | | | | | | | |
| 45 | 21 | 21-Pediatrics | 1,767 | 1,216 | 2,983 | | | | | | | | | 1,767 | 1,216 | | | | |
| 46 | 9 | 9-Pediatrics | 385 | 320 | 705 | | | | | | | | | 385 | 320 | | | | |
| 47 | 24 | 24-Orthopedics | 3,833 | 1,773 | 5,606 | | | | | 3,833 | 1,773 | | | | | | | | |
| | | Sub-Total by Service | | | | 7,875 | 3,980 | 986 | 486 | (See Page 2) | | 129 | 50 | (See Page 2) | | 1,290 | 505 | 2,583 | 1,694 |
| | | Total by Service in Mayo | | | | 11,855 | | 1,472 | | | | 179 | | | | 1,795 | | 4,277 | |
| | | (Other Buildings - See Page 3) | | | | 14,667 | | | | | | | | | | | | | |
| | | | | | | 26,522 | | | | | | | | | | | | | |

1. Mayo Complex - Cont'd

| Station | Total Beds | Beds by Service | Square Feet Beds | Square Feet Other | Square Feet Total | Psychiatry Beds | Psychiatry Other | Surgery Beds | Surgery Other | Pediatrics Beds | Pediatrics Other | Isolation Beds | Isolation Other | Student Health Beds | Student Health Other | OB-GYN Beds | OB-GYN Other | Anesthesiology Beds | Anesthesiology Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 30 | 30-Student Health | 2,755 | 1,768 | 4,523 | | | | | | | | | 2,755 | 1,768 | | | | |
| 49 | 12 | ( 8-Isolation<br>( 4-Anesthesiology | 2,359 | 665 | 3,024 | | | | | | | 1,769 | 499 | | | | | 590 | 166 |
| 50 | 26 | 26-Neurology | 3,798 | 2,529 | 6,327 | 3,798 | 2,529 | | | | | | | | | | | | |
| 51 | 24 | 24-Neurosurgery | 2,662 | 1,499 | 4,161 | | | 2,662 | 1,499 | | | | | | | | | | |
| 52 | 17 | 17-Isolation | 3,291 | 978 | 4,269 | | | | | | | 3,291 | 978 | | | | | | |
| 55 | 26 | 26-Pediatrics | 1,609 | 1,506 | 3,115 | | | | | 1,609 | 1,506 | | | | | | | | |
| 56 | 18 | 18-Pediatrics | 585 | 704 | 1,289 | | | | | 585 | 704 | | | | | | | | |
| 57 | 40 | 40-Gynecology | 4,837 | 2,770 | 7,607 | | | | | | | | | | | 4,837 | 2,770 | | |
| 58 | 20 | 20-Obstetrics | 2,160 | 1,421 | 3,581 | | | | | | | | | | | 2,160 | 1,421 | | |
| 60 | 20 | 20-Psychiatry | 3,305 | 2,635 | 5,940 | 3,305 | 2,635 | | | | | | | | | | | | |
| 61 | 30 | 30-Psychiatry | 2,227 | 5,012 | 7,239 | 2,227 | 5,012 | | | | | | | | | | | | |
| 62 | 18 | 18-Psychiatry | 1,653 | 1,554 | 3,207 | 1,653 | 1,554 | | | | | | | | | | | | |
| 64 | 20 | 20-Psychiatry (Child) | 1,317 | 5,512 | 6,829 | 1,317 | 5,512 | | | | | | | | | | | | |
| Total Beds | 586 | Sub-Total by Service | | | | 12,300 | 17,242 | 21,256 | -10,752 | 5,519 | 5,416 | 5,060 | - 1,477 | 2,755 | 1,768 | 6,997 | 4,191 | 590 | 166 |
| | | Total by Service in Mayo | | | | 29,542 | | 32,008 | | 10,935 | | 6,537 | | 4,523 | | 11,188 | | 756 | |
| | | (Other Buildings - See Page 3) | | | | | | 10,217 | | 7,079 | | | | | | | | | |
| | | TOTAL IN MAYO | 67,340 | 47,727 | 115,067 | | | 42,225 | | 18,014 | | | | | | | | | |

II. Other Buildings

| | Total Beds | Beds by Service | Square Feet Beds | Square Feet Other | Square Feet Total | Medicine Beds | Medicine Other | Surgery Beds | Surgery Other | Pediatrics Beds | Pediatrics Other | Physical Medicine and Rehabilitation Beds | Physical Medicine and Rehabilitation Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Masonic I | 30 | 30-Medicine | 4,248 | 1,752 | 6,000 | 4,248 | 1,752 | | | | | | |
| Masonic II | 50 | (40-Surgery (10-Medicine | 6,985 | 2,230 | 9,215 | 1,097 | 446 | 5,888 | 1,784 | | | | |
| Masonic III | 40 | Unassigned | 7,862 | 1,375 | 9,237 | Unassigned | | Unassigned | | | | | |
| Total Masonic | | | 19,095 | 5,357 | 24,452 | 5,345 | 2,198 | 5,888 | 1,784 | | | | |
| Rehab 4 | 20 | 20-Rehab | 3,171 | 3,738 | 6,909 | | | | | | | 3,171 | 3,738 |
| Rehab 5 | 20 | 20-Rehab | 3,171 | 3,840 | 7,011 | | | | | | | 3,171 | 3,840 |
| Total Rehab | | | 6,342 | 7,578 | 13,920 | | | | | | | 6,342 | 7,578 |
| Heart Hospital 201 | 38 | (28-Medicine (10-Surgery | 3,986 | 5,683 | 9,669 | 2,937 | 4,187 | 1,049 | 1,496 | | | | |
| Heart Hospital 301 | 40 | 40-Pediatrics | 3,474 | 3,605 | 7,079 | | | | | 3,474 | 3,605 | | |
| Total Heart Hospital | | | 7,460 | 9,288 | 16,748 | 2,937 | 4,187 | 1,049 | 1,496 | 3,474 | 3,605 | | |
| Total by Service - Other Buildings | | | | | | 14,667 | | 10,217 | | 7,079 | | 13,920 | |
| Unassigned | | | | | | (9,237) | | | | | | | |
| SUB-TOTAL - OTHER BUILDINGS | | | 32,897 | 22,223 | 55,120 | | | | | | | | |
| (SUB-TOTAL - MAYO | | | 67,340 | 47,727 | 115,067) | | | | | | | | |
| TOTAL: MAYO AND OTHER BUILDINGS: | | | 100,237 | 69,950 | 170,187 | | | | | | | | |

Prepared by:

JAMES A. HAMILTON ASSOCIATES, INC.

Revised: August 1, 1966

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UNIVERSITY OF MINNESOTA HOSPITALS

SUMMARY OF EXISTING SURGICAL OPERATING SUITES

| Clinical Department | Operating Room Identification | Number of Operating Rooms | Operating Rooms Net Sq. Ft. | Operating Room Support Areas Net Sq. Ft. | Total Net Sq. Ft. |
|---|---|---|---|---|---|
| Mayo - 4th Floor | | | | | |
| Cardio-Vascular Surgery | J, M | 2 | 944 | 1,131 | 2,075 |
| General Surgery | E, F, H | 3 | 1,260 | 1,508 | 2,768 |
| Neurosurgery | I | 1 | 516 | 616 | 1,132 |
| Obstetrics-Gynecology | N | 1 | 366 | 431 | 797 |
| Ophthalmology | D | 1 | 296 | 354 | 650 |
| Orthopedics | L | 2 | 812 | 970 | 1,782 |
| Otolaryngology | B, C | 2 | 558 | 670 | 1,228 |
| Radiology, Diagnostic | A | 1 | 346 | 416 | 762 |
| Urology | G | 1 | 415 | 500 | 915 |
| Anesthesia | | (PAR) | 918 (PAR) | 1,101 | 2,019 |
| TOTAL 4th Floor | | 14 | 6,431 | 7,697 | 14,128 |
| Mayo - 5th Floor | | | | | |
| Urology | (Cysto Room) | 4 | 1,429 | 1,545 | 2,974 |
| Sub-Totals | | 18 | 7,860 | 9,242 | 17,102 |
| | | | | Less Post-Anesthesia Recovery Rooms | 918 |
| TOTAL - Surgical Operating Suites | | | | | 16,184 |

Prepared by:

James A. Hamilton Associates, Inc.

V. G. NURSING PROGRAM

In the face of rapid social change and the increasing demands, both quantitative and qualitative, which are being placed upon the nursing profession, the School of Nursing will increasingly have to differentiate the vocational, technical and professional components within its service and prepare people differently for these levels of functioning. In order to accomplish these objectives, the School of Nursing carries out the following programs:

1. Provides fundamental training and understanding for beginning nursing practice.

2. Examines the appropriate role and prepares nurses to function as an integral member of the entire health team.

3. Trains professionals at the graduate level to become expert practitioners in various specialties, as well as teachers, supervisors, administrators, and researchers.

4. Conducts graduate nursing education in public health (described in addendum to School of Nursing section of the Preliminary Report, pp. 107 - 110).

5. Conducts a research program in nursing which hopefully will develop to the extent that a Ph.D. may be offered in nursing.

At present the School of Nursing is not able to pursue these programs at an advantage, because of limited space and staff. The President's proposed increase of Nursing space from approximately 12,000 square feet to about 25,000 square feet, and a reasonable increase in the number of staff, will enable the School to carry out its program with greater effectiveness, while permitting an increase in the number of nurses graduated.

## SCHOOL OF NURSING

### Faculty and Staff Projections

| | Existing 1966 | Projections 1973 | Projections 1986 |
|---|---|---|---|
| Number of Faculty* at University of Minnesota Medical Center: | | | |
| Full-Time | 38 | 61 | 71 |
| Part-Time** | 2 | 6 | 10 |
| Number of offices needed for part-time faculty | 1 | 3 | 5 |
| Number of Faculty at Affiliated Hospitals: | | | |
| Full-Time | School of Nursing faculty are responsible for the instruction of students in whatever settings are used to provide learning experience. However, we do not have "affiliated hospitals" in the sense of the term as used by the Medical School. | | |
| Part-Time** | | | |
| Number of Teaching Assistants: | | | |
| Full-Time | 0 | 0 | 8 |
| Part-Time** -- Not on budget, but space needed for graduate students preparing to teach | 8 | 32 | 39 |
| Number of offices needed for part-time personnel | 2 (with 4 in @) | 6 (with 5/6 in @) | 8 (with 5 in @) |
| Number of Research Associates and Assistants: | | | |
| Full-Time | 0 | 4 | 6 |
| Part-Time** | 0 | 0 | 4 |
| Number of offices needed for part-time personnel | 0 | 0 | 2 |
| Civil Service Staff: | | | |
| Number of clerical personnel | 7 | 11 | 15 |
| Number of offices needed for clerical personnel | 6 | 9 | 12 |
| Technical personnel | | | |
| Other (indicate type and number) Administrative Assistant | 1 | 1 | 1 |

* Note 1: Definition of Faculty: Professor, Associate Professor, Assistant Professor, or Instructor.

** Note 2: Includes individuals who have dual responsibility and are in your department only part of their time.

## SCHOOL OF NURSING

### Evaluation of Existing Space

| Type of Space | | Existing Now No. Rooms | Existing Now Net Sq. Ft. | Present Needs No. Rooms | Present Needs Net Sq. Ft. |
|---|---|---|---|---|---|
| Faculty Offices (20 single, 9 double, 2 for five each) | | 20 | 3,370 | 31 | 5,062 |
| Clerical Offices (incl. 1 secretarial work and machine room) | | 5 | 688 | 7 | 1,217 |
| Seminar/Conference Rooms (incl. 1 large room with dividers for 3 areas) | | 6 | 686 | 10 | 2,806 |
| Classrooms | | 5 | ? 2,717 | 10 | 8,687 |
| Demonstration Labs | | 3 | 2,498 | 4 | 4,998 |
| Storage | | 10 | 694 | 11 | 753 |
| Locker Rooms | | 2 | 472 | 3 | 1,726 |
| Dressing Rooms (and toilets in sufficient number) | | 3 | 315 | 3 | 710 |
| Lounges (with adjacent kitchen facilities) | | 1 | 267 | 2 | 1,869 |
| Study Rooms | M.H. 118? | 1 | 575 | 4 | 1,275 |
| Toilets | | 1 | 55 | 3 | 255 |
| Reception/Waiting | | ? 1 | 145 | 5 | 560 |
| TOTALS | | 58 | 12,482 | 93 | 29,918* |

*This does not include space for the existing LPN program.

February 20, 1966

## SCHOOL OF NURSING

Existing Net Square Feet By Function And By Type Of Room

| Primary Function | Faculty Offices | Clerical Offices | Seminar Conference Rooms | Classrooms | Demonstration Labs | Storage | Locker Rooms | Dressing Rooms With Toilets | Lounge | Study Room | Toilets | Reception Waiting | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Administration | 542 | 603 | 329 | | | 270 | | 116 | 267 | | 55 | 145 | 2,327 |
| Teaching | 2,748 | | 357 | 2,717 | 2,498 | 424 | 472 | 199 | | 575 | | | 9,990 |
| Research | 80 | 85 | | | | | | | | | | | 165 |
| TOTAL | 3,370 | 688 | 686 | 2,717 | 4,498 | 694 | 472 | 315 | 267 | 575 | 55 | 145 | 12,482 |

James A. Hamilton Associates

July 1, 1966

## SCHOOL OF NURSING

### Student Projections

| Student Classification | Number of Students | | |
|---|---|---|---|
| | Existing (1966) | 1973 | 1986 |
| Basic Baccalaureate | 242 | 275 | 323 |
| RN Baccalaureate (for those who have RN diploma) | 87 | 115 | 75 |
| Masters | 61 | 140 | 179 |
| Ph.D. (Post-Masters) | --- | --- | 15 |
| Practical Nursing | 45 | 0 | 0 |
| TOTALS | 435 | 530 | 592 |

## V. H. PUBLIC HEALTH

Staff and Space Justification Report

In accordance with your request, the Public Health Subcommittee is submitting herewith some estimates of space and staff needs for the years 1973 and 1986. These estimates have been based upon estimates by the Directors of the various divisions in the School of Public Health and in some cases somewhat detailed memoranda from such divisions. Enclosed is a copy of one of these memoranda [Environmental Health].

In making these projections as to staff and space needs and student enrollment, we have tried to analyze present and foreseeable trends as to demands for training programs such as are currently being carried on within the School of Public Health. These enrollment estimates are based upon the assumption that space and staff will be available to care for the students that the School can look forward to receiving. Obviously, if either space or staff is not available the number of students that can be accepted will have to be accordingly reduced.

In arriving at these projections, and especially those for 1973, the School has had to consider several factors. The first of these is the anticipated number of applicants. This at best is only a guess that is based on several years of experience. A second factor, which is definitely not a guess, is the fact that to an increasing degree the School's programs are extending beyond the single academic year which was the prevailing practice ten years ago. When planning the Mayo Building, the School had only an occasional student who would stay for more than one academic year. All of the Master's programs in all schools of public health were patterned on a single academic year. By 1966, however, the school has arrived at the point at which many programs, including the large program in public health nursing, have been extended to more than a year. The School can look forward, beginning with the fall of 1967, to having the Master's program for nurses on two full academic years, most of the students in health education and miscellaneous areas on at least five and more probably six quarters, all of the environmental health students on an eleven-months program and all of the physicians, veterinarians and dentists, similarly on eleven months. By 1973 the School may well be, and certainly by 1986 will certainly be, in a situation in which all of the students will continue in residence for at least two academic years. This means that even if there were no increases in annual enrollment of new students, the School would have almost twice as many students to accommodate and would require a very substantial increase in staff. In reality an actual increase in students in most of the programs can be anticipated unless the number of admissions is arbitrarily limited, which in turn would be determined by available space and staff.

A third factor that has had to be considered has been the fact that, regardless of the present and future trends toward longer Master's degree programs, an increasingly large number of students continue into doctoral programs. This is particularly notable in the fields of biostatistics and environmental health. Thus in the latter field, whereas ten years ago only one or two students were registered for postmaster's programs, there are currently sixteen. The situation in biostatistics is comparable. At the present time although there are 9-10 Ph.D. candidates in biostatistics, space where these students can so much as sit down is not available.

A fourth factor in the subcommittee's projections has been a realization of the need for new programs and the necessity of filling serious gaps that exist in present programs. Thus in the field of biostatistics the demand for statisticians thoroughly qualified with respect to computer procedures has already resulted in a

heavy demand for training in this area as an essential qualification for persons serving as consultants in biostatistical studies. The development of the computer center in the College of Medical Sciences which will be available not only for research but also teaching purposes can only mean that the School must be prepared to expand its biostatistical program to accommodate an influx of students which in any case will be beyond its capacity to absorb. Similarly, one must recognize that there are serious gaps in the programs in public health administration, mental health, health care administration (or medical economics) and epidemiology. The maternal and child health unit currently hasn't a single square inch of space in which it can develop research programs that will require personnel, being unique in this regard among schools of public health. Similarly Minnesota is the only school of public health that does not have a fully organized and well staffed department or division of public health administration or practice. In most schools this amounts to a staff of four or five, exclusive of personnel engaged on research projects. The same figures would apply in the fields of health care and mental health, areas that have been badly neglected, while in epidemiology the School is stumbling with a staff of only two persons because of lack of space to accommodate more. Here again the School is unique in the inadequacy of facilities to care for necessary teaching personnel or to embark upon research programs which should be a normal part of a School of Public Health. In these five areas the committee should think not in terms of doubling existing staff but of increasing staff four to five fold, with commensurate increase in allocated space.

Projections as to classroom and conference room needs are particularly difficult as they depend so much upon location of the School. Currently, workrooms and laboratories designed for special purposes are being used as general classrooms. Not only are they unsuitable for this purpose but their general use precludes use for the purposes for which they were planned. Conference rooms and even laboratories have had to be broken up for staff offices, with resultant acute shortage of both. If the School is so located that it cannot utilize general purpose classrooms, it will have need for an auditorium seating 250 and four classrooms accommodating 75-100. Regardless of location it should be able to count on at least 12 conference rooms seating 15-20 persons each.

It is possible to summarize the foregoing by saying that the School by 1973 should have an expansion of space and staff of well over 100 per cent. The School has an immediate need for almost double its present space but by 1973 this should have gone to two and a half times and by 1986 to four times the present space. As pointed out in the earlier report, the School has currently 40,000 square feet of space which is not only less than half the national average but is the smallest of any of the schools except for two of very small enrollment. The present average is 90,000 square feet but this does not include construction that is currently going on in four of the schools, namely, Harvard, Hopkins, Michigan and UCLA, which when completed will raise the national average to about 125,000 square feet. The 100,000 projected as needed in 1973 would thus still be materially below the national average.

The subcommittee realizes that these figures may seem large and on first thought might seem unrealistic. When the Mayo Building was planned some fifteen years ago the space therein looked ample for long-range needs but within thirteen years the School has not only outgrown the area but has been forced to obtain a considerable amount of space in other buildings. The subcommittee concluded its earlier report with the statement that "a doubling of space (exclusive of classrooms) would constitute a bare minimum for the next twenty years" but it should be emphasized that this bare minimum would include little provision for the increase in student body and would be absorbed almost entirely by the number of students who can be expected to continue on studies beyond a single academic year.

SCHOOL OF PUBLIC HEALTH

Faculty and Staff Projections

| | Existing 1966 | Projections 1973 | Projections 1986 |
|---|---|---|---|
| Number of Faculty* at University of Minnesota Medical Center: | | | |
| Full-time Faculty | 37 | 75 | 90 |
| Part-time** | 17 | 30 | 40 |
| Number of offices needed for part-time faculty | | 8 | 15 |
| Number of Faculty Officed at Other Locations: | | | |
| Full-time | 7 | 12 | 20 |
| Faculty at both locations Subtotals: | /44/ | /87/ | /110/ |
| Part-time** | 13 | 20 | 30 |
| Number of Teaching Assistants: | | | |
| Full-time | | | |
| Part-time** | 11 | 22 | 33 |
| Number of offices needed for part-time personnel | | 6 | 10 |
| Number of Research Academic Staff: | | | |
| Full-time | 12 | 25 | 35 |
| Part-time** | 8 | 16 | 25 |
| Number of offices needed for part-time personnel | | | |
| Civil Service Staff: | | | |
| Number of clerical personnel | 36 | 50 | 75 |
| Number of offices needed for clerical personnel | | | |
| Technical Personnel | 22 | 44 | 65 |
| Other (indicate type and number) | | | |

*Faculty includes Professor, Associate Professor, Assistant Professor, or Instructor.

**Includes individuals who have dual responsibility.

SCHOOL OF PUBLIC HEALTH

Evaluation of Existing Space for Current Programs

and Estimate of Future Needs

| | Net Square Feet | | | |
|---|---|---|---|---|
| | Now Existing | Now Needed | Needs by 1973 | Needs in 1986 |
| Administration | 6,554 | 10,000 | 12,000 | 15,000 |
| Research | 21,893 | 30,000 | 50,000 | 90,000 |
| Teaching | 12,073 | 25,000 | 40,000 | 50,000 |
| TOTAL | 40,520 | 65,000 | 102,000 | 165,000 |

## SCHOOL OF PUBLIC HEALTH

Existing Space By Function and By Type Of Room
(Existing Net Square Feet)

| Primary Function | Faculty Staff Offices | Clerical Offices | Classrooms Conference Seminar Rooms | Laboratories | Service Rooms | Toilets and Showers | Storage | Study Rooms | Workrooms | Animal Room | Mechanical Equipment | Faculty Multi-Purpose Room | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Administration | 1,564 | 2,657 | 222 | | 211 | 187 | 995 | | | | | 718 | 6,554 |
| Research | 1,588 | 1,450 | 138 | 10,395 | 3,715 | 644 | 1,692 | | 1,526 | 566 | 179 | | 21,893 |
| Teaching | 5,996 | 525 | 1,659 | 2,883 | 198 | 75 | 370 | 367 | | | | | 12,073 |
| TOTAL | 9,148 | 4,632 | 2,019 | 13,278 | 4,124 | 906 | 3,057 | 367 | 1,526 | 566 | 178 | 718 | 40,520 |

James A. Hamilton Associates

SCHOOL OF PUBLIC HEALTH

University of Minnesota

Student Enrollment Projections

(Two-Year Programs -
Assumption by 1973)

| | Existing | Projections | |
|---|---|---|---|
| | 1966 | 1973 | 1986 |
| Graduate Programs | | | |
| Biostatistics | 35 | 60 | 80 |
| Environmental Health | 55 | 80 | 120 |
| Epidemiology | 5 | 15 | 30 |
| Health Administration | 15 | 30 | 45 |
| Health Education | 12 | 30 | 50 |
| Hospital Administration | 74 | 74 | 74 |
| Public Health Nursing | 60 | 80 | 100 |
| Veterinary Public Health | 7 | 12 | 15 |
| Other | 6 | 15 | 25 |
| | 269 | 396 | 539 |
| Undergraduate Courses | | | |
| Personal and Community | 5,000 | | |
| Other | | | |

Completed by _____

Date _____

# VI. APPENDICES

# ORGANIZATION CHART

## COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Board of Regents

Office of the President

Parent Committee

Elmer Learn, Chairman
University Planning Coordinator

James A. Hamilton Associates, Inc.
Consultants

Gaylord Anderson, Director
School of Public Health

Winston Close,
Architectural Advisor

Lyle French, Director
Division of Neurosurgery

Edna Fritz, Director
School of Nursing

Sterling Garrison, Asst. to
V.P., Business Administration

N. L. Gault, Jr., Assoc. Dean,
College of Medical Sciences

Gertrude Gilman, Director
University Hospitals

Eugene Grim,
Professor of Physiology

Mellor Holland, Asst. Dean,
School of Dentistry

Robert Howard, Dean
College of Medical Sciences

Robert Isaacson,
Professor of Dentistry

Ione Jackson,
Assoc. Professor of Dentistry

James Jensen,
Professor of Dentistry

Frederic Kottke, Head
Phys. Medicine & Rehab.

Richard Magraw, Director
Comprehensive Clinic

Erwin Schaffer Dean
School of Dentistry

William Thorp, Dean
Veterinary Medicine

William Shepherd, V.P.,
Academic Administration

James Stephan, Professor,
Hospital Administration

Lawrence Weaver, Dean
College of Pharmacy

John Westerman, Exec. Sec'y.
& Research Associate,
Medical Administration

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

## SUBCOMMITTEES

Key: Committee and Task Force Chairman are over- and underscored (Chairman)

\+ These subcommittees have had the help of subcommittees in their planning.

### ANCILLARY

Frederic Kottke

Eleanor Anderson (P. H. Nursing)

Anna Hampel (Dentistry)

Ruth Hovde (Med. Technology)

William Kubicek (Physical Med. & Rehab.)

Arnold Lazarow (Anatomy)

Elizabeth Whitney (Nursing)

**********

### BASIC SCIENCES

Eugene Grim

Ellis Benson (Lab. Medicine & Clinical Labs)

Richard Bond (Public Health)

Gerhard Brand (Microbiology)

William Felts (Anatomy)

Isabel Harris (Nursing)

Robert Isaacson (Dentistry)

Joseph Larner (Biochemistry)

Jack Miller (Pharmacology)

Lee Wattenberg (Pathology)

**********

### CLINICAL MEDICINE & HOSPITAL +

Clinical Medicine T.F.

Lyle French

Richard Anderson (Psychiatry)

Charles Branthaver (Pediatrics)

Nancy Cook (Nursing)

Giulio D'Angio (Radiation Therapy)

Eugenijus Gedgaudas (Radiology)

Robert Gorlin (Dentistry)

Richard Lillehei (Surgery)

Richard Magraw (Comprehensive Clinic)

Konald Prem (OB/GYN)

Paul Quie (Pediatrics)

Wesley Spink (Medicine)

Paul Strandjord (Lab. Medicine)

Albert Sullivan (Contin. Med. Ed.)

Frederick Van Bergen (Anesthesiology)

Richard Varco (Surgery)

Dennis Watson (Microbiology)

Paul Winchell (Medicine)

Hospital T.F.

James Stephan

James Carey (Medicine)

Donald Cowan (U Health Service)

Gerard Frawley (Hospital Admin.)

Gertrude Gilman (Hospital Admin.)

Norman Holte (Dentistry)

Florence Julian (Nursing Service)

Robert Laur (Public Health)

**********

### DENTISTRY +

Mellor Holland

Dwight Anderson (Dentistry & Microbiology)

Allyn Bridge (Public Health)

Carl Heggestad (Anatomy)

JoAnn Hubbard (Nursing)

James Jensen (Dentistry)

Glenn Mitchell (Hospital Admin.)

E. Severn Olsen (Hospital Dentistry)

Leon Singer (Phys. Chemistry)

Albert Sullivan (Contin. Med. Ed. & Surgery)

**********

### NURSING+

Edna Fritz

Gaylen Bradley (Microbiology)

Edward Defoe (Pediatrics)

Frances Dunning (Nursing)

Frances Moncure (Nursing)

Marion Murphy (P.H. Nursing)

Betty Pederson (Nursing Service)

Hubert Serr (Dentistry)

Dorothy Titt (Nursing)

**********

### PUBLIC HEALTH

Gaylord Anderson

Richard Bond (Public Health)

Allyn Bridge (Public Health)

Garland Lewis (Nursing)

Louis Muschel (Microbiology)

George Yamane (Dentistry)

**********

UNIVERSITY OF MINNESOTA

Minneapolis 55455

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES

FOR THE HEALTH SCIENCES

January 10, 1966

Office of the President

TO: SUBCOMMITTEE CHAIRMEN
FROM: ELMER LEARN
SUBJECT: INFORMATION ABOUT THE DETAILED PROGRAM AND PRELIMINARY SPACE REPORT FOR THE 1966 FALL REPORT

In March 1965 information about the scope of our preliminary program report was written to the subcommittee chairmen and posted to all of the full and subcommittee members. In this letter, we outlined three basic elements that should be considered in the preliminary report, namely (1) ROLE, (2) GOALS OR OBJECTIVES and (3) PROGRAM. This report has been submitted to President Wilson.

We should now begin consideration of items for the detailed program and preliminary space report. As a start, it may be well to review the terms of the agreement with James A. Hamilton Associates. The key point of this agreement is that the consultants will work with and assist the subcommittees. The detailed series of recommendations for the long range development of the health sciences will be a result of the joint activity of the committees and the consultants. To facilitate the study, the Medical School, the School of Dentistry, and the Hospitals each have agreed to furnish one person to whom the consultants can turn for assistance with the data gathering process.

The subcommittees and subsequently the full committee should achieve the following:

1. A detailed statement of roles and programs for the next 20 years. We want to translate the program implications of the preliminary report into a more definitive statement of probable program developments. We are all aware of the impossibility of accurate prediction for 20 years in the future of anything as dynamic as the health sciences. Nevertheless, we need the best judgments that can be made now as a basis for future planning with full knowledge that such judgments will be subject to continuous review and revision. We look forward to having such a detailed program statement prepared by the end of 1966.

Program discussions should at all times include full consideration of interrelationships that do or could exist among various health sciences. Several examples were mentioned in the preliminary report. Others such as relationships with Pharmacy and the Health Service were not included in earlier deliberations and must now be taken into account. One way of achieving this goal would be to list, in order of priority, the important relationships between programs within each subcommittee and import relationships between programs in other subcommittees.

2. A list of the type and number of health sciences staff required to carry out the above programs. This task will require extensive detailed consultation with the people responsible for the individual programs. The consultants have the time and experience necessary to develop this list with the subcommittees and individuals concerned.

3. An analysis of the classification, utilization, amount and adequacy of the present space in the facilities of the health sciences in relation to present programs. While the consultants can take an active role in the classification of present space, close cooperation between the consultants and the subcommittees will be required in the analysis of utilization, amount and adequacy of present space.

4. Preparation of a schedule of space required to carry out the above future programs. This item will be derived directly from the detailed programs mentioned in item 1. The basic programs and space requirements will have to come from the people responsible for the programs. However, the subcommittees will play an important role in evaluating the feasibility of such requests, questions on sharing space, program priorities from which priority of needs for space can be established. THIS WILL PERHAPS BE THE MOST IMPORTANT FUNCTION of the committees as they face the difficult task of reconciling what is the most desirable with what is possible in attempting to meet the objectives and programs of the preliminary report. In this respect the preliminary report should be a valuable reference document in working out this schedule.

5. Determination of the specific building units necessary to provide the physical facilities for the above proposed programs. Committee members are well aware of the tremendous space handicaps and will likely have to combine certain programs and relationships in a building unit. Important relationships can be created, continued or modified in this process.

6. Determination of the location of each building unit and of an integrated plan relating all buildings. Thus item 5 relates to intra-building relationships while this item calls for a listing of inter-building relationships. This is where the past experience of the committee and general overall knowledge of the health sciences will be valuable.

7. Development of a schematic listing of the units of space proposed for each of the contemplated building structures. The consultants and the assigned staff liaison person will probably carry the main burden on this item. This listing is largely a product of items 4, 5, and 6.

8. Development of recommendations as to:

   a. the listing of available space in present facilities not needed for health sciences purposes.
   b. the utilization of the present facilities for health science purposes.
   c. a priority listing of the alterations and new construction proposed.

Point a. is self-explanatory and requires no more than a listing of total square footage. Point b. involves the consideration of what the health sciences can do with space vacated because of new construction and reminds us that our thinking about space needs should not be entirely in terms of newly constructed space. The consultants should be most helpful in sharing their experience about what is most appropriate for old space and what functions typically demand new construction. Point c. is really a summary of judgments made earlier in the study and involves a careful shifting of overall health science needs.

9. A general estimate of the approximate cost of alterations and of new construction of each of the proposed major building structures sufficient for administrative decisions of general programming. The consultants will have primary responsibility for this item which is essentially a multiplication of typical unit costs for various types of health science space.

We are now beginning the most difficult phase of our planning task. The items listed above cannot be achieved in neat chronological order. Thus, there will be many occasions when issues previously considered resolved will have to be reopened because of facts uncovered at a later stage. Most difficult of all will be the need to translate generalities and trends into spacific programs, resource needs and time schedules. The consultants have made it quite clear that they will be of little value to us unless we are willing to make these decisions as the planning proceeds.

As you plan for the work ahead it may be that you would like to alter the composition of your subcommittee or the nature of your subcommittee organization. I have asked John Westerman to visit with each of you in this regard.

Because we are in a more detailed phase of our planning does not mean that all the uncertainties and variables that beset us the first year will suddenly become resolved. We expect guesses will have to be made in many instances and with so many judgments it is certain that some errors will be made. I think we all recognized the limitations of such a major planning effort when we started but the consequences of not planning are so much worse.

If you have any questions please bring them before the full committee meeting or feel free to raise them with John Westerman or me at any time.

Sincerely,

Elmer W. Learn
Assistant to the President

REGENTS REPORT
TO THE
MINNESOTA LEGISLATIVE BUILDING COMMISSION

# TEN YEAR PROGRAM

WITH DETAILS OF

# 1967 BUILDING REQUESTS

HEALTH SCIENCES SUPPLEMENT

TWIN CITIES CAMPUS
UNIVERSITY OF MINNESOTA

JULY 15, 1966

UNIVERSITY OF *Minnesota*

OFFICE OF THE PRESIDENT · MINNEAPOLIS, MINNESOTA 55455

July 15, 1966

Honorable Harold R. Popp, Chairman
Honorable William C. G. Heuer
Honorable P. J. Holand
Honorable Lew W. Larson
Honorable John L. Olson
Honorable Sam R. Barr
Honorable Everett Battles
Honorable W. G. Kirchner
Honorable Marvin C. Schumann
Honorable Roy L. Voxland

Gentlemen:

At our meeting with the Commission on the Twin Cities Campus on June 20, 1966, I requested permission to present the Health Sciences capital outlay program separately and at a later date. In consequence of this and pursuant to statute and the request of your Commission, I am pleased to transmit a proposed capital outlay program for the Health Sciences of the University of Minnesota for the ten-year period commencing with the legislative session in 1967. The granting of planning funds will enable us to make a more precise proposal to the 1969 Building Commission.

The contents of this report are the result of planning in the Health Science area that considers the findings of two studies: first, an intensive long-range programmatic and facilities planning study carried out within the University; second, recommendations which will be forthcoming shortly from a Health Manpower Study for the Upper Midwest sponsored and supported by the Louis W. and Maud Hill Family Foundation.

Most of the new building program contemplated in this report will be presented to you for action in the 1969 legislative session. Remodeling items will also be included, although some of these undoubtedly will be deferred until later sessions.

The only modification that this program requires of our 1967 request is that you grant $500,000 in planning money. It will, however, supersede our requests listed for the years 1969 to 1975.

The serious need for expansion in the Health Sciences is strongly supported by the findings of the Health Manpower Study for the Upper Midwest. It is imperative, therefore, that planning proceed as rapidly and efficiently as possible in a program so important to the University, to the State, and to the region.

Sincerely yours,

O. Meredith Wilson
President

# HEALTH SCIENCE BUILDING REQUIREMENTS - 1969
## UNIVERSITY OF MINNESOTA

This tentative space program for the Health Sciences is based upon preliminary judgments of a Long-Range Planning Committee established about one year ago. It includes consideration of needs for the College of Dentistry and the College of Medical Sciences, which contains the Medical School, School of Nursing, School of Public Health, and University Hospitals. The Committee has been assisted in its deliberations by the technical services of James A. Hamilton Associates, consultants on hospital and medical center planning.

The tentative building program makes provision for facility needs of existing programs and planned changes during the next 10 - 15 years. Most important of the programmatic changes is the closer integration of all health science programs. This results from the growing recognition of the so-called team approach to comprehensive health care and its implications for the training of physicians, dentists, nurses, and members of the growing number of associated health professions. It results also from the importance attached to close interaction among research workers in all parts of the Health Sciences. A major facility required for future training and research functions is a modern, well equipped out-patient clinic. Although detailed space programs have not been completed, it is believed that savings can be achieved by combining certain administrative functions related to out-patient service for Dentistry and Medicine.

In addition to programmatic developments, the tentative program also makes allowance for increasing the medical class by 1/3 from 150 students per year to 200, and the dental class by about 40 per cent, from 110 to 150 students. Related, but not proportional increases are assumed in other areas. It is designed in such a way that future expansion to 250 and 200 students respectively would be feasible if future needs of the state and the area dictate.

Several expansion possibilities were studied including removal of all or most of the present health science activities to a new site. The tremendous costs associated with such a program, the need to recognize the value of existing structures especially those funded from private sources (e.g. the Masonic and Variety Club Heart Hospital), and the lack of a clear program for alternative use of all existing facilities argue against any expansion program that fails to take advantage of past investments.

It is recognized, however, that technological developments and changes in teaching, research, and health care techniques have made some of the existing facilities less efficient than is desirable. Such changes are perhaps most significant for hospital and out-patient treatment facilities. The new structures, therefore, are aimed at taking advantage of new efficiencies in these areas with conversion of released space in some existing facilities for expansion in other fields, especially instructional space, and research and office space for Nursing, Public Health, and the basic sciences.

The new facility will contain approximately 270 hospital beds, some of which are net additions while others represent replacement

of some of the least efficient units, especially Pediatrics, in the existing hospital complex. Planning is such that ultimately it will be possible to add to the new facilities so that all hospital beds, except the Heart Hospital and the Rehabilitation Center, would be in the new area, and the present main hospital complex would serve other uses. Such transfer would also be consistent with improved traffic patterns, maintaining student-related programs on the western end of the complex and transferring, to the maximum extent possible, the non-University traffic to the eastern end of the complex.

The preliminary program calls for new space of 1,140,000 gross square feet at a total cost of $47,375,000. It also includes remodelling of 216,613 net square feet of existing space at an estimated cost of $5,415,000.

Land costs, included in the 1967 request, are estimated to be $650,000.

Estimated total costs of the proposed expansion are $53,440,800. This figure takes account of needs through 1975 to 1980, assuming no expansion beyond 200 medical and 150 dental classes.

The costs presented here can be compared with costs now contemplated in the ten-year program which did not contemplate increased enrollments. These include:

| | | |
|---|---|---|
| 1967 | Land Costs | 650,000 |
| | Remodelling Mayo | 300,000 |
| | Elevator Mayo | 140,000 |
| | | 1,090,000 |

| | | |
|---|---|---|
| 1969 | Dentistry building | 15,447,000 |
| | Outpatient Clinic Building | 4,000,000 |
| | | 19,447,000 |
| 1971 | Jackson-Owre addition | 650,000 |
| | University Hospitals (vacated outpatient area) | 630,000 |
| | | 1,280,000 |
| 1973 | Center for Graduate Studies Phase I | 6,400,000 |
| 1975 | Center for Graduate Studies Phase II | 6,400,000 |
| | Total costs in 10-year program | $34,617,000 |

The increase represented by the present estimate is less than $20 million.

Finally, it should be mentioned that it is anticipated that at least half the costs of the total program could be covered by matching funds from federal and other sources.

PRELIMINARY COSTS SUMMARY OF APRIL 1, 1966
Projected Health Science Needs
University of Minnesota

| New Construction | Gross Square Feet | Cost |
|---|---|---|
| Dentistry | 336,100 | 15,124,500 |
| Hospital | 424,650 | 16,986,000 |
| Out-Patient Clinic | 160,000 | 5,120,000 |
| Clinical Teaching and Research | 198,150 | 9,226,000 |
| Ambulatory Care | 13,600 | 544,000 |
| Scientific Apparatus Shop | 7,500 | 375,000 |
| | 1,140,000 | $47,375,500 |

| Remodeled Areas | Net Square Feet | Cost |
|---|---|---|
| Basic Sciences | 69,072 | |
| Nursing School | 25,010 | |
| School of Public Health | 34,101 | |
| Clinical Teaching and Research | 20,602 | |
| Continuation Education | 56,289 | |
| Hospital | 11,539 | |
| | 216,613 | $ 5,415,300 |
| Land | | 650,000 |
| | TOTAL | $53,440,800 |

## STUDENT PROJECTIONS
## Health Sciences
## University of Minnesota

| | 1966 | 1973 | 1986 |
|---|---|---|---|
| **MEDICAL** | | | |
| Medical Students | 600 (150/class) | 800 (200/class) | 1,000 (250/class) (800 - 200/class-'70) |
| Interns | 40 | 45 | 55 |
| Graduate Students (Fellows,Residents) | | | |
| At U Medical Center | 475 | 550 | 650 |
| Basic Sciences (217) | | (275) | (350) |
| Clinical (258) | | (275) | (300) |
| At Affiliated Hospitals | 175 | 250 | 400 |
| **DENTAL** | | | |
| Dental Students | 400 (110/class) | 600 (150/class) | 800 (200/class) |
| Graduate Dental Students | 36 | 75 | 140 |
| Post Gradute Students | 8 | 25 | 50 |
| Dental Hygiene (2 yr.) | 85 (50/class) | 200 (100/class) | 300 (150/class) |
| Dental Assisting(1 yr.) | 35 (35/class) | 200 (100/class) | 300 (150/class) |
| New Category Sub Dentist | 0 | 20 (10/class) | 50 (25/class) |
| **PUBLIC HEALTH** | | | |
| Biostatistics | 35 | 50 | 70 |
| Environmental Health | 55 | 100 | 165 |
| Epidemiology | 5 | 10 | 15 |
| Health Administration | 15 | 20 | 30 |
| Health Education | 12 | 18 | 25 |
| Hospital Administration | 74 | 90 | 100 |
| Public Health Nursing | 53 | 75 | 100 |
| Veterinery Public Health | 7 | 12 | 15 |
| Miscellaneous | 6 | 14 | 20 |
| TOTAL | 262 | 389 | 540 |

| | 1966 | 1973 | 1986 |
|---|---|---|---|
| **NURSING** | | | |
| Basic Baccalaureate | 262 | 500 | 753 |
| R.N. Baccalaureate (for those who have R.N. diploma) | 59 | 120 | 170 |
| Masters or higher | 51 | 172 | 293 |
| Ph.D. | 0 | 10 | 20 |
| Practical Nursing | 45 | ? | ? |
| TOTAL | 417 | 802 | 1,236 |
| **OTHER ASSOCIATED HEALTH PROFESSIONALS** | | | |
| A. Current Programs | | | |
| 1. Mecial Technology | | | |
| 1st and 2nd year | 170 | 325 | 475 |
| 3rd, 4th, & 5th year | 105 | 200 | 300 |
| Graduates | 6 | 20 | 30 |
| Medical Laboratory Assistants | 60 | 60 | 60 |
| TOTAL | 341 | 605 | 865 |
| 2. Occupational Therapy | 48 (24/class) | 72 (36/class) | 100 (50/class) |
| Graduate | 0 | 4 | 10 |
| 3. Physical Therapy | 48 (24/class) | 80 (40/class) | 100 (50/class) |
| Graduate | 0 | 5 | 10 |
| 4. Radiological Technicians | 30 | 40 | 60 |
| Affiliated Radiological Technicians | 150 | 175 | 300 |
| 5. Rehabilitation Counselors | 15 | 25 | 30 |
| TOTAL | 291 | 401 | 610 |

OTHER ASSOCIATED HEALTH PROFESSIONALS

B. New Programs with Total or Partial C.M.S. Participation

| | 1966 | 1973 | 1986 |
|---|---|---|---|
| 1. Bioengineering | 0 | 5 | 40 |
| 2. Biomedical data processing & information retrieval | 0 | 10 | 40 |
| 3. E.E.G. Technicians | 0 | 10 | 15 |
| 4. Inhalation Therapy | 0 | 10 | 15 |
| 5. Medical Art and Photography | 0 | 4 | 5 |
| 6. Medical Social Work | 3 | 8 | 15 |
| 7. Mortuary Science | 126 | 165 | 215 |
| Graduates | 0 | 5 | 20 |
| TOTAL | 129 | 217 | 365 |

## HOSPITAL BED CAPACITY

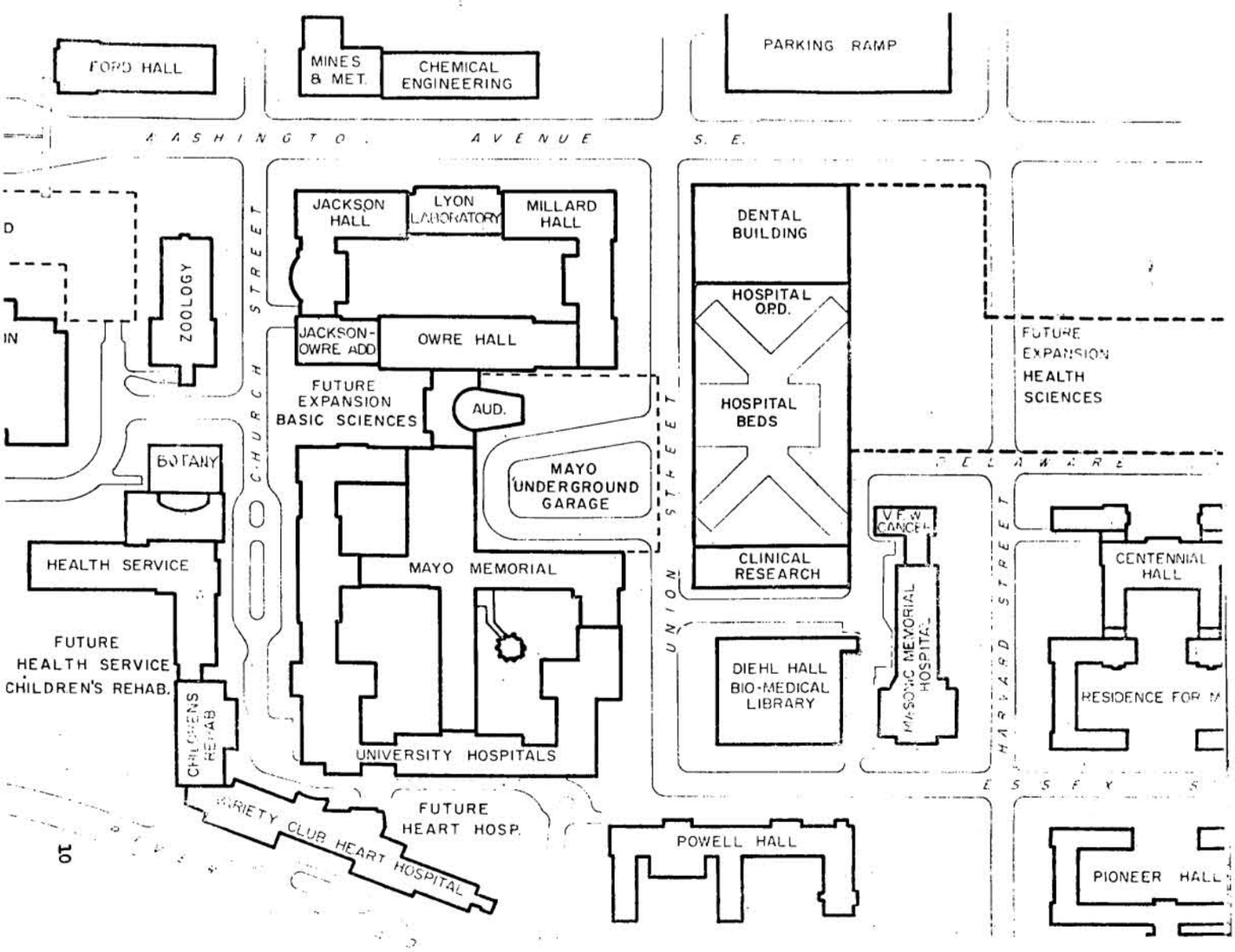
### EXISTING

| | | | |
|---|---|---|---|
| Masonic | | 120 | (by October) |
| Heart | | 80 | |
| Rehab. | | 40 | |
| Main | | 584 | |
| | TOTAL | 824 | |

### NEW PROPOSAL

| | | | |
|---|---|---|---|
| Masonic | | 120 | |
| Heart | | 80 | |
| Rehab. | | 40 | |
| Main (old) | | 400 - 600 | |
| New Hosp. | | 270 | (Peds 100, Surgery & Surgical Specialities 170) |
| | TOTAL | 910 | 1100* |

*If 600 beds are retained in old hospital


FORD HALL
MINES & MET.
CHEMICAL ENGINEERING
PARKING RAMP
A S H I N G T O .
A V E N U E
S. E.
ZOOLOGY
CHURCH STREET
JACKSON HALL
LYON LABORATORY
MILLARD HALL
JACKSON-OWRE ADD
OWRE HALL
FUTURE EXPANSION BASIC SCIENCES
AUD.
BOTANY
MAYO UNDERGROUND GARAGE
HEALTH SERVICE
MAYO MEMORIAL
FUTURE HEALTH SERVICE CHILDREN'S REHAB.
CHILDRENS REHAB
UNIVERSITY HOSPITALS
VARIETY CLUB HEART HOSPITAL
FUTURE HEART HOSP.
POWELL HALL
DENTAL BUILDING
HOSPITAL O.P.D.
HOSPITAL BEDS
CLINICAL RESEARCH
UNION STREET
DIEHL HALL BIO-MEDICAL LIBRARY
MASONIC MEMORIAL HOSPITAL
V.F.W. CANCEL
FUTURE EXPANSION HEALTH SCIENCES
HARVARD STREET
CENTENNIAL HALL
RESIDENCE FOR M
PIONEER HALL
E S S E X

# SUMMARY

## MEDICAL and DENTAL FACILITIES

## University of Minnesota

| | | Existing Net Square Feet |
|---|---|---|
| Basic Science Departments | | 160,495 |
| Bio-Medical Library | | 72,075 |
| Clinical Medicine Research and Teaching Facilities | | 238,378 |
| Hospital | | 445,246 |
| Outpatient Clinics | *25,439 | |
| Medical Administration and School of Medicine | | 34,037 |
| School of Dentistry | | 63,190 |
| School of Nursing | | 12,482 |
| School of Public Health | | 40,520 |
| University Controlled Areas | | 209,740 |
| TOTAL | | 1,276,163 |

*Included in hospital space.

# SUMMARY

## MEDICAL ADMINISTRATION and SCHOOL OF MEDICINE

| Medical Administration | Net Square Feet |
|---|---|
| Animal Hospital Committee | 6,120 |
| Cancer Coordinating Committee | 4,606 |
| Computer Committee | 1,710 |
| Continuation Medical Education | 1,185 |
| Minnesota Medical Foundation | 256 |
| Office of the Dean | 1,565 |
| Rosemount Storage | 8,982 |
| Special Educational Services and Basic Science Examining Board | 799 |
| **School of Medicine** | |
| Student and Teaching Facilities | 8,814 |
| TOTAL | 34,037 |

## SUMMARY

## CLINICAL MEDICINE - RESEARCH AND TEACHING FACILITIES

| Department | Net Square Feet |
|---|---|
| Anesthesiology | 2,220 |
| Laboratory Medicine | 32,989 |
| Medicine | 26,068 |
| Obstetrics-Gynecology | 5,175 |
| Opthalmology | 4,155 |
| Otolaryngology | 3,839 |
| Pediatrics | 31,344 |
| Physical Medicine and Rehabilitation | 40,051 |
| Psychiatry-Neurology | 29,595 |
| Radiology | 26,374 |
| Surgery | 36,568 |
| TOTAL | 238,378 |

## SUMMARY

## BIO-MEDICAL LIBRARY

| | Net Square Feet |
|---|---|
| Bio-Medical Library | 61,847 |
| Rare Books Collection | 10,228 |
| TOTAL | 72,075 |

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## SUMMARY

## UNIVERSITY CONTROLLED AREAS

| Area | Net Square Feet |
|---|---|
| Bookstore and Police | 920 |
| Building Services | 1,567 |
| Centrally Assigned Classrooms | 10,615 |
| Mayo Garage | 91,567 |
| Mayo Memorial Auditorium | 11,060 |
| Plant Services | 87,312 |
| Scientific Apparatus Shop | 6,699 |
| Total | 209,740 |