HAMMEL GREEN AND ABRAHAMSON, INC.

MEETING NOTES

University of Minnesota Health Sciences
School of Dentistry Subcommittee Meeting
December 18, 1967, Owre Hall
Present at Meeting: Holland, Anderson, Olsen, Jensen, Schaffer, Peacock
Kluver, Turner, Abrahamson

1. Training of auxiliary personnel on a side by side basis with the dental student important.

2. Greatly expanded research and experimental programs anticipated.

3. Team dentistry will exist with more emphasis in the teaching program as well as in practice. Foresee dentistry practiced by groups in or adjacent to hospitals.

4. Dental facilities must be flexible, able to accommodate change, the existing floor structure with finished floor above structural has proved most helpful in making changes. (

5. Question raised about shared spaces, facilities--some discussion about sharing X-ray facilities with medicine, opinion expressed that X-ray might back up to out-patient X-ray in medicine but must retain its immediate relationship with other dental clinical areas. Because X-ray is a teaching area, it requires substantial area. Also wide range of types of X-ray machines required by the various dental specialists.

6. Reception space, micro-film and records, data processing equipment, medical labs, animal facilities are other spaces that may be shared with medicine.

7. Fast and accurate record transmission by some system such as pneumatic tube is very much needed. Records should be moved without patient carrying.

8. In-patient dentistry--records will be handled as normal hospital procedure.

9. The micro-biology department has facilities in both medical and dental schools. There should be a very close relationship between these two areas. All basic sciences are closely related to both dental and medical schools.

10. Bio-chemistry and micro-biology are very closely related.

11. Various dental departments or disciplines have been requested to submit space need breakdown and relationship by the 1st of January, 1968.

12. The only portion of the basic sciences included in the school of dentistry is that designated for research.

13. A big problem currently is the scheduling of dental students into basic science classes. Because clinical class work restricts the times available for basic science which coincides with similar problems in medicine, large lecture rooms will be necessary for basic sciences.

350-450

14. The combined laboratory-lecture room may have advantages for some dental courses.

15. Future uses of programmed learning (tape, t.v., etc.) may change pattern of classroom spaces.

16. The existing pattern of the first two years of dentistry in the basic science core and the last two in clinical sciences may be changed.

17. The problem of carrying a case of instruments to various clinical specialties needs study. It is basic to building layout and use.

18. Several central supply rooms for instruments with one central sterilization room may be one approach. It has been tried in Toronto.

19. Centralized or separate animal facilities needs resolution. In dental research dogs, monkeys, hamsters, and mice are used. These need a separate transportation system.

Work on the animals is done in the laboratory. Animal operating rooms near the animal quarters is necessary.

20. A central supply farm for all animals used by the University located some distance from the University would help solve some of the problems particular to using, servicing animals.

21. Circulation systems need to be separated for patients, staff, service and animals.

22. The change from technical to biological in the practice of dentistry means auxiliaries will be doing much of the clinical work now done by the dentist. Need for clinical spaces in school will not change, people taking the course work will. Research spaces will expand. Dentist will work as part of a health team. May be increasing interrelationship with medical school.

23. Problem: Third party payment, may be a threat to the dental school getting sufficient patients for their teaching program in the future. It will probably require commitment from the community to office. A survey taken indicates most people, if dental service free, would select convenience of nearest practioner. Parking and transportation for patients is part of total problem.

24. Closed circuit t.v. will be used in future. It may be part of operatories.

25. Dental school now has their own audio-visual department. The subcommittee at university level studied overall university policy and control of closed circuit t.v. and audio-visual aids.

26. Student spaces important--lounges, lunch rooms, and study areas--alcoves in corridors near lecture rooms would be helpful.

27. Time schedule--staff would like to accelerate.

28. Dr. Schaffer believes that the medical and dental school could share a combined first two year program in basic sciences. At the completion of the third year the dental and medical students would choose their specialty, Each completing their specialty and receiving M.D. Degree. This concept reinforces direction of more and more specialists in both dentistry and medicine. This approach would necessitate very large (possibly 450-500 student) group lecture rooms in the common first two years.

29. The dental space requirements within out-patient clinic and hospital also needs programming.

30. Before the next meeting with subcommittee and TAC, Abrahamson and Peacock are to meet with subcommittee to assist in program data collection.

gfv

cc. Mr. Robart Turner

HAMMEL GREEN AND ABRAHAMSON, INC.

UNIVERSITY OF MINNESOTA - HEALTH SCIENCES EXPANSION
SUMMARY - DENTISTRY SUBCOMMITTEE

4 March 1968
By: Bruce A. Abrahamson

Dentistry has primary relationships to the public, to the hospitals and clinics, to basic sciences, to pharmacy, School of Medicine, animal quarters and to Health Science services.

Spaces for the School of Dentistry that might be shared with O.P.D. include reception, waiting rooms, data processing equipment and areas, other record areas, some lab spaces and animal quarters.

In-patient dentistry is part of the hospital program area.

Flexibility in research and clinical areas very important. New equipment and procedures are constantly being used.

Administration and research could be located on upper floors or a more distant relationship to public areas.

A combined laboratory-lecture room would have advantages for some dental courses. Future use of programmed learning (tape, T.V.) may change nature of classroom space.

Animal facilities need proximity to dental research areas. Separated movement systems for bringing animals to dentistry necessary. Work on the animals is done in the laboratory.

Circulation systems need to be separated for patients, staff, service and animals.

Research spaces most critical in future expansion considerations.

Student spaces important, alcoves in corridors and near lecture rooms could be helpful.

Relationship to public transportation and public parking areas extremely critical. Third party payments in future may be threat to dental school getting sufficient patients.

Space needs by major program or activity are as included in Green Book.

Program and Activity		Existing	1973	1986
I	Research	16,966	65,195	107,373
II	Clinical	28,284	107,275	171,959
III	Preclinical	12,638	20,049	30,611
IV	Dental Hygiene, assisting	2,111	16,625	20,790
V	Miscellaneous	7,398	20,856	55,782
	Total	67,397 sq. ft.	230,000 sq. ft.	386,515 sq. ft.

BAA:dg

HAMMEL GREEN AND ABRAHAMSON, INC.

MEMO TO: U/Health - Commission Number 438
MEMO BY: Bruce A. Abrahamson
DATE: 8 February 1968
SUBJECT: Meeting, Thursday, February 8, 4:00 P.M., Owre Hall

Present: Dr. Holland, Dr. Anderson, Dr. Jensen, Messrs. Wessel, Babcock and Abrahamson

DENTISTRY SUBCOMMITTEE

Program data forms have been turned in for almost all major subdivisions. Specific questions relating to a number of these forms were reviewed. The Architect will analyze material presented and attempt to formulate a space relationship diagram together with a summary program of required square footage.

Some specific questions raised that will need resolution by the Subcommittee include:

1 - What will be the policy on private office size? (University policy - 130 sq. ft.)

2 - Animal quarters requirements?

3 - Clarification if duplication in space and equipment requested.

4 - Photography-television space and equipment requirements?

cc: Mr. Robert Turner
Mr. John Harkness
Mr. Roland Kluver

SCHOOL OF DENTISTRY
FACULTY AND STAFF

PROJECTED 1973								PROJECTED 1986							
F-T Faculty		Civil Service						F-T Faculty		P-T Faculty		Civil Service			
Total FTE	Univ. FTE	Total Cler.	Univ. Cler.	Total Tech.	Univ. Tech.	Total Other	Univ. Other	Total FTE	Univ. FTE	Total FTE	Univ. FTE	Total Cler.	Univ. Cler.	Total Tech.	Univ. Tech.	Total Other	Univ. Other
-	-	-	-	3	-	1	-	-	-	-	-	-	-	4	-	1	-
-	-	1	1	10	2	-	-	4	2	-	-	2	1	12	2	-	-
-	-	1	1	1	1	-	-	3	1	-	-	2	1	2	1	-	-
-	-	3	2	8	2	2	2	16	5	-	-	4	2	14	3	3	2
1	-	1	1	16	3	-	-	7	3	1	-	2	1	26	5	-	-
-	-	4	2	24	4	-	-	14	7	-	-	6	2	42	9	-	-
2	1	2	1	3	1	-	-	6	3	2	1	2	1	4	2	-	-
-	-	1	-	6	1	-	-	3	2	-	-	2	1	9	2	-	-
-	-	5	2	5	1	-	-	11	5	-	-	5	2	5	1	-	-
3	1	18	10	76	15	3	2	64	28	3	1	25	11	120	25	4	2
in clinical section for periodontics																	
1	1	2	2	2	2	-	-	5	2	2	2	2	2	3	2	-	-
-	-	1	1	2	2	-	-	-	-	-	-	1	1	2	2	-	-
-	-	2	2	4	3	-	-	-	-	-	-	2	2	6	4	-	-
2	2	5	5	11	8	-	-	12	8	2	2	7	6	13	10	-	-
4	4	2	2	4	4	-	-	4	3	8	8	3	3	6	5	-	-
3	3	6	5	4	3	-	-	10	8	4	4	8	6	5	3	-	-
5	3	5	4	10	8	-	-	14	7	7	5	7	5	12	9	-	-
6	6	3	2	6	3	-	-	9	6	10	8	5	4	10	5	-	-
-	-	2	2	-	-	-	-	1	0.5	-	-	2	2	-	-	-	-
7	7	2	2	4	4	-	-	8	7	8	8	2	2	7	6	-	-
12	10	5	3	8	6	-	-	15	12	15	13	7	5	11	9	-	-
7	7	4	4	4	4	-	-	11	9	14	12	6	5	6	5	-	-
47	43	39	34	59	47	-	-	89	62.5	70	62	52	43	81	60	-	-
3	3	1	1	2	2	-	-	1	1	4	4	1	1	3	3	-	-

UNIVERSITY OF MINNESOTA
EXISTING AND PROJECTED

E X I S T I N G 1 9 6 6

PROGRAMS and ACTIVITIES	F-T Faculty Total Univ.	F-T Faculty Total Univ. FTE	P-T Faculty Total Univ. FTE	Civil Service Total Univ. Cler.	Civil Service Total Univ. Cler.	Civil Service Total Univ. Tech.	Civil Service Total Univ. Tech.	Civil Service Total Univ. Other	Civil Service Total Univ. Other	F-T Faculty Total Univ.	F-T Faculty Total Univ.
I. RESEARCH											
Animal Quarters	-	-	-	-	-	1	-	-	-	-	-
Biochemistry	1	-	-	1	-	10	-	-	-	3	2
Biomaterials	-	-	-	-	-	-	-	-	-	2	1
Genetics	3	3	-	1	-	-	-	-	-	10	4
Microbiology	2	1	-	-	-	6	-	-	-	4	2
Oral Biology	-	-	-	-	-	-	-	-	-	8	4
Oral Pathology	3	3	0.5	1	1	2	-	-	-	5	3
*Physiology	1	-	-	1	-	3	-	-	-	2	1
Preventive Dentistry	1	1	1	-	-	0.5	-	-	-	11	5
TOTALS	11	8	1.5	4	1	22.5	-	-	-	45	22

* General Physiology Only — Research personnel for oral physiology and periodontics listed belo

II. CLINICAL											
Cleft Palate-Maxillo Facial	-	-	0.5	0.5	1	1	-	-	-	-	4	2
Graduate Student Clinic for Restorative - Periodontics	-	-	-	-	-	-	-	-	-	-	-	-
Integration Clinic for Freshmen-Sophomores	-	-	-	-	-	-	-	-	-	-	-	-
Oral Diagnosis #	2	2	1.5	1.5	3	3	3	3	2	2	8	6
Oral Surgery	1	1	1.5	1.5	1	-	2	2	-	-	3	3
Orthodontics	2	2	1.5	1.5	1	1	1	-	-	-	6	5
Pedodontics	2	2	2	2	1	1	-	-	-	-	10	5
Periodontics	3	3	3	3	-	-	2	-	2	-	6	4
Postgraduate Clinic	-	-	-	-	-	-	-	-	-	-	1	0.5
Restorative Dentistry												
1. Crown and Bridge	3	3	4	4	1	1	1	1	-	-	5	5
2. Operative-Endodontics	4	4	7	7	2	2	11	-	-	-	10	9
3. Prosthodontics	2	2	3.5	3.5	1	1	2	2	-	-	6	5
TOTALS	19	19	24.5	24.5	11	10	22	8	4	2	59	44.5
III. PREDOMINANT											
Oral Anatomy and Histology	1	1	2	2	-	-	1	1	-	-	1	1

Includes Oral Diagnosis, Oral Medicine and Oral Roentgenology

UNIVERSITY OF MINNESOTA
EXISTING AND PROJECTE

E X I S T I N G 1 9 6 6

PROGRAMS and ACTIVITIES	F-T Faculty Total Univ.	F-T Faculty Total Univ.	P-T Faculty Total Univ. FTE	P-T Faculty Total Univ. FTE	Civil Service Total Univ. Cler.	Civil Service Total Univ. Cler.	Civil Service Total Univ. Tech.	Civil Service Total Univ. Tech.	Civil Service Total Univ. Other	Civil Service Total Univ. Other	F-T Facult Total Univ	F-T Facult Total Univ
IV. DENTAL HYGIENE and DENTAL ASSISTING												
Dental Hygiene	2	2	.2	.2	-	-	-	-	-	-	5	5
Dental Assisting	1	1	-	-	-	-	6	6	-	-	2	2
TOTALS	3	3	.2	.2	-	-	6	6	-	-	7	7
V. HOSPITAL PROGRAM	1	1	-	-	1	-	1	-	-	-	11	9
VI. MISCELLANEOUS												
Administration (Dean's Office)	1	1	.5	.5	5	4	-	-	-	-	5	5
Business Office	-	-	-	-	4	4	-	-	-	-	-	-
Cafeteria-Lounge	-	-	-	-	-	-	-	-	-	-	-	-
Data Collection and Transcription for Clinics	-	-	-	-	-	-	-	-	-	-	-	-
Photography - Television	-	-	-	-	-	-	4	3	-	-	-	-
Reading Room - Archives	-	-	-	-	1	1	-	-	-	-	-	-
TOTALS	1	1	.5	.5	10	9	4	3	-	-	5	5
SUMMARY												
RESEARCH	11	8	1.5	1	4	1	22.5	-	-	-	45	22
CLINICAL	19	19	24.5	24.5	11	10	22	8	4	2	59	44
* BIOLOGICAL	1	1	2	2	-	-	1	1	-	-	1	1
DENTAL HYGIENE and DENTAL ASSISTING	3	3	.2	.2	-	-	6	6	-	-	7	7
HOSPITAL PROGRAM	1	1	-	-	1	-	1	-	-	-	11	9
MISCELLANEOUS	1	1	.5	.5	10	9	4	3	-	-	5	5
TOTALS	36	33	28.7	28.2	26	20	56.5	18	4	2	128	88

* Most of faculty for this area would come from clinical disciplines.
Full-time faculty would be primarily professors, associate professors, and assistant professors whose regular district.
A few research associate and assistant appointments will be needed.
Part-time faculty would be divided approximately as: clinical professor (5%), clinical associate professor (10%), clinical assistant professor (8%), clinical lecturer (5%).

SCHOOL OF DENTISTRY
FACULTY AND STAFF

PROJECTED 1973								PROJECTED 1986							
F-T Faculty		Civil Service						F-T Faculty		P-T Faculty		Civil Service			
Total FTE	Univ. FTE	Total Cler.	Univ. Cler.	Total Tech.	Univ. Tech.	Total Other	Univ. Other	Total	Univ.	Total	Univ.	Total Cler.	Univ. Cler.	Total Tech.	Univ. Tech.	Total Other	Univ. Oth.
-	-	2	2	1	1	-	-	7	5	-	-	2	2	2	2	-	-
-	-	2	2	10	8	-	-	3	2	-	-	2	2	15	10	-	-
-	-	4	4	11	9	-	-	10	7	-	-	4	4	17	12	-	-
-	-	6	2	23	10	-	-	14	10	-	-	9	3	26	13	-	-
-	-	7	7	-	-	-	-	6	6	-	-	8	8	-	-	-	-
-	-	7	7	-	-	-	-	-	-	-	-	9	9	-	-	-	-
-	-	?	?	?	?	?	?	-	-	-	-	?	?	?	?	?	?
-	-	6	6	1	1	-	-	-	-	-	-	8	8	1	1	-	-
-	-	1	1	5	4	-	-	-	-	-	-	1	1	6	5	-	-
-	-	2	2	-	-	-	-	-	-	-	-	2	2	-	-	-	-
-	-	23	23	6	5	-	-	6	6	-	-	28	28	7	6	-	-
3	1	18	10	76	15	3	2	64	28	3	1	25	11	120	25	4	2
47	43	39	34	59	47	-	-	89	62.5	70	62	52	43	81	60	-	-
3	3	1	1	2	2	-	-	1	1	4	4	1	1	3	3	-	-
-	-	4	4	11	9	-	-	10	7	-	-	4	4	17	12	-	-
-	-	6	2	23	10	-	-	14	10	-	-	9	3	26	13	-	-
-	-	23	23	6	5	-	-	6	6	-	-	28	28	7	6	-	-
53	47	91	74	177	88	3	2	184	114.5	77	67	119	90	254	119	4	2

EXPLANATION OF HEADINGS:

1. Total--complete faculty or civil service needs
2. Univ.--requested support from University funds for School of Dentistry Budget
3. University column for hospital program represents commitment for School of Dentistry's budget. Balance would be hospital commitment.
4. FTE--full-time equivalent
5. Tech.--technical
6. Other--non technical positions requiring no special training
7. Cler.--Clerical
8. F-T -- full-time
9. P-T -- part-time

[illegible]

[illegible]

PROGRAMS AND FACILITIES	[illegible]	[illegible]	[illegible]	[illegible]
I. [illegible]				
Animal Quarters	[illegible]	[illegible]	[illegible]	[illegible]
Biochemistry	[illegible]	[illegible]	[illegible]	[illegible]
Dental Materials	[illegible]	[illegible]	[illegible]	[illegible]
Genetics	[illegible]	[illegible]	[illegible]	[illegible]
Microbiology	[illegible]	[illegible]	[illegible]	[illegible]
Oral Biology	[illegible]	[illegible]	[illegible]	[illegible]
Oral Pathology	[illegible]	[illegible]	[illegible]	[illegible]
*Physiology	[illegible]	[illegible]	[illegible]	[illegible]
Preventive Dentistry	[illegible]	[illegible]	[illegible]	[illegible]
Research Training	[illegible]	[illegible]	[illegible]	[illegible]
TOTALS	[illegible]	[illegible]	[illegible]	[illegible]
II. [illegible]				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible] and Oral [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Oral Surgery	[illegible]	[illegible]	[illegible]	[illegible]
Orthodontics	[illegible]	[illegible]	[illegible]	[illegible]
Pedodontics	[illegible]	[illegible]	[illegible]	[illegible]
Postgraduate [illegible]	—	[illegible]	[illegible]	[illegible]
[illegible] Multipurpose Clinics and Associated Facilities	[illegible]	[illegible]	[illegible]	[illegible]
TOTALS	[illegible]	[illegible]	[illegible]	[illegible]
III. [illegible] for Freshmen and Sophomores	[illegible]	[illegible]	[illegible]	[illegible]

* Includes [illegible], Oral Physiology, and [illegible]

[illegible]

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

EXISTING AND PROJECTED SPACE

PROGRAMS AND ACTIVITIES	Existing	New Needed	1973 Need	1986 Need
	NET SQUARE FEET			
IV. DENTAL HYGIENE AND DENTAL ASSISTING FACILITIES	2111	5304	16625	20790
V. HOSPITAL PROGRAM	487	3966	20564	#18958

Inactivation of Mayo Complex will be coordinated with transfer of remaining patients to new health science center. Therefore 1986 need less than 1973.

VI. MISCELLANEOUS				
Administration (Dean's Office)	1660	2360	3210	3610
Business Office	185	600	1200	1500
Cafeteria Lounge	--	5000	9000	12000
Civil Service Men's Lockers and Lounge	--	200	400	500
Civil Service Women's Lockers and Lounge	251	500	700	800
Data Collection and Transcription for Clinics	--	300	600	700
Lecture Rooms	Shared	--	15250	18500
Locker Rooms - Juniors and Seniors	1698	3000	4500	6000
Locker Room for Men Faculty	473	600	800	1000
Locker Room for Women Faculty	--	100	200	300
Lounge for Faculty	--	400	600	800
Photography-Television	1657	3066	3346	4072
Reading Room - Archives	1089	1089	1800	2400
Seminar Rooms - General Purpose	285	1000	1200	2000
Storage	100	800	1500	1600
TOTALS	7398	19015	44306	55782

SUMMARY				
Research	16966	31821	76928	107373
Clinical	28284	70598	129621	171959
Preclinical	12638	16000	24049	30611
Dental Hygiene and Dental Assisting	2111	5304	16625	20790
Miscellaneous	7398	19015	44306	55782
School of Dentistry TOTALS	*67397	142738	291529	386515
HOSPITAL PROGRAM	487	3966	20564	18958

* Includes lecture room space. 1973 and 1986 projections include space for lecture rooms.

CURRENT AND PROJECTED ENROLLMENT OF GRADUATE STUDENTS, RESEARCH, AND CLINICAL

Discipline or Program	Currently		1975		1986	
I. RESEARCH						
Biochemistry	2		9		12	
Genetics	1		3		12	
Microbiology	3		16		20	
*Oral Biology	9		30		40	
Oral Pathology	3		6		8	
Physiology	3		6		9	
Preventive Dentistry	0		12		12	
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 HOSPITAL PROGRAMS						
Rotating Interns	0		8		14	
Resident Dental Fellows	0		8		14	
Total	0	0	16	16	28	28
Complete Totals		47		179		274

The above 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 assistanceships, dental fellowships, etc. Another 10% must be available to support interns and residents in associated teaching hospitals.

Includes Oral Diagnosis, Oral Medicine and Oral Roentgenology

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

EXISTING AND PROJECTED STUDENT ENROLLMENT

Category	Entering 1966		Projected 1970		Projected 1974	
	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	285	200	360
Dental Assisting (1 year)	43	35	150	140	200	175
Postgraduate #	--	6	--	20	--	35
Continuing Education	--	495	--	800	--	1000

* In the future, some students in this category will be seeking advanced clinical training but will not be registered in graduate school 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.

School of Dentistry
University of Minnesota

Educational, Research, and Service Programs

By 1980 / 150 Students

A. Four year D.D.S. program

1. 110 freshman students admitted with a mortality rate of about 12-15%.
2. 394 dental students enrolled now.
3. 85-90% of entering students are from Minnesota.
4. Most non-residents are from North Dakota, South Dakota, and Wisconsin.
5. About 55% enter with 3 or more years of predental courses in liberal arts. Approximately 20% hold at least a bachelor's degree.
6. About 35-40% take all or part of predental work in our CLA.
7. In first 2 years of professional school, students spend about 2120 hours in class time with 950 hours in basic medical sciences and 1170 in basic dental subjects. Some clinical experience gained in sophomore year.
8. In second 2 years, the 2225 hours are mainly for courses in clinical theory and clinical practice.

B. Bachelor degree programs

1. With 2 years of predental liberal arts study, students are eligible for a B.S. degree in dentistry after 2 years of dental school.
2. With 3 years of study in CLA and 2 years of courses in dentistry a B.A. degree from CLA can be awarded. The first 2 years in liberal arts can be taken in another college (such as St. Olaf).

C. Dental hygiene program

1. Two year program associated with CLA.
2. 50 students admitted to first year class, average graduating class is 35.
3. All entering students have high school education but over $\frac{1}{2}$ have at least one year of college.
4. At least 12% of the students pursue the combined degrees of B.A. and graduate dental hygienist.
5. Instruction is from faculty in Dental Hygiene, School of Dentistry, College of Medical Sciences, and CLA.
6. Graduates do some clinical dentistry and work in dental offices, clinics, public health and school programs, and in teaching programs.

240 Schools

D. Dental assisting program

240 Schools

1. One year program through School of Dentistry and General College.
2. 35 students admitted, graduating class is about 30.
3. All entering students have high school education and about $\frac{1}{2}$ have at least one year of college.
4. At least 1/3 earn the associate of arts degree in addition to the certificate in dental assisting.
5. Instruction is from faculty in Dental Assisting, School of Dentistry, and General College.

E. Graduate programs

1. 36 full-time graduate students at present.
2. Of these, 6 with D.D.S. degrees are pursuing Ph.D. degrees with majors in basic science or related fields such as genetics, biostatistics, and epidemiology. Their minors are in various dental disciplines.
3. Three students are in the combined D.D.S.-Ph.D. program. This program is scheduled for at least 6 calendar years after the sophomore year in dental school and leads to the D.D.S. degree, and the Ph.D. degree in a basic medical science or related discipline. The minor again is in dentistry.
4. Twenty-seven students with D.D.S. degrees are in the Masters degree program with majors in special areas of dentistry (oral pathology, oral surgery, orthodontics, periodontics, and restorative dentistry) and minors in basic medical sciences. These programs are scheduled for 21-36 calendar months.
5. These students study in a number of University departments plus the University of Minnesota Hospitals, Veterans Administration Hospital, and Hennepin County General Hospital.

F. Continuation study program

1. In recent years, 350-500 persons take refresher courses annually in dentistry, dental hygiene, and dental assisting.
2. About 15 different courses are offered each year.

G. Research

1. There is increasing emphasis in applied and fundamental research in the School of Dentistry.
2. A number of research and training grants have been received to support investigations and to train researchers and educators.

H. The Mayo Graduate School of Medicine—

1. A mutually beneficial relationship has been developed with the Mayo Graduate School of Medicine and the Mayo Clinic.
2. Lecturers have been exchanged.
3. The Mayo Clinic has offered a summer clinical fellowship for an undergraduate student from the School of Dentistry.
4. There is joint representation on the oral and written examinations for Masters degree candidates from the Rochester and Minneapolis campuses.
5. It is anticipated that there will be increased cooperative efforts by these two groups in graduate training.

I. Service programs

1. Extensive clinical dental services are provided yearly for the public.
2. About 5,000 new patients are admitted annually for dental care in the clinics.

10-15 year olds to

3. Approximately 125,000 dent exam[illegible]ations and dental operations are performed each year.
4. The faculty provides extensive consultation services for dentists.

J. Faculty

1. Under the regular budget and sponsored programs the School of Dentistry has the following faculty members:

   a. 25 full-time.
   b. 5 half-time or more.
   c. 87 less than half-time. — 3½ days in most instances.

K. Physical Facilities

1. The School of Dentistry has been housed in Owre Hall for 32 years.
2. The fifth floor was added 20 years ago.
3. The School of Dentistry occupies 3 floors of the Owre-Jackson addition completed 4 years ago.
4. In spite of the remodeling and the addition, facilities are inadequate.
5. Owre Hall was built for 3 dental classes totaling about 250 students and 2 dental hygiene classes totaling about 85 students.
6. Now the dental course is four years and class sizes have been increased. In addition we have full-time students in dental assisting and graduate study and part-time students in postgraduate and continuation study.
7. There is a great need for increased research facilities and space for new programs.

1000 students per year —

L. Budget

1. The annual operating budget of the School of Dentistry is approximately $900,000. — almost ⅓ received from income
2. The sponsored programs add approximately $400,000 yearly to the budget.
3. Also, the School of Dentistry recognizes and is grateful for the instruction and assistance to the undergraduate and graduate students by other departments of the University, primarily from the basic science departments of the College of Medical Sciences and from personnel in the University of Minnesota Hospitals.

M. Curriculum study

1. A thorough study of the curricula in dentistry, dental hygiene, and dental assisting is now being conducted.
2. It is anticipated that from this study many improvements will be made in the curricula of the above programs.

N. Future plans

1. The administration and faculty of the School of Dentistry expect to move ahead in several important areas.

2. Plans include expanding the research program and preventive dentistry. Also, new and expanded efforts are expected to be made in hospital dentistry; continuation study, postgraduate and graduate programs; maxillo-facial prosthetic clinic, oral biology; total patient care program; honors program; undergraduate programs; and others.
3. These ambitious and important programs will require increased faculty and expanded physical facilities.

March 8, 1965

OBJECTIVE

Teaching & Service

It shall be the sole primary objective of this School of Dentistry to devote its total resources and to dedicate its entire efforts toward total and continuing advancement of all existing and all potential responsibilities of the profession of dentistry.

Recognizing the complexity of this goal of total and continuing progress, it is our conviction that such an ambition must be pursued by two indivisible and inseparable functions - preparation for professional practice and scholarly activities. Thus, it shall be our continuing goal to recruit and prepare exceptional individuals to be skillful in the art of dentistry, knowledgeable in the science of dentistry and sensitive to the obligations of a professional person in general and to a member of a health profession in particular. Moreover, recognizing that the ultimate goal of dental health is the prevention of oral disease, it shall be our continuing goal to develop and promote all investigative and applied activities designed to obtain a more thorough understanding of the total complexity of both oral health and oral disease. — Tell pts

Inasmuch as continuing growth denotes continuing change it is further acknowledged that such growth and such change can only occur in an environment of free, open and curious minds. Thus, it is further our conviction that a most significant responsibility of the School of Dentistry is to encourage and develop in itself and in every dentist and every dental student not only a desire to learn from all aspects of the past, but also a need to grow in every dimension in the future.

Service

to pts- paying vs. non paying —
caliber of service - (Can you exist w/o facilities Equal to dentists office)

to Dentists-
Continuing
1. Centers throughout State
2. Bring in Dentists -
3. Continuing Courses.-

Referral Center

ABSTRACT OF

THE SURVEY OF DENTISTRY

The Final Report
Commission on the Survey of Dentistry
in the United States

Byron S. Hollinphead, Director

INTRODUCTION

as reprinted from THE SURVEY OF DENTISTRY
The American Council on Education, Washington, D. C.
1961. Library of Congress Catalog Card No. 61-7117

Because the dental profession is so tightly woven into the fabric of our national life, its ways of doing things, its philosophical outlook, and its forms of organiaztion reflect our whole society. Therefore, to ask how dentistry can or should be improved raises, in some instances, fundamental social, economic, and even political questions. But such questioning and self-criticism are well-known characteristics of American life; no people in history have been more conscious that a dynamic society must keep restating its goals and seeking new ways to attain them.

To give focus to these restless efforts for improvement, committees or commissions are often appointed to make recommendations in those areas of national life where the public stake is important. This study is in the category. It represents the thought of a representative commission made up of four dentists and ten laymen. The commission has no notion that all of the recommendations which follow can or should be implemented at once. Indeed, a formula for action is suggested which might extend over a period of fifteen years. The commission is also well aware that even to carry out the suggested program over that length of time will require persistent public efforts as well as concerted action by myriads of local and state dental groups.

The reasons for everyone to be vitally concerned about dental health are exceptionally strong. Nearly everyone suffers from some form of dental disease. Furthermore, some of the methods of relieving individual dental troubles can only be achieved by public action. Fluoridation of water supplies is an example. Also, in a society committed to the ideal of equality, there is no dodging the unhappy fact that the amount of dental care people get depends too heavily upon their educational background, income, race, sex, and degree of health knowledge.

In a previous generation the comment that a substantial proportion of our people were ill-housed, ill-fed, and ill-clothed had considerable validity. Today that comment would apply with equal force to a much smaller percentage. When this comment was first made, in the early thirties, only one-fourth of the population had seen a dentist the previous year. Today this fraction is close to half. We can say, therefore, that the proportion of those getting some form of dental care has almost doubled within the past thirty years. We can also say that this proportion seems to increase in direct relation to increases in attendance at schools and colleges and to improvements in per capita income.

Nonetheless, the proportion of the population getting good dental care is not as large as it should be, and the priority given to dental care in most family budgets is not as high as its importance deserves.

If the percentage of citizens getting good dental care is to increase, and if people are to give dental care a higher priority within their family budgets, then there are a number of problems to overcome and certain attitudes to change. This study deals with these problems and attitudes.

First to be considered are those questions requiring group action or the public measures which need to be taken on behalf of the dental health of everybody. Among these are the fluoridation of community water supplies, dental health education for children and adults, the dental care of school children, group payment plans, the role of government assistance, and the manpower problem or how to educate enough people to provide the needed professional services.

Closely second in importance to the group actions requiring decision are the problems involved in the relationships of dentists and patients. These concern the different types of practice, the question of fees, the use of auxiliary personnel, licensure regulations, and the relationship of the dentist to health institutions such as hospitals and to social organizations such as welfare agencies.

Simply to list the foregoing questions poses another. How can we educate enough people of high ethics and intelligence to perform the public and private professional tasks in the field of dental health? Certainly, a survey of this kind must include a discussion of the education required if young people are to be prepared to meet the responsibilities devolving upon the professional man or woman in the second half of the twentieth century. This requires study of the qualifications of dental school faculties and some examination of the facilities available to them. It leads to the question of whether or not the support given to dental education is sufficient and whether or not the present graduate is properly qualified when he begins to practice. It is of equal importance to find out what provisions are now being made to see that practicing dentists are kept up to date in their knowledge and skills.

Finally, the survey seeks to discover whether enough time and energy are devoted to experimentation with the new methods and materials which might alleviate some of man's age-old dental suffering. Are dental researchers in close touch with the research going on in other health fields? Is dental research supported in appropriate proportion to the $2 billion annual expenditure we make for dental health care? Are the facilities and personnel for research available? What are the promising future avenues of dental research, and are we headed in those directions?

It is questions such as these which this book tries to examine. Naturally enough, these are no simple answers to such queries, and in some cases the study can only put up guideposts with signs which may need changing as conditions change.

Among the chief ancient professions, dentistry was one of the last to institutionalize itself by developing formal schools for instruction. Only 120 years have passed since the establishment of the first dental school at Baltimore. It is less than a century since a dental school first became part of a university. It was only thirty-five years ago that the last proprietary dental school was closed. When one considers the recency of these events, and then sees the high standards of scientific knowledge and technical skills required of the modern dentist, the marvel is that dentistry has come as far as it has.

But to dwell on such progress would be to induce the hazard of complacency, and it is to reduce such hazards that surveys are made.

The following outline represents the recommendations made by the commission as a conclusion to the survey. The commission recommends that:

I. Dental Health

A. The Dental Health Problem in America

The dental profession take the necessary steps to organize a national voluntary council on dental health. This citizens organization should be responsible for stimulating interest in the dental health program and for developing support for programs of dental care, research, prevention, and education.

B. The Effectiveness of Dental Public Health Programs

1. All public agencies, with the assistance of voluntary associations and professional societies, make greater efforts to promote water fluoridation and community topical fluoride programs.
2. A special federal grant-in-aid be made to states to assist communities in meeting the cost of initiating fluoridation programs, on a matching basis. The funds should be specifically earmarked for this purpose and should be granted on the basis of need. Priority should be given to smaller communities.
3. State dental practice acts be modified to allow both dental hygienists and dental assistants to apply fluorides under the supervision of a dentist.

C. Dental Public Health Education

1. The American Dental Association expand the activities of its Bureau of Dental Health Education; the Public Health Service increase its dental health education activities directly and through provision of assistance to states; and state and local public health agencies and dental societies initiate or expand public health education programs.
2. The number of trained health educators employed by official health agencies and dental societies be markedly increased, and that educational efforts be guided by their recommendations.

D. Professional Education

Dental public health agencies, in cooperation with dental societies, dental schools, and schools of public health, expand their efforts in areas of continuing and professional education for all health and health related disciplines.

E. Dental Treatment

1. Official health agencies assert their proper leadership in the initiation, planning, and administration of dental care programs, giving first priority to school-age children.
2. Existing crippled children's service programs be expanded as rapidly as possible to include comprehensive care for children with oral clefts and other severe dentofacial deformities requiring orthodontic treatment.

F. Research

1. Dental public health agencies emphasis upon research and investigation, particularly in areas such as social and behavioral studies, epidemiological investigation, development of more effective administrative procedures, and the evaluation of health education methods; and that the U. S. Public Health Service encourage these types of investigation.
2. Training courses and workshops in research methods be established, and such education be offered to dental public health personnel by the Public Health Service and by the schools of public health.

G. Special Problems

The Public Health Service and state and local dental health agencies expand demonstration projects and experimentation in special problem areas such as radiation of the handicapped, and the provision of dental care for the homebound, aged, and chronically ill.

H. Barriers to Developments

1. Personnel

   a. The federal public health traineeship program and the dental officer career development program of the U. S. Public Health Service be expanded.

   b. Recruitment activities for all types of dental personnel be greatly expanded, and better methods be developed to present the potentialities of a career in public health to dental and dental hygiene students.

   c. Dental public health programs make greater use of adjunct personnel including dental hygienists, health educators, statisticians, engineers, social scientists, and administrative and dental assistants; and that experimentation be initiated to discover more effective ways of utilizing adjunct personnel.

2. Salaries

   Health agencies establish dental salary schedules comparable to incomes in private practice in order to attract and hold competent individuals.

3. Financing

   a. Every effort be exerted by the dental profession, in cooperation with other groups, to secure more adequate financing for dental health programs at the local, state, and national level.

   b. Official health agencies make more aggressive efforts to obtain funds for dental health programs.

   c. A federal grant-in-aid to the states be established, specifically earmarked for dental public health programs.

I. Methods of Financing Dental Care

1. States and local communities design and initiate incremental care programs for children, covering six-year-olds the first year and

adding new groups of six-year-olds each year until all children through high school are covered.

a. The cost of such care be met by the family if family income is sufficient.

b. All children from indigent families receive care at community or state expense, with assistance by financial grants from the Federal Government.

c. Programs be developed under which communities or states would provide partial payment for dental care, also with federal assistance, for children of low-income families who are not indigent.

2. All parents provide dental care for their children or utilize the services or public programs until the children are able to assume the responsibility for their own care.

3. Programs be established to provide care, under a system of priorities, to adults who are unable to provide for themselves, giving first priority to the relief of pain and infection and to those who may be made employable through the provision of dental services.

J. The Future of Dental Care Plans

1. Experimentation in methods of providing and paying for dental care through organized group action be increased; that foundations, labor unions, corporations, and government agencies provide funds to support such experimentation.

2. Dental service corporations be organized by all state dental societies to facilitate the development of plans for the group purchase of care.

K. The Availability of Professional Service

1. The scope of training in schools of public health be broadened to provide instruction in administrative methods which would be useful in education, research, and dental care management, as well as in the traditional public health programs.

2. The profession give greater recognition to the importance of developing administrative skills; encourage formal training for those who may become engaged in administrative dentistry; and encourage outstanding dental students to enter the field.

II. Dental Practice

A. Dental Practice by Modern Standards

Dentists and patients have a mutual understanding of treatment plan, including fees for service, before treatment is begun.

B. Preventive Dentistry

1. All dentists participate vigorously in community public health projects.

2. Dentists recognize increasingly the pre-eminent importance of preventive dentistry by utilizing all available preventive measures in

their practices and by educating their patients in the value of prevention.

C. Types of Practice

The dental profession and the dental schools take appropriate action to narrow the gap between the need for prevention and treatment of malocclusion and the services available to meet the need.

D. Determination of Fees

Local, state and national dental organizations promote studies designed to provide information that will help dentists establish a sound basis for determining fees.

E. Hospital Dental Service

1. A larger number of carefully supervised dental internships be developed in hospitals and clinics and dental students be encouraged to enter internships following their graduation.
2. Cooperation be encouraged between the dental profession and health insurance programs of nonprofit and commercial sponsors, developed and operated to meet the public's need for health care.
3. In the interest of total health care of patients, both hospitals and dental societies work for the establishment of more hospital dental departments, and encourage dentists to participate in hospital service.
4. Hospital dental departments be delegated authority and administrative responsibilities similar to the authority and administrative responsibilities of other hospital services.
5. Dentistry be represented on the Joint Commission on the Accredition of Hospitals.
6. Dental schools develop courses through which practicing dentists interested in appointments to hospital staffs may receive basic instruction in hospital procedures.

F. Dental Licensure

1. The dental profession explore the possibilities of various programs which might be adopted to ensure the continuing qualification of dental practitioners.
2. Local and state dental societies be encouraged to establish and maintain mediation committees to adjudicate disputes between practitioner and patient.
3. An effective relationship between state licensing boards and the Council of the National Board of Dental Examiners be developed, and all states accept the results of the National Board examinations.

G. Augmenting Auxiliary Personnel and Services

1. Dentists utilize a greater number of well-trained dental assistants.
2. The number of schools for assistants be increased.
3. The dental profession conduct studies designed to develop and expand the duties of auxiliary personnel. The broadening of services

should begin with the dental hygienists because there is already an approved program of education and licensure for this group. The legal and educational restrictions against male hygienists should be removed.

4. As soon as the dental profession standardizes the educational programs for dental laboratory technicians and for dental assistants, consideration be given to expanding the duties of these auxiliary groups. In the public interest, the education of auxiliary personnel should be carried out under the guidance of the dental profession, and the services performed by all auxiliary personnel should be under the supervision of licensed dentists.
5. Dentists in all states be required by law to provide dental technicians with written perscriptions for the fabrication of dental appliances, and these regulations should be strictly enforced.

III. Dental Education

A. Admissions Policies

The admissions standards of the dental schools be reviewed for the purpose of improving the quality of the students admitted.

B. Recruitment

National recruitment program be established to attract better students, both men and women, in larger numbers to the study of dentistry. Such a program should be under the sponsorship of the American Association of Dental Schools and should include a scholarship and loan program based on merit and need. This program would complement the programs of individual schools and should be integrated with the recruitment programs of other organizations and agencies. It should also provide for recruitment of well-qualified applicants, both men and women, to dental hygiene programs and to other training programs for auxiliary personnel.

C. Faculties of Dental Schools

1. Both full-time and part-time teachers generally be encouraged to devote more time to laboratory, clinical and educational research and to other university acitivites.
2. Dental schools improve the quality of teaching by:
   a. Enlarging the number of teachers employed;
   b. Raising the qualifications required for beginning teachers;
   c. Improving the teaching skills of present faculty members;
   d. Employing a larger proportion of teachers on a full-time basis;
   e. Employing part-time teachers generally on at least a half-time basis.

D. The Dental Curriculum

1. Objectives and Content of Courses

Organizations such as the American Association of Dental Schools arrange

and conduct a series of institutes of conferences for dental teachers to improve the content and correlation of courses.

2. Recommendations for improvement

   a. The dental schools give students more experience in working with auxiliary personnel, especially with dental assistants. Students should understand completely the importance that effective utilization of such personnel plays in the practice of dentistry.

   b. Dental schools have active hospital affiliations, and dental students receive instruction and experience in hospital procedures.

   c. Dental schools give students more instruction in how to establish and administer a dental practice.

   d. Dental schools make their curricula more flexible and stimulating. Where possible, honors programs should be arranged for gifted students.

E. The Quality and Effectiveness of Dental Education

1. Dental Schools develop or improve faculty in-service programs on the fundamental principles of teaching and the problems facing dental education.

2. Every dental school expand or develop a program to evaluate the effectiveness of teaching. The methods to be employed should be decided upon by the dean and the faculty cooperatively, but provision should be made for student participation.

3. The dental schools develop or improve organized programs for the counseling of undergraduate dental students.

F. Financing and Expanding Dental Education

1. Because of the importance of dental education and research to the welfare of the nation, and because evidence shows that most dental schools are facing difficult financial problems, greater financial support be contributed by:

   a. Alumni of dental schools,
   b. Benefactors,
   c. Business corporations,
   d. Foundations,
   e. State and local tax bodies.

2. Universities give more financial support to their dental schools.

3. The Federal Government assist dental education by providing funds for operational expenses, as well as for new construction and remodeling and for scholarship and loan funds for dental students. This assistance should not interfere with university autonomy in admissions policies and curriculum content.

4. Consistent with high standards, present schools be expanded and new schools constructed to permit the graduation of at least 6,180 dentists annually by 1975. Also, additional facilities should be provided for the training of auxiliary personnel both in dental schools and other institutions.

G. Dental Licensure

1. All state boards of dentistry accept the results of the National Board Dental Examinations in lieu of their own written examinations, thereby restricting their evaluation to technical and clinical procedures.
2. Every effort be made to improve the quality of state board examinations and to ensure the appointment of well qualified dentists to the examining boards.

H. The Council on Dental Education

The American Dental Association re-evaluate the activities of the Council on Dental Education for the purpose of permitting the council to perform its function of accreditation more effectively.

IV. Dental Research

A. Progress in Dental Research

There be an expansion of facilities for the evaluation and standardization of pharmaceutical preparations used in the treatment of dental disease.

B. Communication and Application of Research Findings

Communication of research findings to dental teachers and to practitioners be accelerated, and federal and other assistance be provided for the dissemination of research information by the use of publications, seminars, and institutes.

C. Research Personnel

Dental schools enlarge their faculties to provide more time for research for those who are competent to engage in it.

D. Development of Research Personnel

1. Dental schools initiate or reinforce programs designed to stimulate faculty interest in order to improve the interest in scholarly pursuits.
2. Dental schools develop and improve programs which are designed to interest dental students in research and teaching.
3. A form of fellowship be created between the post doctoral and the senior fellowship for career development and that it be supported by federal funds.
4. Financial support for fellowship and training programs be augmented.

E. Critique of Research Support and Administration

1. Federal assistance provided under the Health Facilities Act be liberalized to provide effective assistance to all dental schools for the expansion and improvement of their educational facilities.
2. The Federal Government, in its support of research and training in the field of health, adopt the principle of payment to universities of the full overhead costs.
3. Financial support for dental research be increased, not only from federal sources but also from individuals, philanthropy, and cor-

porations. The increase in financial support should be commensurate with the increase in the availability of research personnel.

4. A nongovernmental agency be established for the solicitation and distribution of grants from industry and philanthropy for the advancement of research in the cause and the control of oral disease.

F. Future Developments in Dental Research

1. Universities assume more responsibility for the development of close relations among their dental schools, other health science schools, and graduate departments in order to promote exchanges of knowledge and ideas.
2. Substantial federal funds be made available for the recruitment and training of competent scientists from dental and other fields of science to do research in dental schools.
3. Research efforts be broadened to include more projects in the fields of the social sciences and education, and the collaboration of the appropriate university departments be enlisted for such studies.

SUGGESTED OUTLINE FOR PROGRAMMING A SCHOOL OF DENTISTRY

May, 1964

Manpower and Education Branch
Division of Dental Public Health and Resources
Public Health Service

We believe that only by setting down on paper the ideas and concepts of the individuals responsible for the planning of new dental school facilities, can a project be carried to successful completion. We further feel that the act of documenting ideas and seeing these ideas in print, materially helps clarify and crystalize thinking. Remember it is easier to change a word on paper than to change the location of a cinder block partition. The more detailed information you can furnish at this stage, the greater will be the saving in planning and construction time, and the fewer the change orders.

1. Title Page

   Name and Location of School

   Indicate as title "A Narrative Description Including an Architectural Program with Space Schedules."

2. Credit Page

   Names of Authors

   Date

   University Authorization

3. Index

PART ONE

This part, which should be completed before starting Part Two, can be prepared by the Planning Committee, and usually will not necessitate the assistance of the university architect.

Section A

1. Short history of the university (1/2 page)

2. Short history of the school (1/2 page)

3. Justification: Prepare a short statement describing the basis for decision to undertake this project.

4. Objectives of the school.

5. Educational philosophy.

Section B

1. Organizational Structure.

   Describe the proposed overall organizational structure and relationship to other university components.

   Describe briefly services that will be furnished or provided the dental school by other university components.

   Similarly, describe the services that the dental school will provide other university components.

   Describe possible changes in organizational structure in the future.

Section C

Describe briefly the curriculum and how it meets the school's objectives.

Indicate class size for each program, proposed and future.

Section D

For each program or department briefly describe, narratively and by tables, in sufficient detail to determine the space and facilities required. Consider this section as "What" and "How." In this section, do not describe facilities. The "Where" and "With What" should be discussed in Section B and C of Part II.

Include such information as:

(1) The program or department.
(2) General scope of each course.
(3) Methodology of teaching.
(4) Hours per week to be spent by the student in the various instructional settings.
(5) Staffing of department.
(6) On-the-floor ratio of instructors to students in the clinics and laboratories.
(7) Relationship to other departments.

It is suggested that material be organized in the following categories and identified to facilitate reference:

a. Undergraduate (Dental Students)

(1) Basic Science
(2) Preclinical Dental Science
(3) Clinical Science

b. Graduate Program

(1) Basic Sciences
(2) Dental Sciences (Dental Materials, Dental Anatomy, etc.)
(3) Clinical Sciences

c. Continuing Education

(1) Graduate Program

A planned sequence of courses leading to an advanced degree, such as M.S., M.S.D., or Ph.D., granted by a recognized educational institution.

(2) Postgraduate Program

A planned sequence of courses that does not lead to a degree, but one for which the student may be awarded a certificate.

(3) Refresher Courses.

Specially designed short courses, not organized on the same formal basis as the graduate or postgraduate study.

d. Research Program

(1) Basic
(2) Clinical
(3) Sociological
(4) Educational

3. Dental Auxiliary Program

(1) Dental Hygienist
(2) Dental Assistant
(3) Dental Laboratory Technician
(4) Relationship of junior college training programs and community college

PART TWO

This part should be correlated with the narrative description in Part I. It undoubtedly will require the assistance of the university architect or architectural firm commissioned to design the building.

Section A

Describe size and character of proposed site, including information on space for future expansion, availability of transportation facilities, parking, faculty and student housing. If available, attach a small scale location map, area development plan and campus master plan.

Section B

Describe the present criteria used by the university for space determination.

Section C

Describe the facilities and equipment for each room required to accomplish the objectives and, in accordance with the methodology previously described. Use numbering system corresponding with Section D of Part I. The following information should be included for each room: Net square foot area, number of occupants, percent utilization research for both medical and dental, percent utilization for other programs, itemization of major equipment, special requirements relative to utilities and mechanical features, etc. Include common facilities such as lecture room, library, and CCTV. Include such special facilities as animal quarters and shops. Include general supporting facilities, i.e., administration, student facilities and general maintenance. Indicate these pages as "Space Schedules (Space Description Forms)." (See page 88 of the publication, "Dental School Planning.")

Section D

Summary of total net square foot areas for teaching, research and other programs.

Section E

Prepare an analysis (Class Schedules) showing how programs of PART ONE will be accommodated in facilities described in PART TWO. Indicate how provision has been made for future changes in programs and enrollment.

Section F

(Applicable to replacement, renovation, rehabilitation or addition to present structure)

Describe present physical plant, gross and net square foot areas; general condition of present building, structural and fire hazards (if any), age and condition of equipment. Describe how this project(s) will forestall curtailment of enrollment and quality of instruction.

Section G

Describe the following:

(a) General Construction
(b) Heating, Ventilating and Air Conditioning
(c) Plumbing (including gas and compressed air)
(d) Electrical Work
(e) Trash and Garbage Removal
(f) Communication Facilities
(g) Custodial Services
(h) Rest Rooms

Section H

Prepare an estimate of:

(a) Annual Income and Support, and
(b) Annual Cost of Operation and Maintenance

Section I

Prepare a capital budget for the project, including estimated construction costs, fees and estimated cost of equipment. Indicate source of funds available for this project, such as (a) cash, (b) bonds, (c) appropriations, etc. Prepare a Construction Schedule, indicating starting and completion dates, estimated amount of work to be accomplished in each fiscal year, and how this work will be phased into school's present operations.

Section J

The application for federal aid under Public Law 88-129 will require schematic drawings. Reduced size prints can be included with the narrative description for a clearer understanding of the project.

UNIVERSITY OF *Minnesota*

OFFICE OF THE PRESIDENT • MINNEAPOLIS, MINNESOTA 55455

March 2, 1965

Dentistry

To: Donald W. Cowan
Allyn G. Bridge
Carl B. Heggestad
Jo Ann R. Hubbard
James R. Jensen
Leon Singer
W. Albert Sullivan
✓Glenn R. Mitchell

From: Elmer W. Learn

Subject: Dentistry Subcommittee of the Committee for the Study of Physical Facilities for the Health Sciences.

On behalf of the Committee for the Study of Physical Facilities for the Health Sciences I am asking you to serve on its Dentistry subcommittee.

The Committee for the Study of Physical Facilities for the Health Sciences was appointed by President O. Meredith Wilson on October 20, 1964. In his appointment letter, Dr. Wilson stated:

> The University of Minnesota has a major commitment to teaching and research in the health sciences. Over the years we have developed major physical facilities. Many of these were developed in an early day and are not well suited to modern circumstances. External factors have frequently influenced our decisions on the development of a master plan. Many of the facilities we do have are badly crowded, and it has become apparent that we need to develop additional facilities to serve a variety of needs. The University is approaching the 1965 legislature with a request for monies for site acquisition and for the planning of new facilities to serve the health sciences. It is important that we undertake an internal study of the needs of the health sciences in order that we may provide the most adequate long-range plan.

The committee (membership list enclosed) decided that these goals could be accomplished best by organizing a series of subcommittees, each of which is chaired by a member of the parent committee. Membership on the subcommittees is to be broadly representative of faculty in the health science areas.

course has been completed.

4. It was commented that there are other dental assisting schools at Mankato State, Hibbing and Bemidji (the latter two under the vocational training bill). It has been estimated by some that we need 240 schools for dental assistants, turning out 60 girls a year in 1965 to meet the demand but this was judged unrealistic by one member of the committee.

5. What is the outlook for graduate studies? It was pointed out that one study indicated that by 1970, with the new dental schools and programs, there will be a need for 2000 academic dental positions many of which will be for dental research workers. Last year, there were 42 Ph.D.'s granted to dentists. One of the goals of the combined D.D.S.-Ph.D. program at Minnesota is to train investigators who will continue to be interested and productive in dental research.

6. There is a program of summer student research scholarships of $800 per person for approximately 17 undergraduate students. The support comes mainly from general research support funds and students who have completed their first or second year of school are usually selected. The students work under faculty guidance and write a paper on their summer work. These papers are presented at a special evening session in February.

7. It is anticipated that dental services will be expanded considerably in the University Hospitals with emphasis on in-patient care.

8. Teaching material at the School of Dentistry is generally plentiful, particularly when compared to some dental schools in the country. Minnesota would like to plan total dental treatment for more people; a reasonable immediate goal might be for 33% of the patients.

9. Dr. Jensen has served as chairman of the curriculum committee for three years. A report will be ready for the Dean by July 1, 1965. This will be very helpful in considering the needs of physical facilities for dentistry.

Dr. Holland offered to take the committee members on a tour of the facilities. At the next meeting, he would like the members of the dental subcommittee to suggest ways in which we can carry out the charge given us by the Learn Committee. Present available space for dentistry will be outlined and projections of future programs and space needs will be started.

Respectfully submitted,

John H. Westerman
Executive Secretary

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES
FOR THE ~~HEALTH SCIENCES~~
DENTISTRY SUBCOMMITTEE

Minutes of Meeting May 25, ~~1965~~ (#2)

Present: Mellor Holland, Chairman, Allyn Bridge, Carl Heggestad, Jo Ann Hubbard, James Jensen, Glenn Mitchell, Leon Singer, W. Albert Sullivan, John Westerman

Absent: None

NEXT MEETING, TUESDAY, JUNE 8, 1965, 1:30-3:00 P.M., 239 OWRE HALL

1. Chairman Holland reported that at the May 10th Learn Committee meeting it was announced that the deadline for the program report will be October, 1965 and the building plans preliminary report will be due by March, 1966. The reason for the building report deadline is that the University must present its next building request to a legislative committee in March 1966.

2. The funds requested for land acquisition across from Millard Hall were approved. The two remaining parcels on the L shaped plot of ground are the Dental Supply building and the Phi Rho Fraternity house in the middle of the block.

3. Dr. Holland reviewed what had been covered at the last meeting. He handed out the enclosed statement about the objective of the Dental School and asked if there were any questions about the existing situation before proceeding to future plans.

QUESTION: What is the official position of the school with regard to future enrollment? What deficiencies in existing facilities will be pointed out by the physical requirements needed to accommodate more students? Prior to the appointment of the Hill Commission to study the needs for physicians and dentists in the region, the Dental School had submitted to University Administration a projection of 150 dental students per class by approximately 1975. There are now 110 students per class. With present facilities, the class size could not be increased by more than two to four.

QUESTION: What is the average age of dentists practicing in the state? 55 years, as of 1960. The number who stay in Minnesota from this dental school will meet only 50% of the projected need of the present ratio of number in population per dentist. The ratio is now 1700-1 in the state and by 1970 will be 3000-1. Over $\frac{1}{2}$ the dentists in the Dakotas have been trained at Minnesota.

QUESTION: What per cent of in-state tuition meets the total cost of education? About 1/6 or the same as medical school. The dental school does not have even 50% of their costs met by legislative funds. Most of the money comes from clinic fees, tuition, and grants.

QUESTION: Is there any indication that the surrounding states will want to send more students to our dental school? Yes. Is there any move to set up another regional dental school? No.

QUESTION: What has been the application-acceptance ratio? This year it is 345 completed qualified applicants for 110 positions. The trend has been similar

to dental and medical schools throughout the country, with a low point in 1957 when the ratio was 2-1. The ratio will soon approach the early 1950's ratio of 4-1. The application ratio is also quite favorable in the dental hygiene and dental assistant programs.

QUESTION: Do you have females in the school? Is there any policy against their admission? There are now 2 females in the school and one has been accepted for next fall. Qualified females are welcomed, although there may have been a different policy in the past. Admission is judged on the same basis as for men.

QUESTION: Comparing our 1700-1 ratio in Minnesota with other states, how do we compare? Quite well. Minnesota is about average in situation which may be described as a nationwide shortage.

QUESTION: How large are dental classes in other schools? Why did you project at 150? Minnesota is one of the larger schools, exceeded by Ohio State, NYU, Missouri, and others. There was no precise formula in picking 150, but it was based on the number of applicants, state needs, expected increased demand for dental services, population increase, and the expectations of recruiting more faculty. One projection was that dental hygienests will increase from 50 per class to 75 and dental assistants from 35 to 75 by 1978. Dr. Owre was a strong believer in the use of auxiliary personnel.

QUESTION: Can dental hygienests and dental assistants be effectively taught outside of the dental school? Not as well. The programs in JC, state colleges, and vocational schools in the state suffer from lack of qualified dental assistant instructors and insufficient participation by dentists. The dental students do need the hygienests and assistants in their training programs. If they do not learn to use these personnel when they are in school, it will be difficult to maintain the trend of utilization of the same personnel when they are in practice.

QUESTION: Are there any dental assistant schools that are of poor quality? Yes. In this state? Yes. Who regulates these schools and what standards are to be applied is a difficult issue.

QUESTION: There seems to be a trend in medical schools for federal funds to be made available for non-research purposes, i.e. the support of faculty for teaching and service programs under federal legislation. Is there a similar trend in dental schools? No trend but there is merit to this and it should be studied.

QUESTION: In view of what has been said, wouldn't it make more sense to plan the school on a regional basis? That is a good point. We must await the findings of the Hill Commission and probably should explore solutions for the support of training with representatives from the Dakotas. The point was then raised that before this group can make any recommendations about the future, it should know more about the regional role of the dental school.

There are a number of studies about the dental needs of the public. Dr. Jordan from the State Health Department has shown in one community that where fluoridation is present, 85% of the childrens dental needs were met, and where it is not present, only 20% of the dental needs are met. A national survey showed 20% of the population's

dental needs were adequately met, 20% were met on an emergency basis, and 60% were not met.

QUESTION: If your class size increased, how many more faculty would you need in proportion to existing faculty, and do you have any problems recruiting faculty? Our faculty would have to increase at a greater proportion. The same was true in medical school. There are now 25 ft faculty and 92 pt or a total of 50 equivalent full time positions. There are indications that the salary scale needs to be increased. There is a shortage of qualified faculty candidates, but the increase in research activities should help recruitment. It was suggested that the school state that they will not consider expansion until the salary scale is increased, and more hard money tenure positions were promised. The school was cautioned not to get into the tenuous position of expanding faculty mostly on soft money. Another point was that it is now time to mobilize our forces and present to the federal government the need for permanent support of faculty positions. Education deserves the same treatment as research.

Dr. Holland will attempt to get copies of a report by Dr. Corcoran indicating where the dentists settle after graduation. A letter from Dr. Learn about the scope of the fall report will be received by every subcommittee member before next meeting. Dr. Holland suggested that committee review these two documents in addition to the statement of objectives of the dental school.

Respectfully submitted,

John H. Westerman
Executive Secretary

JHW:jae

SCHOOL OF DENTISTRY - UNIVERSITY OF MINNESOTA

This statement was adopted by the curriculum committee as the focal point of its deliberations.

OBJECTIVE

It shall be the sole primary objective of this School of Dentistry to devote its total resources and to dedicate its entire efforts toward total and continuing advancement of all existing and all potential responsibilities of the profession of dentistry.

Recognizing the complexity of this goal of total and continuing progress, it is our conviction that such an ambition must be pursued by two indivisible and inseparable functions - preparation for professional practice and scholarly activities. Thus, it shall be our continuing goal to recruit and prepare exceptional individuals to be skillful in the art of dentistry, knowledgeable in the science of dentistry and sensitive to the obligations of a professional person in general and to a member of a health profession in particular. Moreover, recognizing that the ultimate goal of dental health is the prevention of oral disease, it shall be our continuing goal to develop and promote all investigative and applied activities designed to obtain a more thorough understanding of the total complexity of both oral health and oral disease.

Inasmuch as continuing growth denotes continuing change it is further acknowledged that such growth and such change can only occur in an environment of free, open and curious minds. Thus, it is further our conviction that a most significant responsibility of the School of Dentistry is to encourage and develop in itself and in every dentist and every dental student not only a desire to learn from all aspects of the past, but also a need to grow in every dimension in the future.

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

DENTISTRY SUBCOMMITTEE

Minutes of Meeting June 8, 1965 (#3)

Present: Mellor Holland, Chairman, Allyn Bridge, Carl Heggestad, Jo Ann Hubbard, Glenn Mitchell, Leon Singer, W. Albert Sullivan, John Westerman

Absent: James Jensen

NEXT MEETING, WEDNESDAY, JUNE 23, 1965, 1:30-3:00 P.M., 239 OWRE HALL

1. At the last meeting, the regional role of the School of Dentistry was discussed. In view of this discussion, the question of how this subcommittee could best approach the issue of a regional school was raised. Should we ask legislative representatives to meet with us? Should we suggest a study by the interim legislative building committee? Should we recommend the University study the feasibility of a regional school? Should we make a proposal to the Learn Committee? What is the Hill Commission doing in this regard? It was agreed that Dr. Holland would bring the matter up at the next Learn Committee meeting or contact Dr. Learn directly for guidance on how to proceed on this matter. One suggestion was that at least some legislators should be informed of the Study of Physical Facilities for the Health Sciences.

2. Chairman Holland announced that of this year's 92 dental graduates, 27 will begin general practice in Minnesota, 45 will go into military service, and the remaining will begin graduate studies or start practice in other states. In time, perhaps 60-65 members of the class will practice in Minnesota. Dr. Holland cites these figures as the basis for the projection of a decline in the number of practicing dentists in the state. Even at 60-65, this number does not replace the number of dentists leaving practice every year.

3. Dr. Holland asked the subcommittee for comments about the "School of Dentistry Objective" statement passed out at the last meeting. This statement was adopted by the curriculum committee as the focal point of its deliberations. Therefore, it was not intended to be used as the role and objective statement requested by the Learn Committee. It may serve as a starting point in our formulation of such a statement.

   QUESTION: I notice the statement does not contain any direct reference to the relationship of the school to the practicing dentist. Does the school feel any obligation for the continuing education of the practicing dentist? Yes. I should have added that this was a general statement and was prepared with mainly the undergraduate curriculum in mind. In recent years we have offered approximately 15 continuation courses annually with 350-500 participants. Next year we hope to add 2-3 new courses. To the extent our curriculum may change (as will be determined by the report of the curriculum committee), it is important that any shift in emphasis be brought before the practicing dentist.

   QUESTION: Why doesn't your objective call attention to anything but the dental students? Again, we were concerned primarily with our undergraduate curriculum. Our responsibilities for the education of auxiliary personnel should definitely be considered as part of the role and objectives of this

school and should be the concern of this committee. Graduate education and research are two of our most important programs and should be included in the statement of objectives.

QUESTION: Do you not play a national role at the graduate student level? What is your research role in the country? To back up for a moment, you will note on page two of our school bulletin the following statement under Residency Requirements for admission of undergraduate dental students.

> "First choice is given to Minnesota residents, second choice to residents of neighboring states that do not have dental schools, and third choice to other nonresidents who have acceptable reasons for attending the University of Minnesota School of Dentistry. Nonresidents are accepted only if their scholarship has been outstanding and if their other qualifications indicate unusual promise for the study of dentistry and a career in science."

Our graduate school admission requirements are more broadly based than our undergraduate requirements. We have very good graduate and research programs but our goal is to expand and improve both programs.

QUESTION: What if Minnesota accepted all Minnesota boys? What would be the reaction of the people from the Dakotas? They would be disappointed, but would not have any administrative or legal agreement to fall back on. However, there is a strong precedent for admitting a certain number of qualified applicants from the Dakotas.

QUESTION: Isn't there a danger, that with the increase in available federal funds, that unless Minnesota accepts the regional role of its school, by inaction several smaller and inferior dental schools may arise? I'm thinking of the analogy of the Hill-Burton act which encouraged small hospitals in rural communities, which in retrospect have not been the best distribution of health resources. Therefore, shouldn't we alert our federal representatives to a similar danger with regard to legislation that would proliferate small inferior dental schools? I don't think Hill-Burton is comparable to the medical-dental educational facility legislation. North Dakota has made it quite clear that it does not want to undertake a four year medical school. However, your concept about the dental school facing up to a role that is responsive to community needs and realistic in view of current trends, is a good one. It was pointed out that there is ample precedent in the health sciences field for basing legislation on a regional basis. The Hill-Rhodes legislation provides for a formula which prevents schools of public health (12) from becoming a burden on the state in which they happen to be located.

The committee agreed that the statement of objective was too general for our assignment. It should be more specific and emphasize teaching, service, and research roles at all levels of education (undergraduate, graduate, post-graduate) for all students (undergraduate, graduate, post-graduate, auxiliary).

4. Dr. Holland then discussed a few pertinent findings from the University of Minnesota Bureau of Institutional Research report entitled "Where Midwestern Students Are Educated In Medicine, Dentistry, Veterinary Medicine, Pharmacy,

and Forestry". The report revealed that for 1962-63 Minnesota had 86 dental students per 1,000,000 people in the region. The 12 state region had a ratio of 74/1,000,000 and the national average was 72/1,000,000. On a regionwide basis, only 1/6 of the students leave their state for a dental education. In Nebraska 100% of the students remain in Nebraska; in Minnesota, 97% of the students remain in the state. Of the students coming to Minnesota, we receive 69% of the ND, 41% of the SD, and 8% of the Widconsin students who do go to dental school. However, in this freshman dental class, only 10 of 110 students are from out of state. Next year the figure is likely to be 15. In terms of source of students for the midwest dental schools, 23% of the dental students are from states out of the 12 state region.

5. Dr. Holland said that he had hoped to distribute a summary of recommendations from a report entitled, "Survey of Dentistry", from the American Council on Education. This summary will be distributed to committee members within a week. Dr. Holland pointed out that the survey covered four main areas: 1) Dental Health 2) Dental Practice 3) Dental Education 4) Dental Research. The report has been criticized by dental practitioners and has not received the endorsement of the American Dental Association. Nevertheless, many dental educators are in sympathy with many of its findings and recommendations and Dr. Holland thought the committee would find the report of interest.

6. Dr. Bridge discussed the role of dentistry in the Economic Opportunity Act. This act was formulated in March and is made up of three main sections: 1) Educational Skills 2) Health 3) Family Life. The act is aimed at 100,000 children about to enter school. It intends to give these children from disadvantaged families a good start on their school careers. The students would have classroom preparation in communicative skills, a complete health workup, and an evaluation of the home situation. Minneapolis-St. Paul has been approved for a program to include approximately 850 children. The health portion of the program includes Dental Health, General Health, and Treatment. Funds for the treatment of conditions that have been diagnosed were cut out of the bill. The Minneapolis Community Health and Welfare Council is our action group and is undertaking the responsibility for financing the treatment aspect of the program.

7. Dr. Holland traced the development of the graduate and research programs of the school. He noted that we had spent considerable time our first two meetings reviewing the undergraduate and auxiliary programs.

   Prior to 1948, virtually no graduate program was available in the school. In 1948 a Master of Science in Dentistry (MSD) program was started, and was patterned after the medical school program. The M.S.D. graduates have been active in dental education and specialty practice but have not been very active in research.

   There were a few students in a Ph.D. program but the far majority were studying at the M.S.D. level. In 1957 more emphasis was put on the Ph.D. program with a major in a basic science and a minor in a dental specialty. Grant funds were available for this program. Last year, a supplemental grant was received from N.I.H. for this program. In 1963 the combined D.D.S.-Ph.D. program was started with a

generous grant from N.I.H. The purpose of these two Ph.D. programs is to develop dental investigators. Money spent on research in this school was closely related to the number of students enrolled in the graduate programs. This has been a national trend.

Since 1950 there has been a steady increase in dental research activity in the U.S. as measured by available research funds, number of publications on research, and number of people attending research meetings. Yet, the total research funds are still grossly inadequate. In 1958, $10,000,000 was devoted to dental research in the U.S. with 72% of funds being expended in dental schools. The far majority of dental research monies come from federal funds. Although dental research activity and research funds continue to increase there is much need for further expansion.

QUESTION: What happens to the graduates from these programs? We hope they will stay in research and education. Sixty per cent of all our M.S.D. graduates since 1948 have been or still are engaged in some kind of teaching, and have published some 350 papers. Again, our best hope to develop research workers is through the Ph.D. program. Even now, the University Dental Faculty does not have enough time to devote to research. That is why we are trying to emphasize the Ph.D. program. This program is not at the expense of our specialty practice programs, but to fill the need for more research in dentistry.

QUESTION: What are other schools doing in graduate training programs? Is Minnesota being raided by those schools unwilling or unable to take on this costly program? Other major schools are following the same trend. Minnesota should not turn out Ph.D.'s just for self consumption but should consider national needs as well.

QUESTION: What % of the faculty are Minnesota trained? 95%. There may be a drop in this figure as we bring in faculty members from other schools. In five years, we would hope our D.D.S.-Ph.D. program would increase from 3 to 18 students. Up to 5 new students will be added to the program July 1. We will need continuation of our grant to achieve this goal and to sustain the program beyond that time.

8. A point was made that this committee will have to get the space requirements from the dental department and division chairmen so that we can more intelligently plan the dental schools needs for the future.

9. Dr. Holland asked the group to:

   a. READ THE SUMMARY OF THE DENTAL SURVEY
   b. STUDY DR. LEARN'S LETTER AND COME BACK WITH RECOMMENDATIONS ABOUT POSSIBLE 5, 10, and 15 YEAR PROGRAMS THAT THE DENTAL SCHOOL MIGHT UNDERTAKE.
   c. PREPARE CRITICAL COMMENTS ABOUT THE ROLE OF DENTISTRY IN THE HEALTH SCIENCES.
   d. SUGGEST ITEMS FOR DISCUSSION GERMANE TO THIS STUDY WHICH HAVE NOT BEEN CONSIDERED THUS FAR.

Dr. Holland has discussed with Dean Schaffer the feasibility of a questionnaire which would be sent to the faculty and graduate students to elicit certain information about divisional needs and projections of objectives. It was suggested that the questionnaire should not only ask the people what they need but WHY they need staff, space, equipment, etc. They must take a realistic approach but yet be imaginative.

Respectfully submitted,

John H. Westerman
Executive Secretary

JHW:jae

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

DENTISTRY SUBCOMMITTEE

Minutes of Meeting June 23, 1965 (#4)

Present: Mellor Holland, Chairman, Allyn Bridge, Carl Heggestad, Jo Ann Hubbard, Glenn Mitchell, Leon Singer, John Westerman

Absent: James Jensen, W. Albert Sullivan

NEXT MEETING TUESDAY, JULY 6, 1965, 1:30 P.M., 239 OWRE HALL

1. Prior to the meeting, subcommittee members received:
   a. An abstract of the Survey of Dentistry, "The Final Report of the Commission on the Survey of Dentistry in the United States," Byron S. Hollinshead, Director.
   b. New York Times Articles:
      "Gov. Dempsey Signs Fluoridation Law," May 29, 1965.
      "Union Pacts Add Dental Coverage," May 31, 1965.

2. Chairman Holland proposed an agenda.
   a. Discussion of the abstract of the Survey of Dentistry.
   b. Implications of the Learn Letter for the subcommittee.
   c. Discussion of the proposed questionnaire to be circulated to the dental faculty and graduate students about the future of the school.
   d. Critical comments from the group about the role of Dentistry in the health sciences.
   e. Other items that the group would like to discuss.

   In regard to the June 8th minutes, do we have any information from Dr. Learn about the scope of the Hill Commission study as it pertains to the need for dentists in the region? No, but we will ask him at the July 12th meeting.

3. Discussion of the abstract on the Survey of Dentistry.
   The group began by discussing Section III of the abstract, "Dental Education". The subcommittee approached the subject by asking how Minnesota fits into each of the main topic headings.

   ADMISSIONS: The Minnesota faculty has been concerned with this subject and considered the following action:
   a. Increase of admission requirements from 2 years predental study to 3 years. This is a nationwide trend. If this change were made at Minnesota, an adequate adjustment period would be established for the students. If the change is announced in the 1966 bulletin, it would likely go into effect in 1968. Sixty per cent of the 1965-66 entering freshman class have completed at least three years of predental work.
   b. The Dental School representatives have met with University Administration officials to explore ways to implement the Liberal Arts Policy Plan in the predental and dental curriculums. QUESTION: Is there any evidence about the dental school performance of the 3 year predental students vs. the two

year predental students? Yes, the two year students do about as well as the three year students. Yet the education gained with additional liberal arts study is considered needed and important in the development of dentists. Often the two year students are more definite in their planning for dental careers and could be better motivated. (Note: about 62% of the entering fall 1965 medical students have completed four years of academic work when only three are required.) The Dental School is not satisfied that it has any fool proof system of predicting which students will succeed but is convinced that the best approach is to make every effort to attract students who have high aptitudes and are better and more broadly educated.

c. The Dental faculty has discussed increasing the minimal grade point average required for admission. Now the minimum is 2.0 with a range of approximately 2.2 to 3.8 and an average entering grade of 2.8. The Minnesota drop out ratio is 15-20% and the faculty considers this too high. QUESTION: The report indicates a concern about the quality of dental students and yet there is nothing in the report to indicate any particular reasons for concern in this regard. Is Minnesota concerned about the quality of its applicants? Why? I don't believe there are any marked deficiencies in the quality of our applicants. We are always concerned about their quality, particularly when we are discussing the challenges that face dentistry today. There is some evidence that we are not getting the top notch student from liberal arts.

RECRUITMENT: This school agrees with the survey recommendation that recruitment efforts should be increased. If dentistry is to progress, we must have capable people to do the job. Many practitioners in the state are aware of the shortage of dentists and are active in recruitment. Some do not see the need and do not lend much support. Particularly these people are from areas of the state with serious economic problems.

QUESTION: Is the recent increase in applicants primarily from the least qualified group? I don't know if the per cent wise increase of applicants is from those with lower grade point averages but would expect the distribution of good and poor applicants to be similar. We are directing our efforts to attracting more capable students. We want to think we are making progress here. Perhaps our faculty is a little more concerned about the standards of training. We do review the student's scholastic standing each quarter and typically we'll lose 2-3 freshmen fall and winter quarters, and 7-8 spring quarter. There is no firm policy about dropping early or carrying for at least three quarters. As you might expect, we have a high correlation between high scholastic achievement and good scores on the National Boards. The reverse is true of poor grades and poor scores on the National Boards.

QUESTION: Unless the pool of applicants is increased, any efforts to increase class sizes must rely on dipping lower into the existing pool. What efforts is the school making to increase the number of qualified applicants? Minnesota has made some progress in increasing recruiting efforts, but must do more. Our faculty gives talks to various high school groups, conducts dental career days, uses movies about dental careers, participates in the University

Educational Television series on The Professions, and through scholarships, research programs, science fairs, etc. is trying to attract the particularly able students.

QUESTION: Is the state dental society active in this area? Not particularly. They could do more. Some states, such as Missouri, have a very active recruitment program sponsored by the state dental society.

QUESTION: It seems to me that some very talented students elect dentistry over medical school because they don't want to wait the extra year or two before they can pursue their professional training. Do you anticipate a drop off in applicants if you go from two years to three years predental requirements? Not in the long run. We don't anticipate a large cut in number of applicants.

QUESTION: Actually, it seems debatable that you should increase the standards for entrance if you are realistic about trying to meet the needs. Well, there is another approach. Consideration is being given in dentistry to increasing the duties of dental auxiliary personnel. These people could be trained to do some of the technical procedures now performed by dentists. The best plan would be to have these people work under the supervision of the dentists. The professional dentists will likely work through a team and operate at a somewhat higher level than today's practitioners. He will be concerned more with diagnosis, preventive dentistry, and planning treatment. Some of the treatment would be assigned to technical assistants under his supervision.

Today with the increase in emphasis on community dentistry we may need to select a different kind of person for dental school. The dentistry of the future is likely to be group oriented, utilizing auxiliary personnel in a team approach. Some dental school should take the lead in conducting a training program to develop, on an experimental basis at least, auxiliary personnel who could perform a number of technical dental procedures now done by dentists. New Zealand has developed quite a successful program using this concept.

Minnesota is considering increasing the training of dental assistants from nine months to twelve months.

If this program for new technical assistants could be developed, it might be possible to start a pilot practical experience program under the Public Health Service with such groups as the Indians. Another possibility would be to develop the program right here on campus. The advantage of the latter proposal would be to integrate the work of this new level of personnel within the dental team training programs. In all of these proposals, the dental school will be receptive to career opportunities for women. The loss rate is a factor but there is more evidence that professionally trained females do come back into the labor market after their families have been started.

DR. HOLLAND THEN OUTLINED SOME POSSIBLE FUTURE PROGRAMS OF THE SCHOOL OF DENTISTRY

Only four of these programs were covered in the meeting, so discussion and questions are limited to the first few items.

1. The school will put more emphasis on preventive dentistry.

   The group then discussed the role of the school and practicing dentists in formulating sound school dental programs. At present, it is not mandatory in Minnesota for school children to have a dental workup as a condition to enrollment. Dr. Holland raised the question of what could the school do to make their students more community oriented and aware of the public health aspects of dentistry? One reply was that the school could point out the need for this aspect of dentistry but the state dental society should take the lead in designing a sound preventive dentistry program for the school children of this state. Another point was that the creation of a division of preventive dentistry within the school may be helpful. The medical school has no formal preventive medicine section, but the school of public health does. It would be Dr. Singer's impression that the dental graduates of the past 16 years are more aware of such things as fluoridation programs and have become more active in community dental problems than the older practitioners. Another point was that the public expectation of the dentist and the physician is such that the community becomes suspicious of these professionals when they advocate public programs. There is a feeling that if one is really a competent dentist or physician that they should be examining and treating patients and not spending time away from these responsibilities. Also, the public seems to question the motives of the professionals when actually they are interested in promoting preventive measures.

2. The school will place more emphasis on diagnosis and oral medicine.

3. There is a trend toward greater total development of the student. This might include the incorporation of non-dental courses in the dental school curriculum time and requiring more predental liberal education. QUESTION: How much does the pediatrician know of dental care? Dr. Bridge has the impression that Minneapolis pediatricians do stress the importance of good dental care fo their families. However, it was pointed out that the medical school has no program about dental health in their curriculum. Eight-five percent of last year's entering kindergarten class in Minneapolis did have dental examinations. The 15% who did not represent 1200 children.

4. There will be more study of growth and development.

5. There is a trend toward more free time for electives and special studies by the student. Honors programs will be developed to a greater degree.

6. As mentioned in the meeting, the school has met with Dr. Smith in the Academic Vice President's office about incorporating liberal arts programs in the dental school.

7. The school anticipates much expanded graduate programs, with a particularly sharp increase in Ph.D. students.

8. The school will put more emphasis on research, even for the undergraduate student. This means that additional faculty will be needed so that the faculty can develop their interests and programs with graduate students.

9. The school may experiment with different models of rendering care, such as a group practice arrangement within the school.

10. Another experimental program would be to increase the duties of auxiliary personnel.

11. The school will have to increase its recruiting efforts and selection processes to maintain and improve the standards of the graduates. Practices of years past may not be adequate to attract the quality of student needed to carry out the demands placed upon the graduates of this school.

12. A better recruitment program is also needed at the faculty level. Faculty members will be expected to talk at career day programs and in the schools in an effort to interest capable students in dentistry.

13. The school will become much more active in their hospital work. This will mean an increase in the number of undergraduate, graduate, and faculty members taking part in hospital based programs.

14. As mentioned, the dental assistant program will be increased from 9 to 12 months, with the expected starting time to be in June.

15. The dental students will receive a more biologic orientation.

16. There will be greater correlation of the basic sciences. This will be provided by a vertical 4 year curriculum.

17. The school will develop better continuation programs to meet the needs of the practitioners.

18. More emphasis will be placed on a plan for total patient care as opposed to isolating a dental disease or treatment procedure.

QUESTION: Before we adjourn, there have been so many comments about the value of all of the Learn subcommittee meetings, I would wonder if it would be appropriate for this subcommittee to raise the question with Dr. Learn about some mechanism to continue this liason among the health sciences after the study is completed. In a sense we are just getting started on many of the problems that have faced this medical center over the past 20 years. It would seem a shame to lose all this enthusiasm and effort because a report is due in October 1965 or March 1966. Dr. Holland will bring this up with Dr. Learn. The dental subcommittee expressed an interest in continuing a health sciences liason mechanism.

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

DENTISTRY SUBCOMMITTEE

Minutes of Meeting July 6, 1965 (#5)

Present: Mellor Holland, Chairman; Allyn Bridge, Carl Heggestad, Jo Ann Hubbard, James Jensen, Glenn Mitchell, W. Albert Sullivan, John Westerman

Absent: Leon Singer

NEXT MEETING AT THE CALL OF THE CHAIRMAN

1. Chairman Holland said that he would post a letter to Dr. Learn prior to the full committee meeting on July 12th. This letter would cover the following points, as suggested by members of the dental subcommittee.

   a. A request for information about the scope and progress of the Hill Commission study.

   b. A question about the advisability of informing some members or committees of the State Legislature about our study.

   c. The question raised on page 5 of the June 23 minutes (#4) about the feasability of university administration considering some form of organization to carry on the concepts of the Learn Committee when the study is completed.

2. Dr. Holland suggested that the main business of the day be focused around the elements that ought to go into the outline report of the roles, objectives, and programs of the School of Dentistry. We have discussed these subjects in our previous meetings but have not attempted to organize this material along the format suggested in the Learn letter. There is a possibility that the School of Dentistry will present its outline at the August Learn Committee meeting.

3. DISCUSSION OF ROLE OF DENTISTRY

   a. One suggestion was that the teaching role at the undergraduate level was primarily for Minnesota students, but also recognized the importance of having some students from other states and other countries.

QUESTION: Couldn't you go about this role by stating that we'll do the best possible job of education for the residents of Minnesota, and then extend your parameters to a regional, national, and international basis? To partially answer my own question, I suppose one could make the statement that because there are fewer dental schools (than medical schools), by definition the role or sphere of influence may be greater (than that of a medical school).

QUESTION: What percent of Minnesota Dentists are graduates of the University Dental School? We don't have that information off hand, but could get it. However, we do assume that if we attracted a greater number of high quality out of state students, that some may stay here to practice dentistry. There was then some discussion about the influence of statistical descriptive data

(describing the who, what, where, when and why of dental practice within the state) on the formulation of the role of the dental school.

QUESTION: Is there any trend to reduce or even the tuition for out of state students to induce their attendance at Minnesota? No, however, at least North Dakota offers financial aid to their residents for the study of dentistry. There is an inducement to practice in some sections of the home state by forgiving part of the loan for time spent in practice in these sections.

b. Another suggestion of role: The Dental School trains dentists to meet the manpower needs of Minnesota by preparing undergraduates for the practice of dentistry, and graduate dental students to provide a nucleus for our own faculty and to fulfill a national mission of serving other dental schools by providing faculty members.

c. The dental school has a major role for stimulating investigation in corrective measures of dental practice and to deter or prevent oral disease.

QUESTION: Before we go any further as a committee, wouldn't it be wise to get the dental faculty's opinion about these matters? That is a good point. We actually do have the opinions of the faculty members on most of these questions through our curriculum study but need some time to sort them out to fit the format of the Learn Letter.

There was then some discussion about the distinction between role and objective. It was suggested that the role should be stated in simple, straightforward terms, such as:

The role of the dental school is to continue to advance the sound practice of dental techniques, investigate certain areas of oral disease, and educated undergraduate and graduate students.

or

The role of the dental school is to educate young men and women, primarily from Minnesota, to serve as dentists in the state. In addition, the clinics serve the population of the state. The school promotes appropriate dental research, maintains a graduate educational program, and extends into the community in certain areas. The school teaches auxiliary dental health students and carries on a continuation education program.

4. DISCUSSION OF THE GOALS & OBJECTIVES OF THE CLINIC

Again, the committee had difficulty distinguishing between roles and objectives. The consensus was that teaching, research, and service objectives were inseparable. Therefore, the overall objectives or goals would be to take the roles listed above, and state that you will attempt to do, teach, or provide the best within the mission and limitations of the school.

5. DISCUSSION OF PROGRAMS OF THE CLINIC

These programs were listed from 1-18 in the minutes of the last meeting (#4). However, time only permitted the discussion of the first four. One point made about the liberal arts proposals, is that the objectives and programs

would vary considerably if the dental school were dealing with a student body of only two years pre-dental work as opposed to a student body with four years of pre-dental work. Dr. Holland agreed, but pointed out that some of the faculty took the position that regardless of the amount of pre-dental preparation, it was a mistake to completely ignore the liberal arts during the four year dental school curriculum.

QUESTION: Does the dental school require summer attendance? No, only if a student is deficient in some subject.

QUESTION: Does the dental school have a field work program for the students? There is some field work offered through Dr. Jordan's program (Dr. Jordan is the state dental public health officer) and in the summer research program. A key program is to give the dental student an early exposure to clinical work. We hope to assign the student to a number of children his first year of school and to permit him to follow the group for four years to watch the dental development process.

QUESTION: What kinds of clinical work could an early student do? See patients wit. a faculty member, take impressions of teeth, do some x-ray study work, and perform simple clinical operations on fellow students or on patients.

QUESTION: One of your programs is to increase the number of full time faculty. What effect will this have on your current program of relying on over 90 part time faculty members? Our emphasis here is to increase the full time staff to allow the faculty time for investigative work and free them from a heavy administrative load. There is no program to reduce the importance of the part time man. We have enough expanded programs to take care of both groups.

QUESTION: What are the legal barriers to increasing the role of the auxiliary personnel? This is a key area for our problem is not what we can train these auxiliary people to do, but what will they be allowed to do when they get out. The legal problem is that statutes spell out quite specifically what auxiliary personnel can and cannot do. It will be difficult to change these statutes.

QUESTION: In regard to your difficulty, I would wonder if the fact that our state has above average dental care won't hinder progress in experimental use of auxiliary personnel. I can envision greater use of auxiliary personnel. This should be done on a carefully conceived basis and implemented wisely. At one time it was thought that Minnesota would be most vulnerable to radical changes because of our proximity to Manitoba, Canada where there is extensive use of auxiliary personnel.

After the group finished reviewing the programs, Dr. Holland asked if there were any questions about why the school wasn't considering something or as outsiders, were there any observations about what is proposed?

One observation was that the school has two important needs that it can't do much about. One is the need for more and better qualified students and the second is for a better distribution of the graduates that do go into practice.

This started a discussion about the need for a placement service. It was noted that other units of the University had such a person or office and the activity was apparently funded out of school funds. At present the state and local dental societies and supply houses help the placement system. While there is a great demand for dentists, the job placement market is imperfect. There

may be a important role for the school to fulfill by extending a service to the graduates about opportunities in the dental profession.

A curriculum study in the School of Dentistry is being completed. This study involved many of the faculty and considered much of the same material as outlined in the Learn letter. Therefore, an outline of the school's roles, objectives and programs will be prepared and circulated to the committee members. After the members have had time to review the outline, Dr. Holland will call a meeting.

Respectfully submitted,

John H. Westerman
Executive Secretary

JHH:skw

UNIVERSITY OF MINNESOTA

SCHOOL OF DENTISTRY

August 9, 1965

TO: MEMBERS OF THE COMMITTEE FOR THE STUDY OF
PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Attached is a preliminary report concerned mainly with the future roles, objectives, and programs of the School of Dentistry. The report was approved by the Subcommittee for Dentistry on August 5, 1965. The members of the Subcommittee are:

Allyn G. Bridge, Associate Professor, School of Public Health

Carl B. Heggestad, Associate Professor, Department of Anatomy

Jo Ann R. Hubbard, Instructor, School of Nursing

James R. Jensen, Professor, School of Dentistry

Glenn R. Mitchell, Associate Director, University Hospitals

Leon Singer, Professor, Department of Biochemistry

W. Albert Sullivan, Associate Professor of Surgery, The Medical School and Director, Continuation Medical Education

John H. Westerman, Executive Secretary, Committee for the Study of Physical Facilities for the Health Sciences

Mellor R. Holland, Chairman
Subcommittee for Dentistry

I. ROLES OF THE SCHOOL OF DENTISTRY

The roles of the School of Dentistry in teaching, service and research are inseparable and are closely interwined in programs serving the people of Minnesota.

A. The teaching role of the School of Dentistry is to ~~OFFER~~ TEACH undergraduate, graduate, postgraduate, research and continuation education PROGRAMS to dental students, dental auxiliary students, dental practitioners, members of other health professions and other members of the University community.

These programs will be primarily for Minnesota students at the undergraduate level, for practicing dentists of the region at the continuation education level, and for the best qualified students at the graduate, postgraduate and research levels. This teaching role will be carried out mainly in the School of Dentistry, the University Hospitals, and the health sciences basic science departments, but will also include participation with and within other departments of the University and the community.

B. The research role of the School of Dentistry is to PROMOTE RESEARCH IN AN ACTIVE, EXPANDING FUNDAMENTAL AND APPLIED RESEARCH PROGRAM which would emphasize biologic aspects of oral health, oral disease and preventive dentistry.

This program would achieve the further goal of developing research personnel for Minnesota and other research centers. The program ~~would thus~~ has served as a source of academic dentists and ~~have~~ the purpose of contributing to national and international health programs.

C. The service role of the School of Dentistry is to SERVE THE POPULATION of the state and the PRACTICING DENTISTS on a referral and non-referral basis with the HIGHEST QUALITY OF COMPREHENSIVE CONSULTATIVE CARE. This role may include varying degrees of responsiblity for the provision of total oral health care.

D. A role of the School of Dentistry is to EXPERIMENT WITH PATTERNS OF ORAL HEALTH CARE and to INCORPORATE THE MOST ADVANCED DENTAL PRACTICES into the service programs. This experimental role includes the investigation, application and measurement of educational methods.

The School has no statutory or adminstrative obligation for any group of patients, but historically has given service to patients referred by practicing dentists, referred from University Hospitals, and self-referred patients as are appropriate for the teaching programs.

E. A role of the School of Dentistry, as a sum total of the above roles, is to SERVE AS A LEADER IN THE QUEST TO IMPROVE ORAL HEALTH in society and establish and improve relationships with the community.

II. OBJECTIVES OF THE SCHOOL OF DENTISTRY

TEACHING OBJECTIVES

A. TO PROVIDE AN INCREASED NUMBER OF ~~UNDERGRADUATES~~ high quality FOR A HIGH QUALITY OF DENTAL PRACTICE, THROUGH THE ACQUISITION OF SKILLS, KNOWLEDGE AND ATTITUDES essential to the practice of dentistry and provision of dental maintenance.

Further objectives with the undergraduate students are to put more emphasis on liberal arts and the basic sciences, with less emphasis on dental techniques. Our goal is to improve the ability of the student to make a diagnosis and help him have a better understanding of the causes of disease. The student will have to be more oriented to an understanding of the patients total health and be able to better plan, execute and direct oral health treatment. The educational environment should provide the opportunity for the student to be familiar with practicing in hospitals and community health centers, acquaint the students with the fundamentals of practice management and provide the student with experience in working with auxiliary personnel and practicing team dentistry.

Socioeconomic factors

B. TO PROVIDE GRADUATE LEVEL TRAINING FOR THE PREPARATION OF INDIVIDUALS INTERESTED IN CAREERS IN RESEARCH, ACADEMIC DENTISTRY, AND SPECIALTY PRACTICE.

Included in this objective is the need to attract better candidates, increase the numbers of graduate students, particularly at the Ph.D. and combination D.D.S. - Ph.D. level, and to improve the graduate programs.

C. TO DEVELOP ~~DENTAL AUXILIARY PERSONNEL~~ through programs designed to assist the practicing dentist and explore new areas where auxiliary personnel may assume duties that are consistent with their skills and training.

Our objective is to increase the student body in dental hygiene and dental assistant programs with improved curriculums that will attract the best qualified applicants. Our experimentation with additional duties

for this group includes an obligation to assist the group to practice what they have been trained for under the supervision of a dental practitioner.

D. TO RECRUIT AND ATTRACT THE BEST QUALIFIED STUDENTS INTO THE SCHOOL'S TEACHING PROGRAMS.

This means the recruitment and preparation of exceptional individuals to be skillful, within their chosen area, in the art of dentistry, knowledgeable in the science of dentistry and sensitive to the obligations of a professional person in general and to a member of a health profession in particular. Further, the students should become motivated to research, critical thinking, public health needs and preventive dentistry.

E. TO UTILIZE THE MOST ADVANCED TEACHING METHODS in a curriculum subject to constant review, consistent with the mission of the school. Experimentation in the curriculum should be pursued and imaginative programs developed.

F. TO PROMOTE MEANINGFUL PROGRAMS OF CONTINUATION EDUCATION primarily for practitioners in the region.

This program will be conducted with the realization that there is a valuable exchange of knowledge between the school and the practitioners to the mutual benefit of both parties.

G. TO PROVIDE OTHER HEALTH SCIENCE WORKERS AND THE UNIVERSITY COMMUNITY appropriate insights into the subject of oral health.

H. TO INFORM AND INFLUENCE SOCIETY and our community about the benefits of good oral health.

I. TO BETTER INTEGRATE THE TEACHING PROGRAMS OF THE SCHOOL OF DENTISTRY WITH THOSE OF THE COLLEGE OF MEDICAL SCIENCES.

This improved cooperation would also be desirable in service, research and administrative areas.

J. TO ~~PROVIDE ALL POSSIBLE~~ EDUCATIONAL OPPORTUNITIES IN HOSPITAL AND PUBLIC HEALTH DENTISTRY FOR UNDERGRADUATE AND GRADUATE STUDENTS.

These opportunities should be developed in the University Hospitals, associated teaching hospitals, the Mayo Graduate School of Medicine and Mayo Clinic, the ~~proposed~~ out-patient clinic, and other appropriate health centers.

K. TO TAKE APPROPRIATE MEASURES TO ATTRACT AND RETAIN A COMPETENT FACULTY to accomplish the above objectives.

This would include a recognition of the importance of the teaching function in the clinical programs. Also included will be educational opportunities for faculty members. Another objective will be increase the number of full-time faculty members and half-time faculty members.

SERVICE OBJECTIVES

A. TO PROVIDE ~~AN~~ EXEMPLARY CARE for patients treated in the clinic.

This will include restorative and preventive oral health care. The efforts of the school will be better coordinated with the community practitioners and other health agencies.

B. TO PROVIDE A PROMPT EFFICIENT CONSULTATIVE SERVICE to dental practitioners, medical practitioners and other health science workers.

C. TO PROMOTE AND WORK WITH COMMUNITIES on oral health service projects that are consistent with the mission of the dental school.

D. TO ELEVATE THE STANDARDS OF DENTAL PRACTICE IN THE COMMUNITY.

E. TO DEMONSTRATE AN ATTITUDE OF SOCIAL RESPONSIBILITY AND SENSITIVITY in the dental profession by the way in which service programs are undertaken and carried out.

F. TO SHARE MEANINGFUL ORAL HEALTH KNOWLEDGE with dental practitioners, other health science workers and the public.

RESEARCH OBJECTIVES

A. TO PROVIDE AN ENVIRONMENT FOR RESEARCH WHICH WILL RESULT IN ATTRACTING AND RETAINING COMPETENT AND PRODUCTIVE INVESTIGATORS.

B. TO ADVANCE KNOWLEDGE OF ORAL HEALTH in an active, expanding fundamental and applied research program.

C. TO INVESTIGATE THE VARIOUS EDUCATIONAL METHODS and develop measurements capable of evaluating the educational programs to determine whether there is need for change and improvement.

D. TO INVESTIGATE COMMUNITY ORAL HEALTH PROBLEMS.

E. TO ENGAGE IN SUCH CLINICAL RESEARCH PROGRAMS as genetics, epidemiology and public health studies. There will also be fundamental research activities biologic in nature and not confined to oral structures.

F. TO INVESTIGATE THE CAUSES OF ORAL DISEASE AND ELEMENTS OF PREVENTIVE MEASURES.

G. to study ~~improve~~ ~~Method~~ with other health professions ~~in~~ methods of supplying better Dental health care

III. PROGRAMS OF THE SCHOOL OF DENTISTRY

PROJECTED STUDENT LOADS

Program	Present Loads	Projected for 1980
Four year D.D.S.	110 in freshman class	150
Dental Hygiene	50 in freshman class	75
Dental Assisting	35 in freshman class	75
Graduate Study	Total of 40	90
Postgraduate Study	Total of 8	20
Continuation Education	Average 375 annually	600

TEACHING

A. Four Year D.D.S. Program

1. Recruitment of High Quality Students

A more active and forceful recruitment program will be initiated to encourage very capable young men and women to pursue dental careers. This will be accomplished with better descriptive printed materials on dental careers, visits by the faculty to high school and college counselors, talks by the faculty to high school and college students and to P.T.A. and civic groups, and by releasing to the communication media more news stories on recent advances in oral health care and special programs in the school. In most of the above efforts the theme will be that dentistry provides opportunities for a variety of challenging careers for competent students.

2. Increased Predental Liberal Arts Background

Consideration is being given to increasing the minimum requirement to three years; raising the minimum acceptable G.P.A.; requiring comparative anatomy, quantitative chemistry, stronger physics course, college algebra, and possibly an introductory calculus course; and establishing distribution requirements to provide a broad liberal arts education.

3. Best Dental Education Possible

An upgrading is needed in all areas of the curriculum. The program should be structured to provide an education which will permit the graduates to plan, execute, guide, and supervise the best possible oral health care for the patients. Allocation of time for the dental technic courses will be sharply reduced and clinical conditions will be simulated in the technic courses as much as possible. The most modern concepts of clinical practice will be taught with an interdisciplinary approach and an emphasis on total patient care. The basic medical sciences deserve greater emphasis and should be taught at the level provided for the medical students.

4. More Biologic Orientation

There will be increased emphasis in oral medicine and oral biology to sharpen the student's basic understanding of oral diseases and his ability to diagnose and treat these diseases.

The student should have a keener understanding of clinical medicine in its broad concept. This implies that he must receive some instruction and exposure to general physical diagnosis and laboratory medicine. It is intended that the faculty for this program will be physicians and medical technologists. This plan will permit the students and the practitioners to provide more effective and intelligent oral health care as part of total health care. With the expectation that health care centers such as the proposed out-patient clinic will be designed to allow comprehensive health care, instruction in physical diagnosis and laboratory for the dental students seems particularly pertinent.

In this connection, upgrading of the basic sciences is indicated with a better effort to correlate the basic sciences and clinical dentistry. Basic science instruction for the dental students should be on par with

that given the medical students.

One plan could be to have the dental and medical students in competition in combined classes with no attempt to identify the two groups. If this is done, then applied courses in the basic sciences could be taught separately in a so-called diagonal curriculum. If the classes remained separated, slightly different emphases could be included in the basic courses. For example, in gross anatomy head and neck dissection could be given stronger emphasis for the dental students. Slight variations could be made in other basic sciences but the courses for the dental students should be of high quality and depth.

This progressive plan would give the students better insight into clinical problems, better prepare the students for graduate study, but also would better educate dental practitioners for the more challenging role they will have in the future in providing and directing comprehensive oral health care for the public. Dental practitioners must be specialists of the oral cavity - practicing a specialty of medicine. The treatment they will render, the drugs they will use, and the operations they will perform will affect the patient totally as would occur for many aspects of medical care.

5. Prepare Students to Better Plan, Execute, and Direct Oral Health Care

Through earlier clinical experience, more time provided for oral diagnosis, total patient care opportunities, and more effective instruction in treatment planning the students will be able to plan, execute, and supervise full treatment for the patients. The future dentists will prescribe more technical procedures to be carried out by laboratory technicians. Also, they will direct and supervise certain clinical procedures being done by dental auxiliary personnel.

6. Teach Students to Work in a Team Approach and More Effectively With Auxiliary Personnel

This is undoubtedly one of the most progressive steps in our future plans. With need to provide more and better oral health care, the School of Dentistry feels obligated to experiment with the delegation of certain clinical duties now done by the dentists to auxiliary personnel. The concepts of increased group practice, team approach, practice near and in cooperation with health care centers and hospitals demand that we attract students able to work effectively in these environments and programs and who can delegate treatment procedures and properly supervise the treatment.

One future plan is to create well designed and well equipped dental offices in the school. The students would work in these offices with several dental auxiliaries - one or two dental hygienists and assistants and a dental technician. Each unit would have 4 or 5 dental operating units and dental laboratory facilities. The student will be performing some clinical procedures, supervising clinical procedures being done by the auxiliary people and prescribing certain procedures to be done by the technician.

There will be a number of these office units which will permit the student to perform many phases of clinical care in a given unit or he will limit the treatment to a special phase of dentistry. Thus, the student will have experience in a group of specialty practices and in general practice, but in both cases he will be working extensively with auxiliary personnel.

It is conceived that in these units television cameras would monitor the student's activities. Further, the student could receive instruction via television. He will have available visual aids such as slides and film strips and descriptions of procedures for review or self-instruction. Programmed learning machines will be used.

7. Teach the Students to Work in Hospitals and Community Health Centers.

It is mandatory that dental students receive full orientation to hospital protocol and practices and exposure to and experience in all possible hospital dental activities. Services to patients will result from this program but the main purpose should be education.

The hospital dental program will be markedly expanded and improved. The students must learn to work effectively with the clinical areas of medicine and the medical laboratories in the common effort to provide better and more complete health care. Also, they must learn to perform oral health services on these environments.

8. Teach Students the Fundamentals of Practice Management

This is a course of instruction which has been given limited attention in dental schools. There has been a question whether this is a responsibility of the schools. Yet, if the practitioner is inadequate and frustrated in practice management he could less effectively provide oral health care for his patients. Thus, a pragmatic approach could be that our school should increase the quality and extent of courses in practice management to better prepare our students for private practice.

9. Consider the Total Development of the Student

This implies that the school should provide improved counseling services, must instill in the student the desire to grow in all dimensions, and should offer some opportunities in the fine arts, humanities and social sciences. We are interested in attracting students with broad educational backgrounds, continuing liberal arts exposures for the students and graduating individuals who will have a better understanding of their patients from the sociological, psychological and ecological viewpoints.

10. Teach the Student to be Primarily Interested in Preventive Dentistry

The student will be given a program with a deep biologic base. It is intended to motivate him to research and critical thinking and to provide an environment for free, open and curious minds.

11. Provide Free Time, Offer Electives and Honors Courses

A fixed undergraduate program for all will be abandoned. The more competent student will be given time for electives or self-pursued educational experiences. Honors courses will be developed to challenge the top students. These will include more research opportunities, advanced clinical experience in special areas of practice, a start on graduate programs, and exchange with other dental schools.

B. AUXILIARY PERSONNEL

1. It is anticipated that the numbers will be increased in the future. If these auxiliary programs develop as is possible the numbers could well exceed those projected earlier in this report.

2. Entrance requirements may be changed for the dental hygiene and dental assisting programs to include men and to extend the age limit beyond 35 years.

3. An experimental program will be effected with these students to determine how many clinical duties these people could assume. Such a program will likely be started with the dental hygienists who have a better educational background and generally are more capable students. Also, by law they are now able to perform some dental treatment.

4. It might be possible to start a pilot practical experience program under the Public Health Service with a group such as the Indians. A better possibility would be to develop the program in the dental school. The advantage of the latter proposal would be to integrate the work of this new level of personnel within the dental team training program.

5. These auxiliary people (dental nurses) should be trained to be under the supervision of professional dentists. This should be provided by law as is now true for dental hygienists and would, of course, prevail in dental offices, clinics, etc.

6. The dental assisting program will be extended from 9 to 12 months. For the first 3 months the students will take non-dental courses and the last 9 months will be devoted to the dental courses. This will give the students more experience in dental assisting.

7. Increasing effort will be made to have the auxiliary people work more closely with the students thus helping both groups to learn the team approach.

8. The dental hygiene program may be extended to 3 years. The first year will be in liberal arts and the next two years in the dental school. This will give the students a broader education and will permit more time for experimental efforts.

9. Efforts will be made to improve both programs following our present curriculum study.

10. If requested, the school will cooperate and assist further the development of dental assisting programs under state colleges, junior colleges and vocational schools.

C. GRADUATE STUDY

1. We expect to more than double by 1980 our present number of graduate students.

2. We will further expand and improve our programs to develop research people. This will best be accomplished by expanding and improving our currently operating Ph.D. programs with a major in a basic medical science or related field and the minor in a special area of dentistry. One program is the combined D.D.S.-Ph.D. program which begins for the student after his sophomore year in dental school and covers at least 6 more calendar years. The second is the post-D.D.S.-Ph.D. program. It is anticipated that with these excellent programs we can develop competent investigators who will remain in dental research and dental education for our needs at Minnesota but also for other schools and research centers.

3. We wish to expand our efforts to prepare academic dentists for teaching in one of several clinical areas of dentistry. These people will come from our Ph.D. programs and our M.S.D. program. In the latter program, the students earn the major in a special area of dentistry and the minor in a basic medical science or related field. These programs vary in length from 21-36 months. It is not our intention to diminish the M.S.D. program. In fact it can and must be strengthened.

4. We plan to continue to prepare students for specialty practice in endodontics, oral pathology, oral surgery, orthodontics, pedodontics and periodontics.

If desired the dental school will cooperate with the School of Public Health in a dental public health graduate program. It does not appear that specialty practices in dentistry will diminish. Likely they will increase. We will strive to make our programs the best possible - well grounded in biologic fundamentals, not reduced to certificate programs, but kept at a graduate level with requirement of research and thesis.

5. We intend to effect an aggressive recruitment effort to attract the most competent people into our graduate programs. These efforts will extend into the high schools, the liberal arts colleges and the undergraduate dental programs.

6. We will develop a top-level intern - residency program in the University Hospitals and associated teaching hospitals. This is a must program. A new director for hospital dentistry has been named and exciting plans are being formulated to develop a very active, encompassing dental hospital program. This will include an intern-residency program, greater opportunities for undergraduate students and more participation by the faculty. While considerable dental services will be available through these programs, the main purpose must be teaching and research.

7. All efforts will be made to develop new graduate programs and special educational programs. One cooperative effort could be to work with the School of Public Health in an expanded graduate program in dental public health. Other special programs which have been planned principally for graduate study and faculty activity are a cleft palate clinic, maxillo-facial prosthetic program, and a genetics center.

D. POSTGRADUATE

Our intent is to increase the opportunities for dentists and other health science people to enroll for special study in non-degree programs. Such programs can be very time consuming for the faculty and necessarily must be limited. Yet, they do afford excellent means for special study in depth beyond that possible through continuation courses. This arrangement is particularly useful for giving special instruction to foreign students.

E. RESEARCH

1. It is our intention to expand our research training facilities and programs. At the undergraduate level, there will be more opportunities for research in the summer and in honors programs during the regular academic year. Also, we want to increasingly bring to the students the need for research and for qualified research people.

2. We plan to have the development of experience and knowledge in research methods as the major purpose of the Ph.D. program and a continuing part of the M.S.D. program.

3. We will make a strong effort to provide sufficient space for research activities and sufficient staff so faculty members can be freed from some responsibilities so they can do research work.

F. CONTINUATION EDUCATION

1. In this important responsibility of the school to the profession, we will most emphatically upgrade our program by redesigning present courses as needed, offering new courses, providing broader coverage, and making every effort to meet the needs of the profession.

2. We hope that we can in the future conduct one or two day courses in the local communities, perhaps on a regular basis.

3. We will continue our attitude in conducting these programs that interchange occurs between faculty and participants which is mutually beneficial to both parties.

4. We will plan courses for special groups. More can be done for the dental auxiliaries. Advanced courses can be given for specialty groups. We can conduct workshops and institutes on teaching methods for our faculty and faculty members of other schools. There is a need which we hope to meet by giving courses in research methodology.

5. Some different courses which we are contemplating are in practice management, the fine arts, and the humanities and social sciences.

RESEARCH PROGRAMS

A. The School of Dentistry will actively seek financial support from the University, private sources and federal funds to permit a ~~major~~ emphasis on research. All forms of research will be encouraged but with the main goal to advancing the knowledge of oral health and determining the causes and means of prevention of oral diseases.

B. Fundamental research will have great range and will not, ~~of course,~~ be limited to oral health problems. A few examples of present basic research and future basic research projects are as follows:

1. Chemistry of hard tissues - bones and teeth.

2. Bone healing and bone physiology.

3. Circulation studies.

4. Bacterial genetics and scores of other microbiological studies.

5. Ultrastructure of tissues via the electronmicroscope.

6. Basic studies of potential dental materials for clinical dentistry.

7. Pharmacodynamics.

8. Nutrition.

C. Some examples of appropriate clinical studies are as follows:

1. Testing new dental materials.

2. Analyzing the efficacy of various drugs.

3. Studying biologic reactions in bone to various stresses.

4. Human genetics.

5. Many epidemiological studies on such things as fluoridation and incidence of cancer.

6. Public health studies.

7. Many phases of soft and hard tissue repair.

8. Syndromes and deformities.

D. Educational methods should be studied. This can be even more difficult than basic laboratory research since we are dealing with people and many variables. Yet, efforts should be made to design studies to determine the effectiveness of our examinations and teaching programs. It is our plan to bring in educational psychologists to aid in such studies. Programmed learning has some promise and should be studied and used where feasible. We must be progressive in our educational programs and use all scientific and advanced concepts in our efforts. Data

processing should be installed to record examination results, to maintain a variety, quality, and quantity control of clinical procedures, to analyze the grading patterns of the faculty and for other worthwhile purposes e.g. patient records and analysis of treatment procedures.

E. We plan to conduct an active recruitment program to engage the best possible people to do research. This means that facilities should be the best, financial support adequate for programing and salaries, and the atmosphere for research should be proper.

F. All efforts should be explored to determine the feasibility of starting a Research Institute. Federal funds should be sought. The institute could be a part of or separate from the School of Dentistry. If separate it should be so organized that easy interchange can be developed between the School of Dentistry and the Institute.

SERVICE PROGRAMS

A. We will strive to give patients in all our clinics exemplary oral health care. This goal is, of course, the best program for the students, the patients benefit from the excellent care, and it is good public relations for the School of Dentistry and the profession.

B. We will provide extensive consultative services for the dental and medical professions.

1. The biopsy and cytological service will be increased as needed.

2. We will establish a caries control laboratory to perform lactobacilli counts for practitioners.

3. All efforts will be made to respond promptly and efficiently to requests for consultation and advice from practitioners via letters, personal visits and referral of patients. The faculty recognizes its

UNIVERSITY OF MINNESOTA

SCHOOL OF DENTISTRY

File Dental Subcommittee

August 9, 1965

TO: MEMBERS OF THE COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Attached is a preliminary report of the roles, objectives, and programs of the School of Dentistry. The report was approved by the Subcommittee for Dentistry on August 5, 1965. The members of the Subcommittee are:

Allyn G. Bridge, Associate Professor, School of Public Health

Carl B. Heggestad, Associate Professor, Department of Anatomy

JoAnn R. Hubbard, Instructor, School of Nursing

James R. Jensen, Professor, School of Dentistry

Glenn R. Mitchell, Associate Director, University Hospitals

Leon Singer, Professor, Department of Biochemistry

W. Albert Sullivan, Associate Professor of Surgery and Director, Continuation Medical Education

John H. Westerman, Executive Secretary, Committee for the Study of Physical Facilities for the Health Sciences

Mellor R. Holland, Chairman
Subcommittee for Dentistry

I. ROLES OF THE SCHOOL OF DENTISTRY

The roles of the School of Dentistry in teaching, service and research are inseparable and are closely interwined in programs serving the people of Minnesota.

A. The teaching role of the School of Dentistry is to OFFER undergraduate, graduate, postgraduate, research and continuation education PROGRAMS to dental students, dental auxiliary students, dental practitioners, members of other health professions and other members of the University community.

These programs are and will be primarily for Minnesota students at the undergraduate level, for practicing dentists of the region at the continuation education level, and for the best qualified students at the graduate, postgraduate and research levels. This teaching role is carried out mainly in the School of Dentistry, the University Hospitals, and basic science departments, but will also include participation with and within other departments of the University and the community.

B. The research role of the School of Dentistry is to PROMOTE RESEARCH BY DYNAMIC FUNDAMENTAL AND APPLIED RESEARCH PROGRAMS which emphasize biologic aspects of oral health, oral disease and preventive dentistry.

This program will achieve the further goal of developing research personnel for Minnesota and other research centers. The program thus serves as a source of academic dentists and has the purpose of contributing to national and international health programs.

C. The service role of the School of Dentistry is to SERVE THE POPULATION of the state and the PRACTICING DENTISTS AND OTHER HEALTH SCIENCE PROFESSIONALS on a referral and non-referral basis with the HIGHEST QUALITY OF COMPREHENSIVE CONSULTATIVE CARE. This role may include varying degrees of responsibility for the provision of oral health care as a function of total health care.

D. A role of the School of Dentistry is to EXPERIMENT WITH PATTERNS OF ORAL HEALTH CARE and to INCORPORATE THE MOST ADVANCED DENTAL PRACTICES into the service programs. This experimental role includes the investigation, application and measurement of educational methods.

The School has no statutory or administrative obligation for any group of patients, but historically has given service to patients referred by practicing dentists, referred from University Hospitals and self-referred patients as are appropriate for the teaching programs.

E. A role of the School of Dentistry, as a sum total of the above roles, is to SERVE AS A LEADER IN THE QUEST TO IMPROVE ORAL HEALTH AS A FUNCTION OF TOTAL HEALTH CARE in society and establish and improve relationships with the community.

II. OBJECTIVES OF THE SCHOOL OF DENTISTRY

TEACHING OBJECTIVES

A. TO PREPARE UNDERGRADUATES FOR HIGH QUALITY DENTAL PRACTICE, THROUGH THE ACQUISITION OF SKILLS, KNOWLEDGE AND ATTITUDES essential to the practice of dentistry.

Further objectives of the undergraduate programs are to increase the emphasis on liberal arts and the basic sciences, with less emphasis on dental techniques. Our goal is to improve the ability of the student to diagnose and help him to better understand the causes of disease. The student must become oriented to an understanding of the patient's total health and be able to better plan, execute and direct oral health treatment. The educational environment should provide the opportunity for the student to be familiar with practicing in hospitals and community health centers, acquaint the students with the fundamentals of practice management and provide the student with experience in working with auxiliary personnel and practicing team dentistry as an integral part of total health care.

B. TO PROVIDE GRADUATE LEVEL TRAINING FOR THE PREPARATION OF INDIVIDUALS INTERESTED IN CAREERS IN RESEARCH, ACADEMIC DENTISTRY AND SPECIALTY PRACTICE.

Included in this objective is the need to continue to attract the best candidates, increase the numbers of graduate students, particularly at the Ph.D. and combination D.D.S. - Ph.D. level, and to improve the graduate programs.

C. TO DEVELOP DENTAL AUXILIARY PERSONNEL through programs designed to assist the practicing dentist and explore new areas where auxiliary personnel may assume duties that are consistent with their skills and training.

Our objective is to increase the student body in dental hygiene and dental assisting programs with improved curriculums that will attract the best qualified applicants. Our experimentation with additional duties for this group includes an obligation to assist the group to practice for what they have been trained under the supervision of dental practitioners.

D. TO RECRUIT AND ATTRACT THE BEST QUALIFIED STUDENTS INTO THE SCHOOL'S TEACHING PROGRAMS.

This means the recruitment and education of the best qualified individuals to be skillful, within their chosen area, in the art of dentistry, knowledgeable in the science of dentistry and sensitive to the obligations of a professional person in general and to a member of a health profession in particular. Further, the students should become

motivated to do research, think critically about the information available, and to understand public health needs and preventive dentistry.

E. TO UTILIZE THE MOST ADVANCED TEACHING METHODS in a curriculum subject to constant review, consistent with the mission of the school. Experimentation in the curriculum should be pursued and imaginative programs developed.

F. TO PROMOTE MEANINGFUL PROGRAMS OF CONTINUATION EDUCATION primarily for practitioners in the region.

These programs will be conducted with the realization that there is a valuable exchange of knowledge between the school and the practitioners or health science workers to the mutual benefit of both parties.

G. TO PROVIDE OTHER HEALTH SCIENCE WORKERS AND THE UNIVERSITY COMMUNITY appropriate insights into the subject of oral health.

H. TO INFORM AND INFLUENCE SOCIETY and our community about the benefits of good oral health.

I. TO BETTER INTEGRATE THE TEACHING PROGRAMS OF THE SCHOOL OF DENTISTRY WITH THOSE OF THE COLLEGE OF MEDICAL SCIENCES AND THE UNIVERSITY.

This improved cooperation would also be desirable in service, research and administrative areas.

J. TO PROVIDE MORE EDUCATIONAL OPPORTUNITIES IN HOSPITALS AND COMMUNITY HEALTH CENTERS FOR UNDERGRADUATE AND GRADUATE STUDENTS.

These opportunities should be developed in the University Hospitals, associated teaching hospitals, the Mayo Graduate School of Medicine and Mayo Clinic, the newly planned out-patient clinic, and other appropriate health centers.

K. TO TAKE APPROPRIATE MEASURES TO ATTRACT AND RETAIN A COMPETENT FACULTY to accomplish the above objectives.

This requires a recognition of the importance of the teaching function and providing educational opportunities for faculty members. The number of full-time faculty members and half-time faculty members will be increased.

SERVICE OBJECTIVES

A. TO PROVIDE EXEMPLARY CARE for patients treated in the clinic.

This includes restorative and preventive oral health care. The efforts of the school will be better coordinated with the community practitioners and other health agencies.

B. TO PROVIDE A PROMPT, EFFICIENT CONSULTATIVE SERVICE to dental practitioners, medical practitioners and other health science professionals.

C. TO PROMOTE AND COOPERATE WITH COMMUNITIES on oral health service projects that are consistent with the mission of the dental school.

D. TO ELEVATE THE STANDARDS OF DENTAL PRACTICE IN THE COMMUNITY.

E. TO DEMONSTRATE AN ATTITUDE OF SOCIAL RESPONSIBILITY AND SENSITIVITY in the dental profession by the way in which service programs are undertaken and carried out.

F. TO SHARE AND DISSEMINATE MEANINGFUL ORAL HEALTH KNOWLEDGE with dental practitioners, other health science workers and the public.

RESEARCH OBJECTIVES

A. TO PROVIDE AN ENVIRONMENT FOR RESEARCH WHICH WILL RESULT IN ATTRACTING AND RETAINING COMPETENT AND PRODUCTIVE INVESTIGATORS.

B. TO ADVANCE THE KNOWLEDGE OF ORAL HEALTH with an active, expanding fundamental and applied research program.

C. TO INVESTIGATE VARIOUS EDUCATIONAL METHODS and develop new techniques and measurements capable of evaluating the educational programs to determine the need for change and improvement.

D. TO INVESTIGATE COMMUNITY ORAL HEALTH PROBLEMS.

E. TO ENGAGE IN SUCH CLINICAL RESEARCH PROGRAMS as genetics, epidemiology and public health studies. There will also be fundamental research activities, biologic in nature, and not confined to oral structures.

F. TO INVESTIGATE THE CAUSES OF ORAL DISEASE AND ELEMENTS OF PREVENTIVE MEASURES.

G. TO DEVELOP AN ENVIRONMENT CONDUCIVE TO FREE AND OPEN INQUIRY into all facets of health, disease and education applicable to the role of dentistry in total health care.

III. PROGRAMS OF THE SCHOOL OF DENTISTRY

PROJECTED STUDENT LOADS

Program	Present Loads	*Projected for 1980
Four year D.D.S.	110 in freshman class	150
Dental Hygiene	50 in freshman class	150
Dental Assisting	35 in freshman class	150
Graduate Study	Total of 40	125
Postgraduate Study	Total of 8	35
Continuation Education	Average 375 annually	800

*These projections may be realized by 1975.

TEACHING PROGRAMS

A. FOUR YEAR D.D.S. PROGRAM

1. RECRUITMENT OF HIGH QUALITY STUDENTS

A MORE ACTIVE AND FORCEFUL RECRUITMENT PROGRAM WILL BE INITIATED TO ENCOURAGE EXCEPTIONALLY ABLE YOUNG MEN AND WOMEN TO PURSUE DENTAL CAREERS. An aggressive effort will be made to inform high school and college counselors and students of the challenging and changing role of the dental profession. This information function will be carried out by University faculty and staff members.

2. INCREASED PREDENTAL LIBERAL ARTS BACKGROUND

A proposed program will increase the minimum entrance requirement to three years; raise the minimum acceptable admission G.P.A.; require comparative anatomy, quantitative chemistry, stronger physics course, college algebra, and possibly an introductory calculus course; and establish distribution requirements to provide a broad liberal arts education.

3. IMPROVEMENT OF UNDERGRADUATE CURRICULUM

AN UPGRADING IS NEEDED IN ALL AREAS OF THE CURRICULUM. RECOMMENDATIONS FOR CURRICULAR CHANGES HAVE BEEN SUBMITTED AFTER A THREE YEAR STUDY AND THE SCHOOL IS NOW IN POSITION TO IMPLEMENT THE RECOMMENDATIONS AS RESOURCES PERMIT. The program should be structured to provide an education which will permit the graduates to plan, execute, guide and supervise the best possible oral health care for the patients. Allocation of time for the dental technic courses will be sharply reduced and clinical conditions will be simulated in these courses as much as possible. The most modern concepts of clinical practice will be taught with an interdisciplinary approach and an emphasis on total oral health care. The basic biological sciences must have greater emphasis and be taught at the highest level.

4. MORE BIOLOGIC ORIENTATION

THERE WILL BE INCREASED EMPHASIS IN ORAL MEDICINE AND ORAL BIOLOGY TO IMPROVE THE STUDENT'S BASIC UNDERSTANDING OF ORAL DISEASES AND HIS ABILITY TO DIAGNOSE AND TREAT THESE DISEASES.

THE STUDENT SHOULD HAVE A KEENER UNDERSTANDING OF CLINICAL MEDICINE IN ITS BROAD CONCEPT. THIS MEANS THAT HE MUST RECEIVE SOME INSTRUCTION AND EXPOSURE TO GENERAL PHYSICAL DIAGNOSIS AND LABORATORY MEDICINE. It is intended that the faculty for this program will be physicians and medical technologists. This plan will permit the students and the practitioners to provide more effective and integrated oral health care as part of total health care. With the certainty that dental practitioners will be very active in hospitals and comprehensive health care centers, instruction in physical diagnosis and laboratory medicine for the dental students seems particularly pertinent.

IN THIS CONNECTION, UPGRADING OF THE BASIC SCIENCES IS IMPERATIVE WITH A GREATER EFFORT TO CORRELATE THE BASIC SCIENCES AND CLINICAL DENTISTRY. Basic science instruction for the dental students should be of the same quality as that given the medical students.

One plan could be to have the dental and medical students in combined classes with no attempt to identify the two groups. If this is implemented, then applied courses in the basic sciences could be taught separately in a vertical or diagonal curriculum. If the classes remained separated, slightly different emphases could be included in the basic courses. For example in gross anatomy, head and neck dissection could be given stronger emphasis for the dental students. Slight variations could be made in other basic sciences but the courses for the dental students should be of high quality and depth.

THE GREATER EMPHASIS ON BASIC SCIENCES WILL GIVE THE STUDENTS BETTER INSIGHT INTO CLINICAL PROBLEMS, BETTER PREPARE THE STUDENTS FOR GRADUATE STUDY, BUT ALSO WOULD BETTER EDUCATE DENTAL PRACTITIONERS FOR THE MORE CHALLENGING ROLE THEY WILL HAVE IN THE FUTURE IN PROVIDING AND DIRECTING COMPREHENSIVE ORAL HEALTH CARE FOR THE PUBLIC. DENTAL PRACTITIONERS MUST BE SPECIALISTS OF THE ORAL CAVITY. The treatment they render, the drugs they use, and the operations they perform affect the patient totally as in many aspects of medical care.

5. PREPARE STUDENTS TO BETTER PLAN, EXECUTE AND DIRECT ORAL HEALTH CARE

Through earlier clinical experience, more time provided for oral diagnosis, total oral health care opportunities, and more effective instruction in treatment planning the students will be able to plan, execute, and supervise full treatment for the patients. Dentists in the future will prescribe more technical procedures to be carried out by laboratory technicians. Also, they will direct and supervise all clinical procedures assigned to dental auxiliary personnel.

6. TEACH STUDENTS TO WORK IN A TEAM APPROACH AND MORE EFFECTIVELY WITH AUXILIARY PERSONNEL

THIS IS UNDOUBTEDLY ONE OF THE KEY MEASURES IN OUR FUTURE PLANS. WITH NEED TO PROVIDE MORE AND BETTER ORAL HEALTH CARE, THE SCHOOL OF DENTISTRY IS OBLIGATED TO EXPERIMENT WITH THE DELEGATION OF CERTAIN CLINICAL DUTIES NOW PERFORMED BY THE DENTISTS TO AUXILIARY PERSONNEL. The concepts of increased group practice, team approach to oral health, practice near and in cooperation with health care centers and hospitals demand that we attract students able to work effectively in these environments and programs. Further, the students should have the temperament and ability to delegate and supervise treatment procedures.

One future plan is to create well designed and well equipped dental offices in the school. The students would work in these offices with several dental auxiliaries - one or two dental hygienists and assistants and a dental technician. Each unit would have four or five dental operating units and dental laboratory facilities. The student will perform complex clinical procedures, supervise routine clinical procedures done by the auxiliary people and prescribe procedures done by the technician.

There will be a number of these office units which will permit the student to perform many phases of clinical oral care in a given unit or he will limit the treatment to a special phase of dentistry. Thus, the student will have experience in a group of specialty practices and in general practice, but in both settings he will be working extensively with auxiliary personnel.

In these units, television cameras could monitor the student's activities. Further, the student could receive instruction via television. He will have available visual aids such as slides and film strips and descriptions of procedures for review or self-instruction. Programmed learning machines will be used in this plan where demonstrated to be effective.

7. TEACH THE STUDENTS TO WORK IN HOSPITALS AND COMMUNITY HEALTH CENTERS

It is essential that dental students receive full orientation to hospital protocol and practices and exposure to and experience in all feasible hospital dental activities. Services to patients will result from this program but the main purpose will be education of the students.

THE HOSPITAL DENTAL PROGRAM WILL BE MARKEDLY EXPANDED AND IMPROVED. THE STUDENTS MUST LEARN TO WORK EFFECTIVELY WITH THE CLINICAL AREAS OF MEDICINE AND THE MEDICAL LABORATORIES IN THE COMMON EFFORT TO PROVIDE BETTER AND MORE COMPLETE HEALTH CARE. They must learn to perform oral health services in these environments.

8. TEACH STUDENTS THE FUNDAMENTALS OF PRACTICE MANAGEMENT

This is a course of instruction which has been given limited attention in dental schools since there has been some question whether this is a responsibility of the schools. Yet, if the practitioner is inadequate and frustrated in practice management he might provide less effective oral health care for his patients. THUS, OUR SCHOOL SHOULD INCREASE THE QUALITY AND EXTENT OF COURSES IN PRACTICE MANAGEMENT TO BETTER PREPARE OUR STUDENTS FOR PRIVATE PRACTICE.

9. INCULCATE A COMMUNITY CONSCIOUS ATTITUDE AS A PART OF THE TOTAL DEVELOPMENT OF THE STUDENT

This implies that the school should provide improved counseling services, must instill in the student the desire to grow in all dimensions, and should provide some opportunities for fine arts, humanities and social science studies. We are interested in attracting students with broad educational backgrounds, continuing liberal arts exposure for the students and graduating individuals who will have a better understanding of their responsibilities to the community and their patients.

10. DEVELOP A MAJOR EDUCATIONAL PROGRAM IN PREVENTIVE DENTISTRY

TWO OF THE MOST COMMON DISEASES OF MAN ARE DENTAL CARIES AND PERIODONTAL DISEASE. OUR BEST HOPE TO CONTROL AND ELIMINATE THESE DISEASES IS THROUGH RESEARCH AND AN ACTIVE PROGRAM OF PREVENTION. In the undergraduate program, it is essential that we create an awareness of the importance of preventive dentistry. This is done by curriculum design, preventive clinical measures, faculty example, and by stressing to the students the value of public health measures.

11. PROVIDE FREE TIME, OFFER ELECTIVES AND HONORS COURSES

A fixed undergraduate program for all will be abandoned. The more gifted students will be given time for electives and self-pursued educational experiences. HONORS COURSES WILL BE DEVELOPED TO CHALLENGE THE TOP STUDENTS. THESE WILL INCLUDE MORE RESEARCH OPPORTUNITIES, ADVANCED CLINICAL EXPERIENCES, A HEADSTART ON GRADUATE STUDY, AND EXCHANGE PROGRAMS WITH OTHER UNIVERSITIES.

B. GRADUATE PROGRAMS

1. MARKED INCREASE PLANNED IN GRADUATE STUDENT ENROLLMENT

We expect to more than triple by 1980 our present number of graduate students to develop research investigators, educators and dental specialists.

2. DEVELOPMENT OF MORE RESEARCH INVESTIGATORS BY EXPANDED PROGRAMS

THIS WILL BEST BE ACCOMPLISHED BY EXPANDING AND IMPROVING OUR PRESENTLY SUCCESSFUL AND WELL REGARDED PH.D. PROGRAMS. In these programs, the major field of study is in a basic biological science or related discipline and the minor is in a special area of dentistry.

One program is the combined D.D.S. - Ph.D. plan which begins for the student after his Sophomore year in dental school and continues for at least six calendar years. The second is the postdoctoral Ph.D. program. With these excellent programs, we can develop competent investigators who will remain in dental research and dental education for our needs in Minnesota and also for other schools and research centers.

3. DEVELOPMENT OF DENTAL EDUCATORS

DENTAL EDUCATION WILL BEST BE SERVED BY INCREASING THE PROPORTION OF FULL-TIME FACULTY MEMBERS WHO HAVE ADVANCED EDUCATIONAL BACKGROUNDS. FROM MINNESOTA THESE PEOPLE WILL COME FROM OUR PH.D. AND M.S.D. PROGRAMS. In the latter program, the students earn the major in a special area of dentistry and a minor in a basic biological science or related field. These programs vary in length from 21-36 months. All efforts will be made to strengthen and expand the M.S.D. programs.

4. EDUCATE GRADUATE STUDENTS FOR DENTAL SPECIALTIES

These programs are designed at the M.S.D. level and should continue to include the accepted specialties of endodontics, oral pathology, oral surgery, orthodontics, pedodontics, and periodontics. Public health dentistry is the other dental specialty approved by the Council on Dental Education of the American Dental Association. THE SCHOOL OF DENTISTRY HAS NOT BEEN ACTIVE IN A PROGRAM TO TRAIN DENTAL PUBLIC HEALTH SPECIALISTS BUT IS WILLING TO COOPERATE AND ASSIST THE SCHOOL OF PUBLIC HEALTH IN SUCH A PROGRAM.

The faculty is motivated to keep pace with and lead in the development of educational programs for specialty practice. We will base these graduate programs on sound biologic principles, the most advanced concepts of clinical practice, and the requirement of research experience.

5. MORE POSITIVE GRADUATE STUDENT RECRUITMENT PROGRAM

One of the keys to assuring major progress in dentistry is to enroll exceptionally able students for graduate study. Special efforts will be made to attract the best candidates into our graduate programs. These efforts will extend into the high schools, colleges and undergraduate dental programs.

6. EXPAND INTERN-RESIDENCY PROGRAM

One of our major efforts will be to expand and improve markedly our intern-residency program in the University Hospitals and associated teaching hospitals. A NEW CHAIRMAN OF HOSPITAL DENTISTRY HAS BEEN NAMED. EXCITING PLANS ARE BEING FORMULATED TO DEVELOP A VERY ACTIVE, ENCOMPASSING HOSPITAL DENTISTRY PROGRAM. THIS WILL INCLUDE AN INTERN-RESIDENCY PROGRAM OF WIDE SCOPE AND DEPTH, greater opportunities for undergraduate students and more participation by the faculty. While considerable dental services will be available through these programs, the main purpose must be teaching and research.

7. DEVELOPMENT OF SPECIAL EDUCATIONAL PROGRAMS

Some of the special programs which have been planned principally for graduate study and faculty activity are a genetics center, cleft palate clinic and a maxillo-facial prosthetic program. THE GENETICS CENTER MAY WELL BECOME ONE OF THE MOST OUTSTANDING ACTIVITIES IN OUR GRADUATE AND RESEARCH PROGRAMS.

C. AUXILIARY PERSONNEL PROGRAMS

1. EXPECTED EXPANSION OF CURRENT PROGRAMS

At the present time, our two auxiliary dental personnel programs are the two year dental hygiene program and the one year dental assisting program. The graduates of dental hygiene perform oral hygiene procedures and work in dental offices, clinics, public health and school programs and in teaching programs. The graduates of dental assisting are not trained for or permitted by law to do any clinical procedures but assist the practicing dentists by doing a variety of helpful tasks.

The needs and demand for oral health services will increase. Many studies conclude that more and better oral health services can be provided through the utilization of auxiliary dental personnel. It is our intention to increase the enrollment in dental hygiene and dental assisting and to make all efforts to improve these programs.

The major purpose of our dental assisting program is not the training of the assistants per se but is the utilization of them in training dental students to work with auxiliary personnel.

IF THE CONCEPT OF TEAM DENTISTRY AT THE UNDERGRADUATE LEVEL DEVELOPS AT A RAPID RATE, THE ENROLLMENT FIGURES FOR THE DENTAL HYGIENE AND DENTAL ASSISTING PROGRAMS COULD EXCEED OUR PROJECTIONS LISTED ON PAGE FIVE OF THIS REPORT.

2. EXPERIMENTAL PROGRAMS FOR AUXILIARY PERSONNEL

AN EXPERIMENTAL PROGRAM WILL BE UNDERTAKEN TO DETERMINE THE KINDS OF CLINICAL DUTIES THIS TYPE OF PERSONNEL CAN ASSUME. Such a program

will likely be started with the dental hygienists who are capable students and, by law, are now permitted to perform some clinical procedures.

It might be possible for us to start some pilot practical experience program under the Public Health Service with a group such as the Indians. Another plan would be to develop the program in the dental school. The advantage of the latter proposal would be to integrate the work of this new level of personnel within the dental team training program.

THESE AUXILIARY PERSONNEL IN THE EXPERIMENTAL PROGRAM SHOULD BE TRAINED TO FUNCTION UNDER THE SUPERVISION OF DENTISTS. Continued guarantee of this supervisory relationship for private practice must be provided by law. It should be noted that any additional clinical duties assumed by auxiliary personnel would require a change in the dental practice act.

3. CHANGES IN ENTRANCE REQUIREMENTS AND PROGRAMS

ENTRANCE REQUIREMENTS MAY BE CHANGED IN DENTAL HYGIENE AND DENTAL ASSISTING TO INCLUDE MEN AND EXTEND THE AGE LIMIT BEYOND 35 YEARS. THE DENTAL HYGIENE PROGRAM MAY BE INCREASED TO THREE YEARS. The first year would be devoted to liberal arts courses and the next two years would be spent in the dental school. This would give the students a broader education and permit more time for clinical instruction and experimental efforts.

THE DENTAL ASSISTING PROGRAM WILL BE EXTENDED FROM NINE TO TWELVE MONTHS. For the first three months, the students will take General College courses, and the last nine months will be devoted to dental courses. This new plan will give the students more experience in dental assisting.

4. AID TO OTHER DENTAL ASSISTING PROGRAMS

If requested, the School of Dentistry will act in a consultative capacity in the development of dental assisting programs under college auspices.

D. POSTGRADUATE PROGRAMS

1. DEFINITION OF POSTGRADUATE STUDY

POSTGRADUATE EDUCATION AS INTERPRETED FOR THIS REPORT INCLUDES SPECIAL ADVANCED STUDY THAT DOES NOT LEAD TO A DEGREE, is of less depth than graduate study, AND IS OF LONGER DURATION THAN CONTINUATION STUDY but of less length than graduate study. While there isn't agreement on the distinction between postgraduate study and CONTINUATION EDUCATION, the latter SHOULD BE CONSIDERED IN THIS REPORT AS PERTAINING TO REFRESHER COURSES OF A FEW DAYS TO ONE OR TWO WEEKS IN LENGTH.

2. DEMAND FOR SUCH PROGRAMS

There is a need to provide opportunities for dentists and other health science professionals to enroll for special study in postgraduate courses as defined above. IT IS POSSIBLE THAT THERE WILL BE A MARKED INCREASE IN DEMAND FOR THIS KIND OF STUDY BUT WE HAVEN'T PROJECTED SUCH A TREND IN THIS REPORT. Postgraduate programs can be time consuming for the faculty and would require additional support if they are to be expanded.

ONE PLAN THAT MAY INFLUENCE THE EXTENT OF OUR PROGRAM COULD BE IF SABATTICAL STAFF APPOINTMENTS ARE OFFERED TO QUALIFIED PRACTITIONERS. These could be one to three months appointments and would involve instruction of dental students and provide the practitioner with opportunities to pursue his own interests.

REQUIREMENTS OF VARIOUS AGENCIES WITHIN THE DENTAL PROFESSION MAY INCREASE PRESSURE ON THE UNIVERSITIES TO OFFER EXPANDED POSTGRADUATE PROGRAMS. A prime example of this would be that DENTAL PRACTICE ACTS MAY REQUIRE CONTINUATION AND POSTGRADUATE EDUCATION FOR MAINTENANCE OF LICENSURE. Another influence may be that VARIOUS PROFESSIONAL ACADEMIES AND SPECIALTY GROUPS MAY REQUIRE POSTGRADUATE EDUCATION TO CONTINUE RECOGNITION GIVEN BY THESE GROUPS.

E. RESEARCH TRAINING PROGRAMS

1. EXPAND THESE PROGRAMS

We will provide undergraduates with more opportunities for research in the curriculum, special summer programs, and honors programs. Major emphasis in research training will, of course, be at the graduate level. Development of experience and knowledge in research methods will be one of the main missions of the Ph.D. programs and part of the M.S.D. program.

2. RESEARCH SUPPORT FOR FACULTY

This will include the provision of space and staff so the faculty will have room and time to pursue investigative projects. ANOTHER FORM OF RESEARCH SUPPORT FOR FACULTY WOULD BE THE DEVELOPMENT OF IN-SERVICE RESEARCH METHODOLOGY PROGRAMS. Research methodology will be an important aspect of the graduate programs and therefore it seems appropriate for the school to develop programs around experience and knowledge in this area.

F. CONTINUATION EDUCATION PROGRAMS

1. UPGRADE THE PROGRAM FOR DENTAL PRACTITIONERS

We now conduct approximately 15 short courses a year for over 350

oral health care people. The demands of the profession and improvement of educational techniques have combined to cause dental schools throughout the country to re-examine their continuation education programs. IN OUR SCHOOL EXISTING COURSES WILL BE REDESIGNED, NEW COURSES WILL BE INTRODUCED AND ALTERNATIVE FORMS OF EDUCATIONAL PROGRAMS WILL BE EXPLORED.

2. INCREASE THE OPPORTUNITIES FOR AUXILIARY PERSONNEL

With increased emphasis on the role of dental auxiliary personnel in the team approach at the undergraduate level, the school recognizes the need to extend educational opportunities to this group after graduation. OUR PROGRAMS WILL CONCENTRATE ON KEEPING AUXILIARY PERSONNEL ABREAST OF TECHNICAL DEVELOPMENTS AND METHODS IN WHICH THE DENTAL TEAM CAN FUNCTION MORE EFFICIENTLY IN PRACTICE.

3. EXTENSION INTO THE COMMUNITIES

WITH ADDITIONAL RESOURCES, THE SCHOOL COULD OFFER ONE AND TWO DAY COURSES IN THE LOCAL COMMUNITIES. This program would reach a larger number of practitioners and reflect an attitude of concern and interest of the school for the practitioners. HOPEFULLY, THIS EXTENSION TO THE COMMUNITY WILL BRING WITH IT SUCH IMPORTANT SHIFTS OF EMPHASIS AS THE ADVANTAGES OF A TEAM APPROACH WITHIN THE FIELD OF DENTISTRY AND THE IMPORTANCE OF INTEGRATION WITH ALL OF THE HEALTH SCIENCES.

4. COURSES FOR SPECIAL GROUPS

These programs would be for groups within and outside the field of dentistry, and may be given in cooperation with other units of the health sciences. ONE PARTICULAR AREA WOULD BE WORKSHOPS AND INSTITUTES ON TEACHING METHODS for our faculty and the faculty from other schools. RESEARCH METHODOLOGY IS ANOTHER CONTINUATION COURSE THAT COULD BE OFFERED TO SPECIAL GROUPS such as dental educators in dental schools and teaching hospitals.

SERVICE PROGRAMS

A. EXEMPLARY ORAL HEALTH CARE

The clinics program, the hospital program and other community programs all involve dental students. Therefore IT IS ESSENTIAL THAT THE SERVICES GIVEN IN THE SCHOOL AND ASSOCIATED FACILITIES SET A STANDARD WORTHY OF EMULATION BY THE STUDENT WHEN HE GOES INTO PRACTICE. It is also recognized that the reputation of the school is tested in a very tangible manner by the service rendered to every patient.

B. PROVISION OF EXTENSIVE CONSULTATIVE SERVICES

An extension of the direct care to the patient, is the consultative service to the referring practitioner or other health science professionals. Some of the consultative services we now offer or will begin are:

1. A biopsy and cytological service, which can be increased as needed.

2. Will establish a laboratory to provide aids and tests in the control of caries. This service will be available to practitioners.

3. Response to inquiries from practitioners and the posting of consultative reports.

C. SHARE AND DISSEMINATE ORAL HEALTH KNOWLEDGE

The school recognizes that a program is needed to meet the objective of sharing oral health knowledge with the health professions and the public. Some of the programs we have and will develop to carry out this objective are:

1. Participation in public health programs e.g. efforts to start a fluoridation system in a community. Some of our faculty have been very active in this way, and we should be prepared to continue this valuable service.

2. Increased involvement, as time permits, in public health programs such as cancer detection clinics. These clinics are designed to alert the public and to educate the dentists and physicians.

3. Speaking on various dental subjects, such as preventive dentistry, before P.T.A. groups and civic clubs.

4. Increased activity in teaching continuation education courses at the University and in the communities.

5. Taking an active part in dental society affairs at the local, state and national levels.

6. Making a positive effort to release to the communication media articles on oral health measures and research findings.

7. Increasing contributions to the scientific literature and at scientific meetings.

D. PROGRAM FOR SOCIAL RESPONSIBILITY AND SENSITIVITY

This is the kind of program that cannot be described, measured, documented or readily made tangible. FACULTY ATTITUDE, CONCERN FOR THE DIGNITY AND IMPORTANCE OF THE INDIVIDUAL PATIENT, RESPONSIVENESS TO REQUESTS FROM INDIVIDUAL PRACTITIONERS AND COMMUNITY AGENCIES ARE ALL A PART OF THIS VERY IMPORTANT PROGRAM. Our lofty objectives and earnest teachings could all be lost if the school did not concern itself with a

philosophy or attitude which will insure that the best of what is taught is also practiced. It is said that teaching and service are inseparable. Therefore the teaching program could be seriously undermined by a careless, insensitive service program of execution.

RESEARCH PROGRAMS

A. EXTENT OF ORAL DISEASES - NEED FOR RESEARCH

THE PREVALENCE OF ORAL DISEASES IN THE UNITED STATES CLEARLY INDICATES THAT OUR PRESENT METHODS OF CONTROL, PREVENTION AND AVAILABILITY OF TREATMENT ARE GROSSLY INADEQUATE. Reports in the Survey of Dentistry and in a recently published survey by the United States Public Health Service reveal the following statistics on the oral health problems in the American population.

1. Among the 10 percent of children under five years of age who visit the dentist, only one of three is free of untreated carious lesions; one of 10 has eight or more cavities.

2. One child out of five needs orthodontic treatment for afflictions ranging from faulty alignment of teeth to severe facial deformity. One out of 800 children is born with a cleft lip or palate.

3. In the year 1960 there were 700 million untreated dental cavities.

4. Diseases of supporting bones and gingival tissues affected at least half of the population by the age of 50 and almost everyone by age 65.

5. Adults had an average of 20.4 decayed, missing or filled teeth per person.

6. One in four adults had no natural teeth remaining in either one or both jaws and nearly one in two had lost all teeth by 65-74 years.

7. ONLY A LITTLE OVER 40 PERCENT OF THE POPULATION VISITS THE DENTIST EVERY YEAR, AND ONLY ONE-THIRD OF THE DENTAL ILLS OF THE NATION ARE BEING TREATED.

8. Twenty thousand persons develop oral cancer each year.

THE IMMENSITY OF THESE ORAL HEALTH PROBLEMS DEMANDS THAT DYNAMIC, AMBITIOUS FUNDAMENTAL AND APPLIED RESEARCH PROGRAMS BE LAUNCHED THROUGHOUT THE COUNTRY TO DETERMINE THE CAUSES AND MEANS OF PREVENTION AND ELIMINATION OF THESE DISEASES.

B. RESEARCH MISSION OF THE SCHOOL OF DENTISTRY

Although the School of Dentistry has developed a productive research program in recent years, all efforts will be made to increase and improve our research and research training activities. FUNDAMENTAL RESEARCH WILL

BE EXPANDED, BUT WE WILL NOT LOSE SIGHT OF OUR CONTINUING MAJOR RESPONSIBILITY IN THE AREAS OF DENTAL CARIES, PERIODONTAL DISEASE, AND ORAL AND FACIAL GROWTH AND DEVELOPMENT.

Research activity must fluorish in all segments of the school but will be in different forms and at different levels of complexity and depth. BASIC RESEARCH IN THE QUEST FOR FUNDAMENTAL NEW KNOWLEDGE WILL BE PROMOTED. CLINICAL AND PEDAGOGICAL STUDIES WILL BE ENCOURAGED AND SUPPORTED.

Our research training programs will receive positive attention and will be expanded as resources permit. IT IS HOPED THAT FACILITIES AND FUNDS WILL ALLOW US TO TRAIN MORE FOREIGN STUDENTS IN DENTAL RESEARCH AND TO INCREASE THE EXCHANGE OF RESEARCH INVESTIGATORS AND DENTAL EDUCATORS WITH OTHER COUNTRIES. This interchange will be mutually helpful to all concerned and will further the cause of international goodwill.

We will maintain an environment which will result in attracting and keeping competent and productive investigators. The school will actively seek financial support from the University, private sources and federal funds to provide the physical facilities, equipment, technical staff and a deversified research faculty to permit greater emphasis on research. A CONSERVATIVE ESTIMATE WOULD BE THAT OUR PRESENT RESEARCH SPACE NEEDS TO BE INCREASED AT LEAST FOUR TIMES TO GIVE US THE FACILITIES NEEDED FOR OUR PROJECTED RESEARCH AND RESEARCH TRAINING PROGRAMS.

C. FUNDAMENTAL RESEARCH PROJECTS

Our over-all fundamental research program will become multidisciplinary, more sophisticated, and increasingly integrated with other research programs in the University. The following are some examples of basic research projects which are being done or likely will be done in our laboratories.

1. The complex dental caries process demands research in the crystal and organic components of enamel which has as its background a search into the origins of calcified tissues and the mineralization process in general. Our research people in biochemistry and other areas will continue to attack these and other aspects of the caries process.

2. Studies on the transmissibility of dental caries through germ-free experiments and other microbiological investigations.

3. Collagen, the principal component tissue of periodontal structures, degenerates in periodontal disease. It is reasonable to assume that fundamental research will give new insight regarding the basic mechanisms involved in maintaining the integrity of periodontal structures, including alveolar bone, and provide an explanation at the molecular level of the pathogenesis of collagen tissue breakdown in periodontal disease.

4. Investigation will be continued on determining the best implant material for bone induction in the periodontium and to determine how the material induces bone formation.

5. Research will continue in the microcirculation and gross circulation of teeth, bones and soft tissue. One current application of this study to clinical dentistry concerns the preservation of pulpal vitality in human teeth.

6. Neurophysiological approach to myographic studies. Clinical studies can be done as well with this basic technic to determine neuromuscular imbalance from malocclusion.

7. Studies on bacterial genetics will continue and immunological aspects of transplantation will be investigated at the basic and clinical levels.

8. Study of the embryological mechanisms adversely affected to produce palatal and other deformities. Experimental teratogenesis will contribute further to the understanding of oral and facial growth and development.

9. A very challenging basic research project in dental materials would be to develop a restorative material with positive adhesive qualities, excellent esthetics, highly durable, easily manipulated and non-toxic.

D. CLINICAL RESEARCH PROJECTS

Clinical investigations with sound biologic bases are being done and will increase in number and quality in the future. Some appropriate examples are the following.

1. Tolerance of dental pulp to filling materials and to the high speed cutting techniques for removal of enamel and dentinal tissues.

2. As in orthodontics, studying the biologic reactions in bone to applied stresses.

3. Epidemiological studies of dental caries, oral cancer, oral and facial anomalies, periodontal disease and other oral problems. Epidemiological investigations provide a composite picture of the natural history of disease and promise to reveal useful data on the incidence and causes of oral diseases.

4. Psychosomatic aspects of oral diseases.

5. Physiological and pharmacological reactions to various systemic and topical drugs used in clinical dentistry e.g. general and local anesthetics.

6. Human genetics and the study of oral and facial syndromes and deformities.

7. The implication of a specific group of pleuropneumonia-like organisms in the etiology of oral diseases such as recurrent aphthous stomatitis.

8. Bone and soft tissue healing considering such factors as blood supply, contamination and trauma.

E. STUDIES OF EDUCATIONAL METHODS

Pedagogical methods will be investigated. These research projects can be more difficult than basic laboratory investigation because of the variabilities of the subjects. We expect to have assistance from educational psychologists in the design and implementation of these studies. The following are examples of projects that will be initiated.

1. Determine the quality, validity and reliability of different examination methods.

2. Compare the value and effectiveness of teaching techniques e.g. live lectures, television and seminars.

3. The application of various preclinical techniques to clinical dentistry.

4. Careful consideration will be given to determining the quality of our product - the graduates.

5. Programmed learning will be studied carefully and used where feasible and determined worthwhile.

6. Data processing will be installed to record examination results; maintain variety, quality and quantity control of clinical procedures; analyze the grading patterns of the faculty; and maintain patient records.

F. RESEARCH INSTITUTE OR CENTER

EFFORT WILL BE MADE TO DETERMINE THE POSSIBILITY AND FEASIBILITY OF DEVELOPING A RESEARCH INSTITUTE. All resources for funds should be explored including federal funds. The Institute could be a part of or separate from the School of Dentistry. If separate it should be so organized that easy interaction can be developed between the School of Dentistry and the Institute.

UNIVERSITY OF MINNESOTA
Minneapolis 14

Office of the President

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Minutes of Meeting August 9, 1965 (#10)

Present: Elmer Learn, Chairman, Gaylord Anderson, Winston Close, Lyle French, Sterling Garrison, N. L. Gault, Jr., Isabel Harris, Mellor Holland, Robert Isaacson, Frederic Kottke, Richard Magraw, Erwin Schaffer, Judith Furber, John Westerman.

Absent: Edna Fritz, Gertrude Gilman, Eugene Grim, Robert Howard, Ione Jackson, James Jensen, James Stephan.

Guests: Manual Bobenreith, Mc Collum Brasfield, Carl Heggestad, Glenn Mitchell.

NEXT MEETING MONDAY, SEPTEMBER 13, 1965, 3:30 P.M., 510 DIEHL HALL

PRESENTATION OF OUTLINE BY BASIC SCIENCES SUB-COMMITTEE

1. Chairman Learn welcomed the guests to the meeting. Dr. Learn noted that he was particularly pleased to see members of the dental sub-committee present for the preliminary report of their group.

2. Dr. Learn commented on the loss of Dr. Barnum, mentioning Dr. Barnum's gifts as an individual and contributions to the committee and University.

3. A timetable for future meetings was proposed:

September 13	Report of Basic Sciences and Public Health
September 27	Report of Hospital Task Force and Clinical Medicine
October 11	Report of Nursing and Ancillary

Dr. Anderson said the Public Health Sub-Committee would have some problems with this deadline because so many of the key faculty members are out of town. Dr. Learn asked Mr. Westerman to meet with Dr. Anderson and work out a suitable time for the report. There appeared to be no conflicts with the other sub-committees in meeting this schedule.

4. Since the July 12th parent committee meeting, the following minutes and materials have been posted to members of the committee:

Minutes

A. Hospital Task Force June 28 (#4)
B. Dentistry July 6 (#5)
C. Nursing July 9 (#6)
D. Clinical Medicine July 9 (#4)
E. Parent Committee Minutes of July 12 (#9)

F. Public Health July 19 (#3)
G. Hospital Task Force July 26 (#5)
H. Hospital Task Force July 29 (#6)
I. Public Health July 29 (#5)

Papers

A. Health Sciences Center, John McCreary, Dean University of British Columbia.
B. Plan & Concepts of the UBC Health Sciences Centre Reflecting the Health Team Approach by James Stephan.
C. Clinic Directors Report to the Learn Committee, July 8, 1965, under the signature of James B. Carey Jr., MD chairman, Clinic Directors Group.
D. Excerpts from Principles of Hospital Design prepared by James Stephan.
E. Planning of Medical Schools - Study Plan by Dr. Ing Gerd Fesel, Dipl-Ing Wolfgang Doring.

5. The following sub-committee meetings have been held for which minutes were not available on August 9.

Minutes

A. Clinical Medicine Task Force July 19, (#5)
B. Public Health July 22 (#4)
C. Clinical Medicine Task Force August 2 (#6)
D. Public Health August 5 (#6)
E. Dentistry August 5 (#6)

6. PRESENTATION BY MELLOR HOLLAND

(Note: These minutes will also serve as the dental sub-committee minutes of August 5, 1965 (#6), as much of the same material was covered. Attending the meeting on August 5th were: Mellor Holland, Chairman, Allyn Bridge, Carl Heggestad, Jo Ann Hubbard, James Jensen, Glenn Mitchell, Leon Singer, John Westerman. W. Albert Sullivan was absent. The sub-committee approved a preliminary report for the Learn Committee.)

Dr. Holland made his main presentation from a report prepared and approved by the Dental Sub-committee for the members of the Committee for the Study of Physical Facilities for the Health Sciences. A copy of the report is appended to these minutes.

In his introductory remarks, Dr. Holland said that the dental sub-committee was happy to be the first sub-committee to present to the Learn committee. The reason this group was able to present at this time is due to the interest and work of the sub-committee members. Dr. Holland then mentioned his sub-committee by name. Another reason facilitating the presentation is the work of the curriculum committee within the School of Dentistry. This committee, structured in a similar fashion to the Learn committee, has just completed a three year study of the curriculum and many of the recommendations from the curriculum committee are

incorporated in the sub-committee report. Dr. Jensen, from the Learn committee, has served as chairman of the curriculum committee. Implicit in the work of the curriculum committee has been a thorough interaction and consultation with the faculty on matters contained in the report.

Dr. Holland then gave a brief background of the history of this Dental School and its relationship to major trends in dental education and practice. The first Dental School in the world was founded in Baltimore, Maryland in 1840. The University of Minnesota School of Dentistry was founded in 1888. Thus it can be seen, unlike our colleagues in law and medicine, that the dental profession itself is very young, and that it has developed in the United States, as opposed to being exported from Europe. The school at Minnesota steadily improved until by the 1920's and 1930's the school was world famous for its restorative dentistry. Research, graduate study, and continuation education received little emphasis at Minnesota and other schools during this period. In the 1950's, under Dean Crawford, Minnesota began the emphasis on research, preventive dentistry, and obtaining full time faculty. This was really the start of what we are doing today and are planning for the future.

One of the chief sources of reference used by the sub-committee is a book, "Survey of Dentistry." Many of the recommendations of this book are incorporated in this report. An abstract of the book has been circulated to members of the Learn committee.

Dr. Holland then highlighted the written report.

QUESTION: Dr. Holland, what do you mean by team approach? It seems as though you are using it in two different ways. Yes, that should be made more clear. On page 7 of the report I am using it in terms of a dental team. There are other references where I refer to the total health science team.

QUESTION: Why have you made such a point of disclaiming the education of dental assistants as such? Is it because they are not useful? No, but I wanted to point out the training of this group is related to the number than can be used in the educational program. It is not the intent of this school to turn out as many dental assistants as possible. We believe there are other resources in the community that can turn out large numbers of students. The University program should have a special function.

COMMENT: It is pleasing to note that you have included as an objective a more closely integrated program with the College of Medical Sciences in teaching, research and service. We do have cooperation among our faculty members but if we move into new facilities, I think we could achieve your objective even sooner. The recent appointment of a person to direct the hospital dental program seems to be a good step toward better integration.

COMMENT: Another excellent thing about your report is that in many places the objectives literally ask or point up the question of what facilities will be needed.

QUESTION: Why have you separated the concept of a research institute from the regular school program? Well, I think it would be better as part of the school, but legislation requires that the institutes be separate. This does not mean that the activities will not be coordinated in the total school program.

QUESTION: Do you plan to include the research projects you have listed in your final report? I think we probably will.
If you feel these are the areas dentistry will be working in in the next 10-20 years, I would worry about your limiting yourself with such a statement. We do not regard this as a limiting document. Specific projects are listed only by way of illustrating some of the general trends affecting the research programs.

QUESTION: I think this is a well written and interesting report. Earlier we heard some information on the topic of eradicating caries. Could you go over that material again? Dr. Holland has that information in page 15 of this report. In general, 1/3 of the population receives necessary dental care and about 20% receive optimal care.

COMMENT: I'm struck by the perspective one gets by these figures (also in medicine) in that the practice of dentistry is very satisfying from the point of view of the individual dentist but is less satisfactory from the point of view of the community.

QUESTION: Several of your objectives carry the phrase "social responsibility". Is this concept accepted by your faculty or is the objective just a pie in the sky? Many, although not all, on our faculty accept this concept. In general, the more forward looking people would accept the idea.

QUESTION: I notice the concept of team dentistry is mentioned several times. What are the pressures for team dentistry? Does it come from federal sources with supporting money? Does it come from the practicing dentists? I think a big reason is the statistical pressure. There simply aren't enough dentists to meet the demand.

QUESTION: What are the attitudes in other schools in regard to the idea of team dentistry and social responsibility? We are among the more progressive schools. These ideas are being discussed, but as far as being implemented -- if we applied to the USPHS for support, Alabama would be the only other school that has taken action.

QUESTION: In terms of patient loads, it would seem you could readily count on a 50% increase, using more auxiliary personnel. So you must be looking forward with some confidence that your program will be adopted? Yes, actually 60% is the figure we were thinking of that just don't get to a dentist. They do not go because of fear, ignorance and financial reasons. Most oral diseases are not painful, and if there is no pain people stay away. Dental service is then looked on as a luxury. We believe team dentistry will provide more dental coverage for less money.

COMMENT: Thinking of South Dakota, the dentists there lobbied through a measure setting up a public health dental sub-division and then limited the activities of

this division to educational matters. South Dakota has the oldest dentists in the country and the unmet needs of the population could be helped by the use of auxiliary personnel in conjunction with a different pattern of using professional dentists. This has been prevented and people still must travel 50 miles to get dental care.

COMMENT: You say one must go 50 miles to see a dentist? Well I don't think that is so bad. It is only a one hour drive and dental emergencies can wait that long. I've heard this same argument with the location of physicians and I think the transportation facilities today undermine the theory of having a doctor or dentist in every hamlet. Also, the dentist can do much more per unit of time today.

QUESTION: Who will train the auxiliary personnel? I'm thinking this may be a subject for the Hill Commission for what if we don't have enough ancillary personnel to carry out this team concept? There are other sources at Mankato, Brainerd, and Bemidji.

QUESTION: Do you have sufficient communication to develop these programs in tandem with the University program? It is our intent to develop a program to teach teachers for auxiliary people. Other programs could be conducted in Junior Colleges.

COMMENT: I notice at least two places where there are implications for other sub-committees. There are suggestions for public health-dental cooperation; implications for an expanded hospital program, and implications for the basic sciences group. I hope the sub-committee chairmen will carefully review these reports so that in the final report we will have no conflicts or gaps. WOULD YOU PLEASE READ THIS REPORT WHEN YOU HAVE LEFT THE MEETING AND FORWARD YOUR COMMENTS TO DR. HOLLAND WITH A COPY TO MR. WESTERMAN.

COMMENT: I would like to re-emphasize the existence of two levels of teaching in the basic sciences. This is understandable because of the greater depth required in the medical school. Our goal in the dental school is to upgrade our student body and program so there won't be a need for two levels of basic science instruction. You can't separate oral health. We need the same depth of instruction. Actually there are areas where the dental student needs greater depth than the medical student. Unless we move to achieve this goal, we will be missing the bet in education. Much of our difficulty goes back to the lack of preparation of dental students. This can be helped in two ways.

1. Our image over the years has been that dentistry is mainly a technical-mechanical profession. If we go to the concept of using auxiliary personnel to aid the dentist, then we can shift our educational emphasis to the biological level. So I would give a charge to the basic sciences committee to have the same courses for medical and dental students in four or five years.

2. In the future, post-graduate and continuation education will not be so much on what new skills have been developed, but on the why of new skills.

In the future these programs will have more of a biologic basis. Dr. Holland, you and your sub-committee should be complimented on the excellent job you have done. This has been a very good report.

Respectfully submitted,

John H Westerman
Executive Secretary

UNIVERSITY OF MINNESOTA

SCHOOL OF DENTISTRY

August 9, 1965

TO: MEMBERS OF THE COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Attached is a preliminary report of the roles, objectives, and programs of the School of Dentistry. The report was approved by the Subcommittee for Dentistry on August 5, 1965. The members of the Subcommittee are:

Allyn G. Bridge, Associate Professor, School of Public Health

Carl B. Heggestad, Associate Professor, Department of Anatomy

JoAnn R. Hubbard, Instructor, School of Nursing

James R. Jensen, Professor, School of Dentistry

Glenn R. Mitchell, Associate Director, University Hospitals

Leon Singer, Professor, Department of Biochemistry

W. Albert Sullivan, Associate Professor of Surgery and Director, Continuation Medical Education

John H Westerman, Executive Secretary, Committee for the Study of Physical Facilities for the Health Sciences

Mellor R. Holland, Chairman
Subcommittee for Dentistry

I. ROLES OF THE SCHOOL OF DENTISTRY

The roles of the School of Dentistry in teaching, service and research are inseparable and are closely interwined in programs serving the people of Minnesota.

A. The teaching role of the School of Dentistry is to OFFER undergraduate, graduate, postgraduate, research and continuation education PROGRAMS to dental students, dental auxiliary students, dental practitioners, members of other health professions and other members of the University community.

These programs are and will be primarily for Minnesota students at the undergraduate level, for practicing dentists of the region at the continuation education level and for the best qualified students at the graduate, postgraduate and research levels. This teaching role is carried out mainly in the School of Dentistry, the University Hospitals, and basic science departments, but will also include participation with and within other departments of the University and the community.

B. The research role of the School of Dentistry is to PROMOTE RESEARCH BY DYNAMIC FUNDAMENTAL AND APPLIED RESEARCH PROGRAMS which emphasize biologic aspects of oral health, oral disease and preventive dentistry.

This program will achieve the further goal of developing research personnel for Minnesota and other research centers. The program thus serves as a source of academic dentists and has the purpose of contributing to national and international health programs.

C. The service role of the School of Dentistry is to SERVE THE POPULATION of the state and the PRACTICING DENTISTS AND OTHER HEALTH SCIENCE PROFESSIONALS on a referral and non-referral basis with the HIGHEST QUALITY OF COMPREHENSIVE CONSULTATIVE CARE. This role may include varying degrees of responsibility for the provision of oral health care as a function of total health care.

D. A role of the School of Dentistry is to EXPERIMENT WITH PATTERNS OF ORAL HEALTH CARE and to INCORPORATE THE MOST ADVANCED DENTAL PRACTICES into the service programs. This experimental role includes the investigation, application and measurement of educational methods.

The School has no statutory or administrative obligation for any group of patients, but historically has given service to patients referred by practicing dentists, referred from University Hospitals and self-referred patients as are appropriate for the teaching programs.

E. A role of the School of Dentistry, as a sum total of the above roles, is to SERVE AS A LEADER IN THE QUEST TO IMPROVE ORAL HEALTH AS A FUNCTION OF TOTAL HEALTH CARE in society and establish and improve relationships with the community.

II. OBJECTIVES OF THE SCHOOL OF DENTISTRY

TEACHING OBJECTIVES

A. TO PREPARE UNDERGRADUATES FOR HIGH QUALITY DENTAL PRACTICE, THROUGH THE ACQUISITION OF SKILLS, KNOWLEDGE AND ATTITUDES essential to the practice of dentistry.

Further objectives of the undergraduate programs are to increase the emphasis on liberal arts and the basic sciences, with less emphasis on preclinical dental techniques. Our goal is to improve the ability of the student to diagnose and help him to better understand the causes of disease. The student must become oriented to an understanding of the patient's total health and be able to better plan, execute and direct oral health treatment with an emphasis on preventive measures. The educational environment should provide the opportunity for the student to be familiar with practicing in hospitals and community health centers, acquaint the students with the fundamentals of practice management and provide the student with experience in working with auxiliary personnel and practicing team dentistry as an integral part of total health care.

B. TO PROVIDE GRADUATE LEVEL TRAINING FOR THE PREPARATION OF INDIVIDUALS INTERESTED IN CAREERS IN RESEARCH, ACADEMIC DENTISTRY AND SPECIALTY PRACTICE

Included in this objective is the need to continue to attract the best candidates, increase the numbers of graduate students, particularly at the Ph. D. and combination D. D. S. - Ph. D. level and to improve the graduate programs.

C. TO DEVELOP DENTAL AUXILIARY PERSONNEL through programs designed to assist the practicing dentist and explore new areas where auxiliary personnel may assume duties that are consistent with their skills and training.

Our objective is to increase the student body in dental hygiene and dental assisting programs with improved curriculums that will attract the best qualified applicants.

D. TO RECRUIT AND ATTRACT THE BEST QUALIFIED STUDENTS INTO THE SCHOOL'S TEACHING PROGRAMS.

This means the recruitment and education of the best qualified individuals to be skillful, within their chosen area, in the art of dentistry, knowledgeable in the science of dentistry and sensitive to the obligations of a professional person in general and to a member of a health profession in particular. Further, the students should become motivated to do research, think critically about the information available and to understand public health needs and preventive dentistry.

E. TO UTILIZE THE MOST ADVANCED TEACHING METHODS in a curriculum subject to constant review, consistent with the mission of the school. Experimentation in the curriculum should be pursued and imaginative programs developed.

F. TO PROMOTE MEANINGFUL PROGRAMS OF CONTINUATION EDUCATION primarily for practitioners in the region.

These programs will be conducted with the realization that there is a valuable exchange of knowledge between the school and the practitioners or health science workers to the mutual benefit of both parties.

G. TO PROVIDE OTHER HEALTH SCIENCE WORKERS AND THE UNIVERSITY COMMUNITY appropriate insights into the subject of oral health.

H. TO INFORM AND INFLUENCE SOCIETY and our community about the benefits of good oral health.

I. TO BETTER INTEGRATE THE TEACHING PROGRAMS OF THE SCHOOL OF DENTISTRY WITH THOSE OF THE COLLEGE OF MEDICAL SCIENCES AND THE UNIVERSITY.

This improved cooperation would also be desirable in service, research and administrative areas.

J. TO PROVIDE MORE EDUCATIONAL OPPORTUNITIES IN HOSPITALS AND COMMUNITY HEALTH CENTERS FOR UNDERGRADUATE AND GRADUATE STUDENTS.

These opportunities should be developed in the University Hospitals, associated teaching hospitals, the Mayo Graduate School of Medicine and Mayo Clinic, the newly planned out-patient clinic and other appropriate health centers.

K. TO TAKE APPROPRIATE MEASURES TO ATTRACT AND RETAIN A COMPETENT FACULTY to accomplish the above objectives.

This requires a recognition of the importance of the teaching function and providing educational opportunities for faculty members. The number of full-time faculty members and half-time faculty members will be increased.

SERVICE OBJECTIVES

A. TO PROVIDE EXEMPLARY CARE for patients treated in the clinic.

This includes diagnostic, restorative and preventive oral health care. The efforts of the school will be better coordinated with the community practitioners and other health agencies.

B. TO PROVIDE A PROMPT, EFFICIENT CONSULTATIVE SERVICE to dental practitioners, medical practitioners and other health science professionals.

C. TO PROMOTE AND COOPERATE WITH COMMUNITIES on oral health service projects that are consistent with the mission of the dental school.

D. TO ELEVATE THE STANDARDS OF DENTAL PRACTICE IN THE COMMUNITY.

E. TO DEMONSTRATE AN ATTITUDE OF SOCIAL RESPONSIBILITY AND SENSITIVITY in the dental profession by the way in which service programs are undertaken and carried out.

F. TO SHARE AND DISSEMINATE MEANINGFUL ORAL HEALTH KNOWLEDGE with dental practitioners, other health science workers and the public.

RESEARCH OBJECTIVES

A. TO PROVIDE AN ENVIRONMENT FOR RESEARCH WHICH WILL RESULT IN ATTRACTING AND RETAINING COMPETENT AND PRODUCTIVE INVESTIGATORS.

B. TO ADVANCE THE KNOWLEDGE OF ORAL HEALTH with an active, expanding fundamental and applied research program.

C. TO INVESTIGATE VARIOUS EDUCATIONAL METHODS and develop new techniques and measurements capable of evaluating the educational programs to determine the need for change and improvement.

D. TO INVESTIGATE COMMUNITY ORAL HEALTH PROBLEMS.

E. TO ENGAGE IN FUNDAMENTAL RESEARCH ACTIVITIES, BIOLOGIC IN NATURE, BUT NOT NECESSARILY CONFINED TO ORAL STRUCTURES. Applied research will be conducted in such appropriate areas as clinical dentistry, epidemiology, genetics and public health studies.

F. TO INVESTIGATE THE CAUSES OF ORAL DISEASE AND ELEMENTS OF PREVENTIVE MEASURES.

G. TO DEVELOP AN ENVIRONMENT CONDUCIVE TO FREE AND OPEN INQUIRY into all facets of health, disease and education applicable to the role of dentistry in total health care.

III. PROGRAMS OF THE SCHOOL OF DENTISTRY

PROJECTED STUDENT LOADS

Program	Present Loads	*Projected for 1980
Four year D.D.S.	110 in freshman class	150
Dental Hygiene	50 in freshman class	150
Dental Assisting	35 in freshman class	150
Graduate Study	Total of 40	125
Postgraduate Study	Total of 8	35
Continuation Education	Average 375 annually	800

*These projections may be realized by 1975.

TEACHING PROGRAMS

A. FOUR YEAR D.D.S. PROGRAM

1. RECRUITMENT OF HIGH QUALITY STUDENTS

A MORE ACTIVE AND FORCEFUL RECRUITMENT PROGRAM WILL BE INITIATED TO ENCOURAGE EXCEPTIONALLY ABLE YOUNG MEN AND WOMEN TO PURSUE DENTAL CAREERS. An aggressive effort will be made to inform high school and college counselors and students of the challenging and changing role of the dental profession. This information function will be carried out by University faculty and staff members.

2. INCREASED PREDENTAL LIBERAL ARTS BACKGROUND

A proposed program will increase the minimum entrance requirement to three years; raise the minimum acceptable admission G.P.A.; require comparative anatomy, quantitative chemistry, stronger physics course, college algebra, and possibly an introductory calculus course; and establish distribution requirements to provide a broad liberal arts education.

3. IMPROVEMENT OF UNDERGRADUATE CURRICULUM

AN UPGRADING IS NEEDED IN ALL AREAS OF THE CURRICULUM. RECOMMENDATIONS FOR CURRICULAR CHANGES HAVE BEEN SUBMITTED AFTER A THREE YEAR STUDY AND THE SCHOOL IS NOW IN POSITION TO IMPLEMENT THE RECOMMENDATIONS AS RESOURCES PERMIT. The program should be structured to provide an education which will permit the graduates to plan, execute, guide and supervise the best possible oral health care for the patients. Allocation of time for the dental technic courses will be sharply reduced and clinical conditions will be simulated in these courses as much as possible. The most

modern concepts of clinical practice will be taught with an interdisciplinary approach and an emphasis on total oral health care. The basic biological sciences must have greater emphasis and be taught at the highest level.

4. MORE BIOLOGIC ORIENTATION

THERE WILL BE INCREASED EMPHASIS IN ORAL MEDICINE AND ORAL BIOLOGY TO IMPROVE THE STUDENT'S BASIC UNDERSTANDING OF ORAL DISEASES AND HIS ABILITY TO DIAGNOSE AND TREAT THESE DISEASES.

THE STUDENT SHOULD HAVE A KEENER UNDERSTANDING OF CLINICAL MEDICINE IN ITS BROAD CONCEPT. THIS MEANS THAT HE MUST RECEIVE SOME INSTRUCTION AND EXPOSURE TO GENERAL PHYSICAL DIAGNOSIS AND LABORATORY MEDICINE. It is intended that the faculty for this program will be physicians and medical technologists. This plan will permit the students and the practitioners to provide more effective and integrated oral health care as part of total health care. With the certainty that dental practitioners will be very active in hospitals and comprehensive health care centers, instruction in physical diagnosis and laboratory medicine for the dental students seems particularly pertinent.

IN THIS CONNECTION, UPGRADING OF THE BASIC SCIENCES IS IMPERATIVE WITH A GREATER EFFORT TO CORRELATE THE BASIC SCIENCES AND CLINICAL DENTISTRY. Basic science instruction for the dental students should be of the same quality as that given the medical students.

One plan could be to have the dental and medical students in combined classes with no attempt to identify the two groups. If this is implemented, then applied courses in the basic sciences could be taught separately in a vertical or diagonal curriculum. If the classes remained separated, slightly different emphasis could be included in the basic courses. For example in gross anatomy, head and neck dissection could be given stronger emphasis for the dental students. Slight variations could be made in other basic sciences but the courses for the dental students should be of high quality and depth.

THE GREATER EMPHASIS ON BASIC SCIENCES WILL GIVE THE STUDENTS BETTER INSIGHT INTO CLINICAL PROBLEMS, BETTER PREPARE THE STUDENTS FOR GRADUATE STUDY, BUT ALSO WOULD BETTER EDUCATE DENTAL PRACTITIONERS FOR THE MORE CHALLENGING ROLE THEY WILL HAVE IN THE FUTURE IN PROVIDING AND DIRECTING COMPREHENSIVE ORAL HEALTH CARE FOR THE PUBLIC. DENTAL PRACTITIONERS MUST BE SPECIALISTS OF THE ORAL CAVITY. The treatment they render, the drugs they use and the operations they perform affect the patient totally as in many aspects of medical care.

5. PREPARE STUDENTS TO BETTER PLAN, EXECUTE AND DIRECT ORAL HEALTH CARE

Through earlier clinical experience, more time provided for oral diagnosis, total oral health care opportunities, and more effective instruction in treatment

planning the students will be able to plan, execute and supervise full treatment for the patients. Dentists in the future will prescribe more technical procedures to be carried out by laboratory technicians. Also, they will direct and supervise all clinical procedures assigned to dental auxiliary personnel.

6. TEACH STUDENTS TO WORK IN A TEAM APPROACH AND MORE EFFECTIVELY WITH AUXILIARY PERSONNEL

THIS IS UNDOUBTEDLY ONE OF THE KEY MEASURES IN OUR FUTURE PLANS. WITH NEED TO PROVIDE MORE AND BETTER ORAL HEALTH CARE, THE SCHOOL OF DENTISTRY IS OBLIGATED TO EXPERIMENT WITH THE DELEGATION OF CERTAIN CLINICAL DUTIES NOW PERFORMED BY THE DENTISTS TO AUXILIARY PERSONNEL. The concepts of increased group practice, team approach to oral health, practice near and in cooperation with health care centers and hospitals demand that we attract students able to work effectively in these environments and programs. Further, the students should have the temperament and ability to delegate and supervise treatment procedures.

One future plan is to create well designed and well equipped dental offices in the school. The students would work in these offices with several dental auxiliaries - one or two dental hygienists and assistants and a dental technician. Each unit would have four or five dental operating units and dental laboratory facilities. The student will perform complex clinical procedures, supervise routine clinical procedures done by the auxiliary people and prescribe procedures done by the technician.

There will be a number of these office units which will permit the student to perform many phases of clinical oral care in a given unit or he will limit the treatment to a special phase of dentistry. Thus, the student will have experience in a group of specialty practices and in general practice, but in both settings he will be working extensively with auxiliary personnel.

In these units, television cameras could monitor the student's activities. Further, the student could receive instruction via television. He will have available visual aids such as slides and film strips and descriptions of procedures for review or self-instruction. Programmed learning machines will be used in this plan where demonstrated to be effective.

7. TEACH THE STUDENTS TO WORK IN HOSPITALS AND COMMUNITY HEALTH CENTERS

It is essential that dental students receive full orientation to hospital protocol and practices and exposure to and experience in all feasible hospital dental activities. Services to patients will result from this program but the main purpose will be education of the students.

THE HOSPITAL DENTAL PROGRAM WILL BE MARKEDLY EXPANDED AND IMPROVED. THE STUDENTS MUST LEARN TO WORK EFFECTIVELY WITH THE CLINICAL AREAS OF MEDICINE AND THE MEDICAL LABORATORIES IN THE

COMMON EFFORT TO PROVIDE BETTER AND MORE COMPLETE HEALTH CARE. They must learn to perform oral health services in these environments.

8. DEVELOP A MAJOR EDUCATIONAL PROGRAM IN PREVENTIVE DENTISTRY

TWO OF THE MOST COMMON DISEASES OF MAN ARE DENTAL CARIES AND PERIODONTAL DISEASE. OUR BEST HOPE TO CONTROL AND ELIMINATE THESE DISEASES IS THROUGH RESEARCH AND AN ACTIVE PROGRAM OF PREVENTION. In the undergraduate program, it is essential that we create an awareness of the importance of preventive dentistry. This is done by curriculum design, preventive clinical measures, faculty example and by stressing to the students the value of public health measures.

9. PROVIDE FREE TIME, OFFER ELECTIVES AND HONORS COURSES

A fixed undergraduate program for all will be abandoned. The more gifted students will be given time for electives and self-pursued educational experiences. HONORS COURSES WILL BE DEVELOPED TO CHALLENGE THE TOP STUDENTS. THESE WILL INCLUDE MORE RESEARCH OPPORTUNITIES, ADVANCED CLINICAL EXPERIENCES, A HEADSTART ON GRADUATE STUDY AND EXCHANGE PROGRAMS WITH OTHER UNIVERSITIES.

10. PROVIDE OPPORTUNITIES FOR GENERAL DEVELOPMENT OF THE STUDENT AND INCULCATE A COMMUNITY CONSCIOUS ATTITUDE

This implies that the school should provide improved counseling services, must instill in the student the desire to grow in all dimensions and should provide some opportunities for fine arts, humanities and social science studies. We are interested in attracting students with broad educational backgrounds, continuing liberal arts exposure for the students and graduating individuals who will have a better understanding of their responsibilities to the community and their patients.

B. GRADUATE PROGRAMS

1. MARKED INCREASE PLANNED IN GRADUATE STUDENT ENROLLMENT

We expect to more than triple by 1980 our present number of graduate students to develop research investigators, educators and dental specialists.

2. DEVELOPMENT OF MORE RESEARCH INVESTIGATORS BY EXPANDED PROGRAMS

THIS WILL BEST BE ACCOMPLISHED BY EXPANDING AND IMPROVING OUR PRESENTLY SUCCESSFUL AND WELL REGARDED PH. D. PROGRAMS. In these programs, the major field of study is in a basic biological science or related discipline and the minor is in a special area of dentistry.

One program is the combined D. D. S. - Ph. D. plan which begins for the student after his sophomore year in dental school and continues for at least six calendar years. The second is the postdoctoral Ph. D. program. With these excellent programs, we can develop competent investigators who will remain in dental research and dental education for our needs in Minnesota and also for other schools and research centers.

3. DEVELOPMENT OF DENTAL EDUCATORS

DENTAL EDUCATION WILL BEST BE SERVED BY INCREASING THE PROPORTION OF FULL-TIME FACULTY MEMBERS WHO HAVE ADVANCED EDUCATIONAL BACKGROUNDS. FROM MINNESOTA THESE PEOPLE WILL COME FROM OUR PH. D. AND M. S. D. PROGRAMS. In the latter program the students earn the major in a special area of dentistry and a minor in a basic biological science or related field. These programs vary in length from 21-36 months. All efforts will be made to strengthen and expand the M. S. D. programs.

4. EDUCATE GRADUATE STUDENTS FOR DENTAL SPECIALTIES

These programs are designed at the M. S. D. level and should continue to include the accepted specialties of endodontics, oral pathology, oral surgery, orthodontics, pedodontics and periodontics. Public health dentistry is the other dental specialty approved by the Council on Dental Education of the American Dental Association. THE SCHOOL OF DENTISTRY HAS NOT BEEN ACTIVE IN A PROGRAM TO TRAIN DENTAL PUBLIC HEALTH SPECIALISTS BUT IS WILLING TO COOPERATE AND ASSIST THE SCHOOL OF PUBLIC HEALTH IN SUCH A PROGRAM.

The faculty is motivated to keep pace with and lead in the development of educational programs for specialty practice. We will base these graduate programs on sound biologic principles, the most advanced concepts of clinical practice and the requirement of research experience.

5. MORE POSITIVE GRADUATE STUDENT RECRUITMENT PROGRAM

One of the keys to assuring major progress in dentistry is to enroll exceptionally able students for graduate study. Special efforts will be made to attract the best candidates into our graduate programs. These efforts will extend into the high schools, colleges and undergraduate dental programs.

6. EXPAND INTERN-RESIDENCY PROGRAM

One of our major efforts will be to expand and improve markedly our intern-residency program in the University Hospitals and associated teaching hospitals. A NEW CHAIRMAN OF HOSPITAL DENTISTRY HAS BEEN NAMED. EXCITING PLANS ARE BEING FORMULATED TO DEVELOP A VERY ACTIVE, ENCOMPASSING HOSPITAL DENTISTRY PROGRAM. THIS WILL INCLUDE AN INTERN-RESIDENCY PROGRAM OF WIDE SCOPE AND DEPTH, greater opportunities for undergraduate students and more participation by the faculty. While considerable dental services will be available through these programs, the main purpose must be teaching and research.

7. DEVELOPMENT OF SPECIAL EDUCATIONAL PROGRAMS

Some of the special programs which have been planned principally for graduate study and faculty activity are a genetics center, cleft palate clinic and a maxillo-facial prosthetic program. THE GENETICS CENTER MAY WELL BECOME ONE OF THE MOST OUTSTANDING ACTIVITIES IN OUR GRADUATE AND RESEARCH PROGRAMS.

C. AUXILIARY PERSONNEL PROGRAMS

1. EXPECTED EXPANSION OF CURRENT PROGRAMS

At the present time our two auxiliary dental personnel programs are the two year dental hygiene program and the one year dental assisting program. The graduates of dental hygiene perform oral hygiene procedures and work in dental offices, clinics, public health and school programs and in teaching programs. The graduates of dental assisting are not trained for or permitted by law to do any clinical procedures but assist the practicing dentists by doing a variety of helpful tasks.

The needs and demand for oral health services will increase. Many studies conclude that more and better oral health services can be provided through the utilization of auxiliary dental personnel. It is our intention to increase the enrollment in dental hygiene and dental assisting and to make all efforts to improve these programs.

The major purpose of our dental assisting program is not the training of the assistants per se but is the utilization of them in training dental students to work with auxiliary personnel.

IF THE CONCEPT OF TEAM DENTISTRY AT THE UNDERGRADUATE LEVEL DEVELOPS AT A RAPID RATE, THE ENROLLMENT FIGURES FOR THE DENTAL HYGIENE AND DENTAL ASSISTING PROGRAMS COULD EXCEED OUR PROJECTIONS LISTED ON PAGE FIVE OF THIS REPORT.

2. EXPERIMENTAL PROGRAMS FOR AUXILIARY PERSONNEL

AN EXPERIMENTAL PROGRAM WILL BE UNDERTAKEN TO DETERMINE THE KINDS OF CLINICAL DUTIES THIS TYPE OF PERSONNEL CAN ASSUME. Such a program will likely be started with the dental hygienists who are capable students and, by law, are now permitted to perform some clinical procedures.

It might be possible for us to start some pilot practical experience program under the Public Health Service with a group such as the Indians. Another plan would be to develop the program in the dental school. The advantage of the latter proposal would be to integrate the work of this new level of personnel within the dental team training program.

THESE AUXILIARY PERSONNEL IN THE EXPERIMENTAL PROGRAM MUST BE TRAINED TO FUNCTION UNDER THE SUPERVISION OF DENTISTS. Continued

guarantee of this supervisory relationship for private practice must by provided by law. It should be noted that any additional clinical duties assumed by auxiliary personnel would require a change in the dental practice act.

3. CHANGES IN ENTRANCE REQUIREMENTS AND PROGRAMS

ENTRANCE REQUIREMENTS MAY BE CHANGED IN DENTAL HYGIENE AND DENTAL ASSISTING TO INCLUDE MEN AND EXTEND THE AGE LIMIT BEYOND 35 YEARS. THE DENTAL HYGIENE PROGRAM MAY BE INCREASED TO THREE YEARS. The first year would be devoted to liberal arts courses and the next two years would be spent in the dental school. This would give the students a broader education and permit more time for clinical instruction and experimental efforts.

THE DENTAL ASSISTING PROGRAM WILL BE EXTENDED FROM NINE TO TWELVE MONTHS. For the first three months, the students will take General College courses, and the last nine months will be devoted to dental courses. This new plan will give the students more experience in dental assisting.

4. AID TO OTHER DENTAL HYGIENE AND DENTAL ASSISTING PROGRAMS

If requested, the School of Dentistry will act in a consultative capacity in the development of new dental auxiliary programs under college auspices.

D. POSTGRADUATE PROGRAMS

1. DEFINITION OF POSTGRADUATE STUDY

POSTGRADUATE EDUCATION AS INTERPRETED FOR THIS REPORT INCLUDES SPECIAL ADVANCED STUDY THAT DOES NOT LEAD TO A DEGREE, is of less depth than graduate study, AND IS OF LONGER DURATION THAN CONTINUATION STUDY but of less length than graduate study. While there isn't agreement on the distinction between postgraduate study and CONTINUATION EDUCATION, the latter SHOULD BE CONSIDERED IN THIS REPORT AS PERTAINING TO REFRESHER COURSES OF A FEW DAYS TO ONE OR TWO WEEKS IN LENGTH.

2. DEMAND FOR SUCH PROGRAMS

There is a need to provide opportunities for dentists and other health science professionals to enroll for special study in postgraduate courses as defined above. IT IS POSSIBLE THAT THERE WILL BE A MARKED INCREASE IN DEMAND FOR THIS KIND OF STUDY BUT WE HAVEN'T PROJECTED SUCH A TREND IN THIS REPORT. Postgraduate programs can be time consuming for the faculty and would require additional support if they are to be expanded.

ONE PLAN THAT MAY INFLUENCE THE EXTENT OF OUR PROGRAM COULD BE IF SABBATICAL STAFF APPOINTMENTS ARE OFFERED TO QUALIFIED PRACTITIONERS. These could be one to three months appointments

and would involve instruction of dental students and provide the practitioner with opportunities to pursue his own interests.

REQUIREMENTS OF VARIOUS AGENCIES WITHIN THE DENTAL PROFESSION MAY INCREASE PRESSURE ON THE UNIVERSITIES TO OFFER EXPANDED POSTGRADUATE PROGRAMS. A prime example of this would be that DENTAL PRACTICE ACTS MAY REQUIRE CONTINUATION AND POSTGRADUATE EDUCATION FOR MAINTENANCE OF LICENSURE. Another influence may be that VARIOUS PROFESSIONAL ACADEMIES AND SPECIALTY GROUPS MAY REQUIRE POSTGRADUATE EDUCATION TO CONTINUE RECOGNITION GIVEN BY THESE GROUPS.

E. RESEARCH TRAINING PROGRAMS

1. EXPAND THESE PROGRAMS

We will provide undergraduates with more opportunities for research in the curriculum, special summer programs and honors programs. Major emphasis in research training will, of course, be at the graduate level. Development of experience and knowledge in research methods will be one of the main missions of the Ph. D. programs and part of the M. S. D. program.

2. RESEARCH SUPPORT FOR FACULTY

This will include the provision of space and staff so the faculty will have room and time to pursue investigative projects. ANOTHER FORM OF RESEARCH SUPPORT FOR FACULTY WOULD BE THE DEVELOPMENT OF IN-SERVICE RESEARCH METHODOLOGY PROGRAMS. Research methodology will be an important aspect of the graduate programs and therefore it seems appropriate for the school to develop programs around experience and knowledge in this area.

F. CONTINUATION EDUCATION PROGRAMS

1. UPGRADE THE PROGRAM FOR DENTAL PRACTITIONERS

We now conduct approximately 15 short courses a year for over 350 oral health care people. The demands of the profession and improvement of educational techniques have combined to cause dental schools throughout the country to re-examine their continuation education programs. IN OUR SCHOOL EXISTING COURSES WILL BE REDESIGNED, NEW COURSES WILL BE INTRODUCED AND ALTERNATIVE FORMS OF EDUCATIONAL PROGRAMS WILL BE EXPLORED.

2. INCREASE THE OPPORTUNITIES FOR AUXILIARY PERSONNEL

With increased emphasis on the role of dental auxiliary personnel in the team approach at the undergraduate level, the school recognizes the need to extend educational opportunities to this group after graduation. OUR PROGRAMS WILL CONCENTRATE ON KEEPING AUXILIARY PERSONNEL ABREAST OF TECHNICAL

DEVELOPMENTS AND METHODS IN WHICH THE DENTAL TEAM CAN FUNCTION MORE EFFICIENTLY IN PRACTICE.

3. EXTENSION INTO THE COMMUNITIES

WITH ADDITIONAL RESOURCES THE SCHOOL COULD OFFER ONE AND TWO DAY COURSES IN THE LOCAL COMMUNITIES. This program would reach a larger number of practitioners and reflect an attitude of concern and interest of the school for the practitioners. HOPEFULLY, THIS EXTENSION TO THE COMMUNITY WILL BRING WITH IT SUCH IMPORTANT SHIFTS OF EMPHASIS AS THE ADVANTAGES OF A TEAM APPROACH WITHIN THE FIELD OF DENTISTRY AND THE IMPORTANCE OF INTEGRATION WITH ALL OF THE HEALTH SCIENCES.

4. COURSES FOR SPECIAL GROUPS

These programs would be for groups within and outside the field of dentistry, and may be given in cooperation with other units of the health sciences. ONE PARTICULAR AREA WOULD BE WORKSHOPS AND INSTITUTES ON TEACHING METHODS for our faculty and the faculty from other schools. RESEARCH METHODOLOGY IS ANOTHER CONTINUATION COURSE THAT COULD BE OFFERED TO SPECIAL GROUPS such as dental educators in dental schools and teaching hospitals.

RESEARCH PROGRAMS

A. EXTENT OF ORAL DISEASES - NEED FOR RESEARCH

THE PREVALENCE OF ORAL DISEASES IN THE UNITED STATES CLEARLY INDICATES THAT OUR PRESENT METHODS OF CONTROL, PREVENTION AND AVAILABILITY OF TREATMENT ARE GROSSLY INADEQUATE. Reports in the Survey of Dentistry and in a recently published survey by the United States Public Health Service reveal the following statistics on the oral health problems in the American population.

1. Among the 10 percent of children under five years of age who visit the dentist, only one of three is free of untreated carious lesions; one out of 10 has eight or more cavities.

2. One child out of five needs orthodontic treatment for afflictions ranging from faulty alignment of teeth to severe facial deformity. One out 800 children is born with a cleft lip or palate.

3. In the year 1960 there were 700 million untreated dental cavities.

4. Diseases of supporting bones and gingival tissues affected at least half of the population by the age of 50 and almost everyone by age 65.

5. Adults had an average of 20.4 decayed, missing or filled teeth per person.

6. One in four adults had no natural teeth remaining in either one or both jaws and nearly one in two had lost all teeth by 65-74 years.

7. ONLY A LITTLE OVER 40 PERCENT OF THE POPULATION VISITS THE DENTIST EVERY YEAR, AND ONLY ONE-THIRD OF THE DENTAL ILLS OF THE NATION ARE BEING TREATED.

8. Twenty thousand persons develop oral cancer each year.

THE IMMENSITY OF THESE ORAL HEALTH PROBLEMS DEMANDS THAT DYNAMIC, AMBITIOUS FUNDAMENTAL AND APPLIED RESEARCH PROGRAMS BE LAUNCHED THROUGHOUT THE COUNTRY TO DETERMINE THE CAUSES AND MEANS OF PREVENTION AND ELIMINATION OF THESE DISEASES.

B. RESEARCH MISSION OF THE SCHOOL OF DENTISTRY

Although the School of Dentistry has developed a productive research program in recent years, all efforts will be made to increase and improve our research and research training activities. FUNDAMENTAL RESEARCH WILL BE EXPANDED, BUT WE WILL NOT LOSE SIGHT OF OUR CONTINUING MAJOR RESPONSIBILITY IN THE AREAS OF DENTAL CARIES, PERIODONTAL DISEASE AND ORAL AND FACIAL GROWTH AND DEVELOPMENT.

Research activity must fluorish in all segments of the school but will be in different forms and at different levels of complexity and depth. BASIC RESEARCH IN THE QUEST FOR FUNDAMENTAL NEW KNOWLEDGE WILL BE PROMOTED. CLINICAL AND PEDAGOGICAL STUDIES WILL BE ENCOURAGED AND SUPPORTED.

Our research training programs will receive positive attention and will be expanded as resources permit. IT IS HOPED THAT FACILITIES AND FUNDS WILL ALLOW US TO TRAIN MORE FOREIGN STUDENTS IN DENTAL RESEARCH AND TO INCREASE THE EXCHANGE OF RESEARCH INVESTIGATORS AND DENTAL EDUCATORS WITH OTHER COUNTRIES. This interchange will be mutually helpful to all concerned and will further the cause of international goodwill.

We will maintain an environment which will result in attracting and keeping competent and productive investigators. The school will actively seek financial support from the University, private sources and federal funds to provide the physical facilities, equipment, technical staff and a diversified research faculty to permit greater emphasis on research. A CONSERVATIVE ESTIMATE WOULD BE THAT OUR PRESENT RESEARCH SPACE NEEDS TO BE INCREASED AT LEAST FOUR TIMES TO GIVE US THE FACILITIES NEEDED FOR OUR PROJECTED RESEARCH AND RESEARCH TRAINING PROGRAMS.

C. FUNDAMENTAL RESEARCH PROJECTS

Our over-all fundamental research program will become multidisciplinary, more sophisticated and increasingly integrated with other research programs in the University while it is virtually impossible to predict the future direction and types of basic research to be done in our school, the following are some examples of basic research projects which are being done or likely will be done in our laboratories.

1. The complex dental caries process demands research in the crystal and organic components of enamel which has as its background a search into the origins of calcified tissues and the mineralization process in general. Our research people in biochemistry and other areas will continue to attack these and other aspects of the caries process.

2. Studies on the transmissibility of dental caries through germ-free experiments and other microbiological investigations.

3. Collagen, the principal component tissue of periodontal structures, degenerates in periodontal disease. It is reasonable to assume that fundamental research will give new insight regarding the basic mechanisms involved in maintaining the integrity of periodontal structures, including alveolar bone, and provide an explanation at the molecular level of the pathogenesis of collagen tissue breakdown in periodontal disease.

4. Investigation will be continued on determining the best implant material for bone induction in the periodontium and to determine how the material induces bone formation.

5. Research will continue in the microcirculation and gross circulation of teeth, bones and soft tissue. One current application of this study to clinical dentistry concerns the preservation of pulpal vitality in human teeth.

6. Neurophysiological approach to myographic studies. Clinical studies can be done as well with this basic technic to determine neuromuscular imbalance from malocclusion.

7. Studies on bacterial genetics will continue and immunological aspects of transplantation will be investigated at the basic and clinical levels.

8. Study of the embryological mechanisms adversely affected to produce palatal and other deformities. Experimental teratogenesis will contribute further to the understanding of oral and facial growth and development.

9. A very challenging basic research project in dental materials would be to develop a restorative material with positive adhesive qualities, excellent esthetics, highly durable, easily manipulated and non-toxic.

D. CLINICAL RESEARCH PROJECTS

Clinical investigations with sound biologic bases are being done and will increase in number and quality in the future. While the trend and types of theses studies cannot be predicted with any certainty, some appropriate examples of current problems to be studied are as follows.

1. Tolerance of dental pulp to filling materials and to the high speed cutting techniques for removal of enamel and dentinal tissues.

2. As in orthodontic clinical research projects, biologic reactions in bone to applied stresses can be studied.

3. Epidemiological studies of dental caries, oral cancer, oral and facial anomalies, periodontal disease and other oral problems. Epidemiological investigations provide a composite picture of the natural history of disease and promise to reveal useful data on the incidence and causes of oral diseases.

4. Psychosomatic aspects of oral diseases.

5. Physiological and pharmacological reactions to various systemic and topical drugs used in clinical dentistry e. g., general and local anesthetics.

6. Human genetics and the study of oral and facial syndromes and deformities.

7. The implication of a specific group of pleuropneumonia-like organisms in the etiology of oral diseases such as recurrent aphthous stomatitis.

8. Bone and soft tissue healing considering such factors as blood supply, contamination and trauma.

E. STUDIES OF EDUCATIONAL METHODS

Pedagogical methods will be investigated. These research projects can be more difficult than basic laboratory investigation because of the variabilities of the subjects. We expect to have assistance from educational psychologists in the design and implementation of these studies. The following are examples of projects that will be initiated.

1. Determine the quality, validity and reliability of different examination methods.

2. Compare the value and effectiveness of teaching techniques e. g., live lectures, television and seminars.

3. The application of various preclinical techniques to clinical dentistry.

4. Careful consideration will be given to determining the quality of our product - the graduates.

5. Programmed learning will be studied carefully and used where feasible and determined worthwhile.

6. Data processing will be installed to record examination results; maintain variety, quality and quantity control of clinical procedures; analyze the grading patterns of the faculty; and maintain patient records.

F. RESEARCH CENTER

EFFORT WILL BE MADE TO DETERMINE THE POSSIBILITY AND FEASIBILITY OF DEVELOPING A RESEARCH CENTER. All resources for funds should be explored including federal funds. The Center must be a part of the School of Dentistry.

SERVICE PROGRAMS

A. EXEMPLARY ORAL HEALTH CARE

The clinics program, the hospital program and other community programs all involve dental students. Therefore IT IS ESSENTIAL THAT THE SERVICES GIVEN IN THE SCHOOL AND ASSOCIATED FACILITIES SET A STANDARD WORTHY OF EMULATION BY THE STUDENT WHEN HE GOES INTO PRACTICE. It is also recognized that the reputation of the school is tested in a very tangible manner by the service rendered to every patient.

B. PROVISION OF EXTENSIVE CONSULTATIVE SERVICES

An extension of the direct care to the patient is the consultative service to the referring practitioner or other health science professionals. Some of the consultative services we now offer or will begin are:

1. A biopsy and cytological service, which can be increased as needed.

2. Will establish a laboratory to provide aids and tests in the control of caries. This service will be available to practitioners.

3. Response to inquiries from practitioners and the posting of consultative reports.

C. SHARE AND DISSEMINATE ORAL HEALTH KNOWLEDGE

The school recognizes that a program is needed to meet the objective of sharing oral health knowledge with the health professions and the public. Some of the programs we have and will develop to carry out this objective are:

1. Participation in public health programs e. g., efforts to start a fluoridation system in a community. Some of our faculty have been very active in this way, and we should be prepared to continue this valuable service.

2. Increased involvement, as time permits, in public health programs such as cancer detection clinics. These clinics are designed to alert the public and to educate the dentists and physicians.

3. Speaking on various dental subjects, such as preventive dentistry, before P. T. A. groups and civic clubs.

4. Increased activity in teaching continuation education courses at the University and in the communities.

5. Taking an active part in dental society affairs at the local, state and national levels.

6. Making a positive effort to release to the communication media articles on oral health measures and research findings.

7. Increasing contributions to the scientific literature and at scientific meetings.

D. PROGRAM FOR SOCIAL RESPONSIBILITY AND SENSITIVITY

This is the kind of program that cannot be described, measured, documented or readily made tangible. FACULTY ATTITUDE, CONCERN FOR THE DIGNITY AND IMPORTANCE OF THE INDIVIDUAL PATIENT, RESPONSIVENESS TO REQUESTS FROM INDIVIDUAL PRACTITIONERS AND COMMUNITY AGENCIES ARE ALL A PART OF THIS VERY IMPORTANT PROGRAM. Our lofty objectives and earnest teachings could all be lost if the school did not concern itself with a philosophy or attitude which will insure that the best of what is taught is also practiced. It is said that teaching and service are inseparable. Therefore the teaching program could be seriously undermined by a careless, insensitive service program of execution.

UNIVERSITY OF Minnesota

SCHOOL OF DENTISTRY • MINNEAPOLIS, MINNESOTA 55455

Office of the Dean

September 16, 1965

Mr. Glenn R. Mitchell
Associate Director
University Hospitals
University of Minnesota

Dear Mr. Mitchell:

You should have received a copy of the Dental Subcommittee's report to the Learn Committee. Please read this carefully and relate to me in the committee meeting or in the mail your critical comments and suggestions for revision.

Dr. Learn has asked that a revised copy be prepared by October 15. He has approved the use of an outline form for the final copy.

Vice-President Shepherd studied our report and raised some perceptive questions which he asked the subcommittee to discuss and answer. These are his questions:

> "I note on page 5 of the report the projections for student loads in 1980 which show a large increase in the number of students in the D.D.S. program 110 to 150) and an exceedingly big jump in the numbers of graduate students (40 to 125). I also note that the section on teaching programs indicates a plan to raise admission requirements: by requiring one additional predental year; by increasing the difficulty of the predental sequence; and by requiring a higher G.P.A. for admission to the Dental School. This leads me to a question about the realism of the enrollment projections. It is my understanding that most medical schools have been forced in recent years to lower their admission cutting lines in order to enroll the same number of first year students. Would you anticipate that the situation in dentistry would be substantially different from the situation in medical schools? I would also be interested in the bases for the expectation of greatly increased graduate school enrollment--has this been the trend, here or elsewhere?
>
> My second question has to do with the discussion of page 12 regarding post-graduate courses. It is suggested in that section that there may be rather strong pressures to provide expanded post-graduate programs, but it is noted there that projections of such a trend have not been made in the report. Would the subcommittee envision that these pressures, if they were to develop, could be or should be resisted in order to permit the expansion of other programs?"

Please give special thoughtto these questions and be prepared to discuss them at our next meeting.

Dr. Shepherd asked that I express to the subcommittee members his appreciation for the time and dedicated effort which has gone into the work. He said that he was "most impressed with the careful thought which obviously characterized the subcommittee's work".

It has been difficult to establish a mutually convenient date for our next meeting. Even though some cannot attend on September 21 it seemed to be the best time. We will meet at 1:30 p.m. in 239 Owre Hall. I am suggesting October 5 at 1:30 p.m. for the following meeting.

Dr. Learn has asked that the Dental Subcommittee begin to supply specific information on the needs for space to satisfy the programs projected in the report.

Sincerely,

Mel

Mellor R. Holland, Chairman
Dental Subcommittee

MRH:jae

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

DENTISTRY SUBCOMMITTEE

Minutes of Meeting September 21, 1965 (#7)

Present: Mellor Holland, Chairman, Carl Heggestad, James Jensen, Glen Mitchell, Kathryn Ritzen, Leon Singer, John Westerman

Absent: Allyn Bridge, Jo Ann Hubbard, W. Albert Sullivan

NEXT MEETING TUESDAY, OCTOBER 5, 1965, 1:30 P.M., 239 OWRE HALL

In this meeting, the Dental Subcommittee concerned itself with a discussion of and answers to the questions raised by Dr. Shepherd in his letter of August 13 to Dr. Holland, about the Preliminary Dental Report presented to the Learn Committee on August 9, 1965.

Dr. Shepherd's first question relates to the realism of the enrollment projections in the undergraduate and graduate programs. Since most medical schools have had to lower their admission requirements simply to maintain their present freshmen enrollment figures, Dr. Shepherd questions whether the School of Dentistry can raise its admission requirements (one additional year pre-dental school, increased difficult of pre-dental sequence, and higher G.P.A.) and at the same time increase its enrollment figures.

During the post-World War II period and up until the early 1950's, dental and medical schools in this country received large numbers of good caliber applicants and enrollment was high. Then there was some decline in these figures until a low point was reached in most schools about 1959. Since then there has been a definite trend upward - more applications, better applicants and higher enrollments. This same pattern has been experienced at Minnesota.

The Committee believed that this was a good time to raise the admission standards for dentistry. In 1963, 80% of the entering dental students throughout the country had at least three years of predental liberal arts study while at Minnesota the figure was about 52%. In the past few years there has been a trend toward an increase in liberal arts study by the predental students.

The advent of the Health Professions Student Loan Fund and probable federal scholarship aid for dental students should help encourage some students to study dentistry who might otherwise not have been able to do so because of financial problems. The Committee believed that from the increasing pool of college students a greater number should become interested in pursuing careers in dentistry. There is evidence that some B.A.'s and M.A.'s are increasingly unmarketable so it is likely that more people will turn to professions such as dentistry and medicine in order to make a proper living and engage in challenging careers. Further, the changing role of dentistry in itself should attract more students.

The Committee felt that, as a precaution, the number of admissions should not be raised suddenly and the increases in admissions standards should be introduced gradually.

One member said that the projected figure of 150 dental students by 1980 is

probably not enough. It should be 180 or even 200 since much more will be done in active recruitment of students and a regional arrangement will likely be developed.

In regard to admission standards for medical schools, one member explained that Minnesota dropped the requirements of physical chemistry, genetics and psychology simply to be in line with other medical schools in the country. At the time this was done, Minnesota was the only medical school in the United States requiring physical chemistry.

The question of combined courses in the basic biologic sciences for medical and dental students was discussed. Dr. Singer believed that the dental students should have top level courses, but the classes should be separated. While the dental students spend about 2/3 the time in these courses than the medical students, Dr. Singer said the time spent in basic biochemistry by the dental students was sufficient. He proposed that, in addition, an applied course in biochemistry be given in the junior and/or senior year. He suggested that this applied basic science course could be in oral biology with all the basic sciences participating.

The big jump in graduate students from 40 at present to 125 in 1980 was questioned by Dr. Shepherd. This projected increase is in keeping with the trend in dental education and government support of graduate education in dentistry. While the Basic Science Subcommittee did not expect a large increase in graduate students in the basic sciences, the Dental Subcommittee believed that there should be a sharp increase in dentistry. Graduate education in dentistry has not been developed as much as in medicine so there is much room for growth. The dental faculty is expanding and all efforts are being made to obtain more space and faculty for graduate programs.

Question: Is there a market for the graduate students in academic dentistry? Yes, at Illinois there are or soon will be a total of 11 major vacancies in the dental school faculty.

The likely establishment of a Genetics Center should account for perhaps 10-15 graduate students. Graduate work in the specialties should increase. Recently, the specialty of endodontics was approved by the Council on Dental Education and a specialty board was established. In the past the dental school received very few applications for study in this field, but in the past few months it has received over 50 applications.

Although 125 graduate students by 1980 may not be an exact figure, there is a real trend toward increasing the numbers of dental graduate students, to which Indiana and Michigan with 100 graduate students each bears witness. The School of Dentistry expects that the dental graduate students will be studying in many different fields - biostatistics, genetics, epidemiology, the basic biologic sciences, etc. The projection of 125 is based further on the quality and efforts of the undergraduate research program, encouraging its students to go on to graduate school for further research. More funds are becoming available to support dental research and graduate dental education.

Dr. Shepherd's second main question concerns the discussion in the Subcommittee's Report about postgraduate courses. It is suggested in that section that there may be rather strong pressures to provide expanded postgraduate programs. Dr. Shepherd's question is, should pressures for postgraduate courses be resisted to permit expansion of other programs?

As stated in the report, the Dental Subcommittee foresees increased interest and requests for continuation education in dentistry. This will include refresher courses and the longer, more formal, non-degree post-graduate courses. The Subcommittee believes that the School of Dentistry should do its part in satisfying this need but recognizes that there are limitations. Great increases would mean more faculty and space. Yet, some faculty can be brought in for the courses. The tuition for the courses would pay for the faculty so there would not be a strain on the budget or the regular faculty.

Question: What about the impact of requiring postgraduate or refresher courses to maintain licensure? This could create a tremendous demand on the University to provide a share of these courses. But the evidence at this stage doesn't permit the projection to specific figures. Dr. Holland thought the pressure of outside groups, such as professional societies and specialty groups for refresher and postgraduate courses is likely to increase, but the School of Dentistry must, to some degree, resist the demands and simply do the best it can. These programs should not interfere with or be at the expense of the more important undergraduate and graduate programs.

If the School of Dentistry plans a new building, it should think in terms of 125 graduate students. However, we must guard against our overestimating the needs for the future. Dr. Shepherd should be assured that conservation of faculty time is a primary concern in making plans for the future. Closed circuit television, for instance, could be used to broaden the scope of the individual faculty member's impact.

The remainder of the Dental Subcommittee discussion centered around the revision of the preliminary report due October 15. It was decided that the revision should take into account the comments of the Learn Committee on the preliminary report, Dr. Shepherd's two questions, and in turn the faculty's and the Subcommittee's reactions to and comments on the report. At the next meeting specific proposals and the amendments to the revised report will be considered. The main sections which need revision and clarification are the list of research project proposals, dental public health cooperation and the future training of auxiliary personnel.

The future of the Dental Subcommittee in working with a professional planner on specifications for a new facility will largely be determined by Dean Schaffer. It can be assumed that the Subcommittee will continue to be of great importance in providing liaison between the faculty and a professional planner.

Respectfully submitted,

Kathy Ritzen
Research Assistant

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Dentistry Subcommittee

Minutes of Meeting October 5, 1965 (#8)

Present: Mellor Holland, Chairman, Carl Heggestad, Jo Ann Hubbard, James Jensen, Kathryn Ritzen, John Westerman

Absent: Allyn Bridge, Glenn Mitchell, Leon Singer, Albert Sullivan

NEXT MEETING AT THE CALL OF THE CHAIRMAN

A draft of the Dentistry Subcommittee reply to Dean Shepherd's letter was distributed and reviewed by the committee. After a few minor revisions the content was approved. A copy of the letter becomes a part of these minutes.

The next topic discussed was the Preliminary Report of the Roles, Objectives and Programs of the School of Dentistry to the Learn Committee on August 9, 1965.

QUESTION: Are there any erroneous or inaccurate statements in the Dentistry Preliminary Report?

QUESTION: Will the University of Minnesota handle all training of dentists for the Dakotas, Montana and Minnesota in the future, or will some dental students receive their first two years of training elsewhere? The latter is a possibility. Then this really nails down the horizontal curriculum, which is what we've been trying to get away from. Our communities are going to have to realize that it pays to invest in health care centers and education in the health sciences. Andperhaps it's the responsibility of the State Association to place dentistry graduates in the most needed areas.

The expansion of the University Medical School or Dentistry School faces the problem of lack of anatomical material. Our inventory is down 25% from just four or five years ago. The laws need to be revised to allow bodies to be shipped across state lines, from California, for example, which has a surplus, to Minnesota. Federal Social Security has had a tremendous impact in decreasing the number of unclaimed bodies which the University used to receive, and nursing homes have also dissipated the sources from which we used to receive bodies.

Getting back to the Dentistry Report, the Roles and Objectives don't seem to need any revision. Perhaps an addendum should be attached to the report, containing the evidence in the reply which the School of Dentistry will make to Dr. Shepherd's questions, since anyone else reading the Report could well raise the same questions about it.

QUESTION: Maybe it was a mistake to specify figures in projecting the School of Dentistry's growth. Not at all; Dentistry's concreteness in its report is highly respected and appreciated by the Learn Committee and by other subcommittees.

QUESTION: Do we want to raise the number of students projected, since these are probably conservative estimates? The University will be guided by the Hill Commission study. Any revision in enrollment projections should wait for the commission's report.

QUESTION: What liaison does the Hill Commission have with the University Medical and Dentistry Schools? The Hill Commission's official liaison is with the Board of Regents. When Dr. Learn receives the Hill Commission's report we will be informed of it.

QUESTION: Do the Dakotas and Montana know they're part of this Hill Study? Their medical schools know it, but I don't know if their governors realize it. Dr. Learn doesn't foresee regional financial support of the University, but it might be practicable to obtain regional support for individual students from the Dakotas and Montana who receive their training at the University. Actually, the committee's concern is that, if there is a regional arrangement for medical and dental education, the projected student figures may have to be changed.

QUESTION: Would your faculty rather have two schools with 100 students or one school with 200 students? Two schools with 100 students would be preferable, according to one member of the committee, but there isn't enough clinical material for that type of arrangement. A school at Duluth, for example, would likely be very handicapped by a lack of clinical material.

QUESTION: Couldn't this problem be solved with a different faculty arrangement? Yes, and it could be solved with a different facility, too. We can't have two topnotch Basic Science departments in Minnesota, because we can't afford it. Maybe Pennsylvania and New York can do this, but even the University of Pittsburgh had to be bailed out by the State of Pennsylvania because it was going broke trying to support its schools.

QUESTION: Is it true that, after a school has more than 75 students, it doesn't matter much whether it has 100 or 200 students, in terms of faculty-student closeness of relations? Students in masses tend to be spectators, more than participants, in their own education, and this is just a terribly unfortunate development.

QUESTION: Have you thought of an accelerated program in the School of Dentistry to graduate more students? From an efficiency point of view, in terms of plant use and faculty use, an accelerated program would be a wise step. A twelve month calendar year for the faculty might be better than nine month appointments, since it would provide them with greater stability. Besides, clinical appointments are on a twelve month basis. Another possibility is to stagger the quarters in which students are in school so that more students could be enrolled, while at the same time it would take just as many years as now for an individual student to finish his training. Tennessee admits dental students every three months, somehow, but it has a fantastic physical plant and a regional arrangement which enable it to do so.

Design concepts for an Outpatient and Dental Facility were discussed, as well as the possible relationships between the programs of the two. An overriding concern here is propinquity. For example, when the Medical Library was remote, it was poorly used and was developing poorly; now that it's in Diehl Hall, the Medical Library is well used and it's expanding fantastically. There should be more cross-fertilization and intercommunication among the various areas of medicine.

QUESTION: What is the relationship of Basic Sciences to the first two years of Dentistry, assuming that the Dentistry School is across the street. Laboratory use would be the important factor. If Basic Sciences were taught Fall and Winter Quarter, Dentistry could be taught Spring and Summer in the same labs. Of course, multi-purpose rooms would be ideal. By the way, Dentistry doesn't envision its own Basic Science Department, if that's what you're driving at. It's been pointed out that Dentistry students take 64 credits of Basic Science in comparison with 98 credits taken by Medicine students. However, those credits are somewhat deceptive, because in Anatomy, for example, Dentistry students are learning a great deal of Anatomy in areas other than the formally recognized Anatomy course.

In regard to a new OPD and Dentistry facility, it is envisioned that a patient will come to the OPD, will be charted, and then rotated through all of the clinics. This is where dentistry would come in, in both its service and educational functions. It cannot be stressed too strongly that, if total patient care is not demonstrated at the University, the student won't have a chance to see it elsewhere and consequently won't know how to practice in such a setting.

By the way, in regard to total patient care, our report mentioned that the dentistry student must have more exposure to general physical diagnosis and laboratory medicine, but no one seems to have noticed or made much of this part of the report. Here again, programmed learning could be used to alert the student to signs he should look for in general physical diagnosis. This could be handled by a color television monitor as well, enabling the student to go at his own pace. If it costs money to develop these streamlined means of widereducation for health science students and the faculty believes this is a valid contribution, then research in this area should be supported and should work out well. It's just as important, furthermore, that the medical student be well-grounded in diagnosing dental area problems.

Dr. Holland thanked members of the Dentistry Subcommittee for their efforts and ideas in the past months, and promised to call on them individually and as a committee in the future to continue liaison with a space consultant.

Respectfully submitted,

Kathryn Ritzen
Research Assistant

October 8, 1965

William G. Shepherd, Vice President
Academic Administration
213 Morrill Hall
University of Minnesota

Dear Dr. Shepherd:

The Dental Subcommittee has discussed the questions you asked about our report to the Learn Committee. The following are the subcommittee's responses to substantiate our projections of increases in the undergraduate, graduate and postgraduate enrollments.

I. Increasing the undergraduate enrollment in the D.D.S. program coupled with raising the entrance requirements.
   1. The subcommittee is convinced that an increase in enrollment to at least 150 students in the next 10-15 years will be needed to meet the demands for more and better oral health care by an expanding population in the state and region.
   2. We believe that improved predental and dental educational programs are necessary to elevate the standards of dental practice and other dental careers, to raise the general quality and educational levels of members of the profession and to better prepare the students for a more challenging role of dental professionals in the future.
   3. Our subcommittee is optimistic that there will be an increasing number of capable applicants in the future. This is the trend in the dental and medical schools at Minnesota and generally throughout the country. The number of applicants to our dental school has increased from 209 in 1959 to 340 in 1965. The number of filed applications to dental schools rose nationally from 14,000 in 1962 to 19,000 in 1963. Our medical school reports an increase in applications from 300 in 1959 to virtually 800 in 1965. In the country, medical schools received 54,000 applications in 1961 and 80,000 in 1965. Other data are available which clearly show the trend of a greater number and better qualified applicants.
   4. The members of the dental subcommittee from the medical school said that in recent years medical schools in this country have not had to lower admissions standards to enroll the same number of students. This was verified with a member of the admissions committee and Associate Dean Cavert. The report is that the quality is up, there are more applicants and the number accepted has been increased.
   5. Our medical school did make a change recently in its admission requirements by eliminating genetics, physical chemistry and psychology. This was done to make the requirements less rigid and

to bring them in line with other medical schools. For example, at the time of the above change Minnesota was the only medical school in the country requiring physical chemistry.

6. There is a definite trend for accepting dental students with more liberal arts education. This has taken place gradually at Minnesota and some other state schools but more sharply in many schools. In 1948, 51% of the entering dental students in the country had at least 3 years of liberal arts study while in 1963 the figure was 80%. At the present time, 9 American and Canadian dental schools require 3 or 4 years of liberal arts study; 4 schools state in their bulletins that preference for admission is given to students with 3 or 4 years. Many other schools obviously give strong preference to students with more than 2 years as noted by the low percentage of 2 year students being accepted.
7. The subcommittee believed that the changes in entrance requirements should be made gradually with adequate adjustment periods. The first change should be the increase to a minimum of 3 years of liberal arts study. Then other changes (e.g. course requirements and scholastic achievement) could be added.
8. It is our contention that improved recruitment efforts will attract more and better students. Further, we think that the increasing number of college students will result in a greater number desiring a career in one of the health sciences.
9. The trend for more loan and scholarship aid for dental students will permit some competent and needy students to study dentistry who may otherwise not be able to do so.
10. The subcommittee recognizes that our goals and programs should be realistic. Yet, they should be ambitious and progressive to permit us to be one of the major leaders in dental education and research - indeed even the leader.

II. Increasing the number of graduate students.

1. Increase in graduate education in the health sciences is a national trend.
2. Dentistry's graduate education is younger than programs in some other health sciences. There is an excellent opportunity for growth.
3. Specialty dental practice in the United States will increase. Expanded graduate programs will be needed to train these people. Recently, the dental specialty of endodontics was approved by the Council on Dental Education and a certifying board was established. Previously, our school had few applications for graduate work in endodontics, but lately we have received 50 applications for study in this specialty. Other specialties will increase, particularly in the preventive dentistry areas such as periodontics.
4. Several new programs should attract students for graduate study, giving us the opportunity and responsibility for training more students. Good examples would be programs in genetics, maxillo-facial prosthetics and our post-sophomore Ph.D. and post-docotral Ph.D. programs.

responsibility in this regard and will give thorough, accurate appraisals and advice.

C. We intend to share our oral health knowledge with the health professions and the public.

1. The faculty will participate on public health programs e.g. efforts to start a fluoridation system in a community. Some of our faculty have been very active in this way and we should be prepared to continue this valuable service.

2. The faculty will become increasingly involved, as time permits, in public health programs such as cancer detection clinics. These clinics are designed to alert the public and to educate the dentists and physicians.

3. The faculty will respond to opportunities to speak on various dental subjects such as preventive dentistry before P.T.A. groups, civic clubs, etc.

4. The faculty will become even more involved in teaching continuation education courses at the University and in the communities.

5. The faculty should be willing to take an active part in dental society affairs at the local, state and national levels.

6. The members of the faculty and staff should make a positive effort to release to the communication media articles on oral health measures and research findings.

7. The faculty must be expected to make increasing contributions to the scientific literature and at scientific meetings.

D. The faculty is and will be expected to take positive efforts through personal actions and attitudes to present the proper image of dentistry to the students, members of the dental profession and other health groups and the public.

Use of resource supplemental resource
Staff, equipment, supplies
Med & paramedical

— guide
Participation in support of ~~Nat~~ local State & National Association

$ ~~Financing of service~~ —
Study in the [illegible] health profession best way to provide
1. the [illegible] health care —
2. Financing health care —
Who should ~~support~~ the financial support for the [illegible]
the cost of the services you provide

5. The fact that the dental schools at Michigan and Indiana now have about 100 graduate students each gives some reference that our projection to 125 by 1980 is not an unrealistic goal.
6. There will be increased government support for special graduate programs such as our present grants in oral biochemistry and oral pathology.
7. We need to train more research people and dental educators for the needs at Minnesota and other centers. It was reported that 11 teaching positions are now open or will soon be available at the University of Illinois School of Dentistry.
8. While we cannot defend the exactness of our projection of 125 graduate students by 1980, we believe that the trend (and certainly the opportunity) will be for a major increase in this activity.
9. Several members of our faculty concerned with the recruitment and training of graduate students were consulted during our study. They firmly believed that there should be a marked increase in the number of graduate students.

III. Increasing number of postgraduate students.
1. The subcommittee envisions an increased need and request for continuation study in dentistry at the postgraduate and refresher course levels.
2. It is our judgment that the universities are the natural centers for the programs, but that such training is not the exclusive responsibility of these centers.
3. This school will not be able to supply all the needs for continuation education which the profession in the region may request.
4. Our postgraduate and continuation education programs (refresher courses) should not be increased at the expense of the more formal training programs at the undergraduate and graduate levels. There must be a proper balance of all these programs.
5. Careful judgment will have to be used as to how much should and can be done in postgraduate and continuation education. We are convinced that more should be done.
6. We recognize that many of the courses and programs can be staffed by outside faculty brought in temporarily. This plan would not be a strain on the permanent faculty or the University budget since tuition for the courses would pay for faculty and supplies.
7. At the present time, the school cannot comply with all requests for continuation study courses. We must turn down applications because courses are filled and must deny appeals to offer special courses for certain groups. The faculty recognizes the importance of continuing education for the profession and wants to do as much as possible. While we want to progress and grow in this program we are fully cognizant that there are limitations.

The Dental Subcommittee respectfully submits the above reasons for projecting increases in our undergraduate, postgraduate and graduate programs. We trust

that the information is useful to you. Again, we appreciate your interest in our study.

Sincerely,

M. R. Holland, Chairman
Dental Subcommittee for the
Study of the Physical Facilities
for the Health Sciences

MRH:jae

cc: Dr. Elmer W. Learn
Dean Erwin M. Schaffer

File Dentistry 11/15/65

Hospital Dental Service Considerations

Mr. Frawley's Questions:

Is this program a Dental School, a Medical School, or a Hospital Program?

If this is a Dental School program - (the staff is responsible to Dr. Schaffer and the residents and interns are responsible to the staff); does the staff and do the residents hold medical school appointments?

Are patients to be admitted by Dental Staff? Who will do history and physical? Who will write orders on the patient? Are these to be private patients as well as county?? Is dental care, other than emergency, covered by county papers? If a course of dental treatment is undertaken and the medical care program for which the patient was admitted is completed while the dental treatment is only half finished will the patient be continued on an outpatient basis? If so, at the hospital or at the Dental School?

Mr. Mitchell's Questions:

Who decides on the role of the hospital dental clinic vs the dental school clinic program?

On whose medical staff will the dentists be? Oral surgeons?

Who can refer patients for dental care here? Dentists? dental school? physicians?

What will status of interns be? Residents?

Will patients have new medicine or new peds visit? Role of medical student in following patient?

Should all outpatients have dental analysis? Where? Who will do it? Who will pay for it? Will this delay -- and make more expensive-- care here?

Is dental care covered by insurance programs? Under what conditions?

What amount of space should be devoted to this? -- (based on demand of patients? -- Educational program of medical school and dental school?) Will county papers cover complete dental care -- Relationship of dental & ENT program for jaw and facial bone fractures?

Who provides technicians, secretaries, residents, interns, etc.?

How is care co-ordinated between hospital clinic and dental school clinic (medical records)?

Will this be a mechanism whereby we will take over most of the lab, pharmacy, and x-ray needs of the dental school?

Will dental staff be on "call" for emergency outpatients and inpatients?

What is the role of the outpatient clinic directors in determining operational policies of the Hospital Dental Clinic?

For whom does the technician, secretary, and ancillary help work?

Does the director of the dental clinic have other dental school responsibilities? Is it essential that he be located in the Hospital Dental Clinic -- (precedence for other clinics)

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Dentistry Subcommittee

Minutes of Meeting December 3, 1965 (#9)

Present: Mellor Holland, Chairman; James Jensen, Glenn Mitchell, Leon Singer, W. Albert Sullivan, Kathryn Ritzen, John Westerman

Absent: Allyn Bridge, Carl Heggestad, JoAnn Hubbard

Guest: Mr. Edmund Nelson, space consultant, Hamilton Associates

NEXT MEETING AT THE CALL OF THE CHAIRMAN

The purpose of the meeting was to review the Draft of the Learn Committee Preliminary Report, with particular attention to the Dentistry Section of the Report. In addition, Mr. Edmund Nelson was present to brief the subcommittee on the second part of the Health Sciences Physical Facilities Study.

The committee began with item 3 on page 6, under the general Conclusions. They thought that the sentence should read "...An obligation to provide postgraduate and continuing education..." "Continuing education" refers to individual courses of limited duration offered to practitioners, while "post-graduate education" implies resident study and non-degree study of longer duration than continuation courses.

The second paragraph under Dentistry on page 16 was discussed next. The committee wondered if the paragraph should be revised to show that the School of Dentistry has more applicants with higher GPA's from which to choose rather than emphasizing an increase in the minimum GPA. The emphasis in up-grading the quality of the applicants is mainly done by increasing the required number of pre-dental years of higher education. At the end of the paragraph, the committee favored a change in wording to read, "...will clearly establish the dentist as a physician of the oral cavity." This sentence was modified on the basis that the previous wording made the dentist's role ("the physician of the oral cavity") too encompassing.

On page 17, in sentence 1, it was pointed out that expansion of the graduate student program is not necessarily tied to an increase in investigative programs. No alternative was proposed however. Sentence 2 of the same paragraph should be changed from "conscious effort" to concerted effort". Another change in that paragraph recommended by the committee was to divide the third sentence into two sentences since two distinct thoughts are expressed. They would read, "The graduate student recruitment program will be expanded. The intern-residency program will also be enlarged."

Paragraph 4 on page 17 was changed to include "and continuing dental education programs." On the same page the committee felt that the first sentence of the last paragraph under Dentistry ought to be modified by saying that, "dentistry has not shared proportionately in the resources made available to other health science units over the past 15 years."

A question which came up after reviewing the summary paragraph of the Dentistry Section was whether or not there ought to be a statement about the service obligation of dentistry. In examining this issue, it was noted that dentistry doesn't have a contractual obligation to render service comparable to that of the medical clinics. Nevertheless, there was some sentiment in favor of a statement about the obligation of dentistry to maintain a certain quality of service.

Next, the committee turned to other sections of the Report. Attention focused on the third paragraph of page 4 regarding techniques used to stimulate a critical viewpoint in committee planning and the fear that planning might concentrate merely on redressing present inadequacies. The Dentistry Subcommittee acknowledged that the Report did not clearly define priorities, but some members felt that this was largely due to the fact that the planning committees don't know what resources will be made available to them. It was pointed out that the Learn Committee felt that it was important to make proposals to the Administration regardless of what resources are ultimately assigned to carry out the proposals, since working out final assignments must necessarily be a give-and-take effort between the various committees and University Administration. Members of the committee expressed the opinion that the Conclusions section of the Report should recognize the overall impact of federal support to health care. At the same time, we don't want to appear too much like we're reacting to outside forces, even though we do want it clear that the faculty takes the federal role into account. Perhaps such an important topic deserves a separate paragraph in the Conclusions, especially with a view toward influencing federal health care programs as much as possible.

A change in wording in item a. at the bottom of page 10 was suggested. The first sentence of that item would read, "The College of Medical Sciences and the School of Dentistry should be involved primarily in the establishment and teaching of courses leading to baccalaureate or graduate degrees." The second sentence of the draft then would be omitted.

The committee also suggested a revision of paragraph 3 on page 12 under Basic Sciences. The second sentence of that paragraph would be as follows: "They do not have the resources to accommodate all of the requests for special courses, but are willing to review their programs with the objective of teaching their courses to more combined groups."

Returning to page six, paragraph 1, the incorporation of dental services into the total ambulatory programs was brought up for discussion and to see whether there was general agreement on that point. There seems to be a general consensus in the health sciences that dental services do need to be expanded in ambulatory and inpatient care. This question, however, brought up the larger question of whose support and approval the statements in the Learn Committee Report have. The Report will be voted on December 13 and if it is approved, the Report will have no other official support than that of the Learn Committee and the Subcommittees constituted and selected by President Wilson. However, the membership of these committees is representative of the various departments of the health sciences and as such should reflect the combined opinion of those units.

Some errors were noted in the statistical tables appended to the Report concerning student enrollment, number of applications filed to medical and dental schools and number of dental visits to the hospital outpatient department. The errors will be corrected in the final version of the Preliminary Report.

Mr. Nelson was introduced to the committee and briefly outlined the objectives of the space study (for a more detailed description, see the Learn Committee Minutes of November 22, 1965). The objectives are to assess the present amount of space, help the committee establish concrete priorities concerning numbers of students, faculty, space needed, costs, and type of facilities required, and finally, to make a 20 year projection of health sciences growth, given all the relationships involved, and come up with five-year installment approaches to the overall plan.

Dr. Holland stated that Dentistry would have a building committee work with the space consultant and Hamilton Associates on the space study. The Dentistry Subcommittee will be called on from time to time to review the progress of the space study. Dr. Holland thanked the committee members for participating so effectively in the work set before them by the Learn Committee.

Respectfully submitted,

Kathryn Ritzen
Research Assistant

Space Requirements for New Dental School Facility
School of Dentistry, University of Minnesota
Revised March 7, 1966

I. Research and Research Training Facilities

Unit	Net Square Feet	Totals
A. Animal Quarters	5000	
B. Biochemistry	4800	
C. Dental Materials	1840	
D. Genetics	8000	
E. Microbiology	3800	
F. Oral Biology	10000	
G. Oral Pathology	3100	
H. Periodontics and Oral Physiology	1950	
I. Physiology	2000	
J. Preventive Dentistry	2000	
K. Research Training and Associated Research Laboratories	22500	
	64990	64990

II. Clinical Facilities

Unit	Net Square Feet	Totals
A. Cleft Palate	1500	
B. Endodontic Clinic	800	
C. Graduate Student Clinic	2600	
D. Integration Clinic for Freshmen and Sophomores	5850	
E. Oral Diagnosis	7000	
F. Oral Surgery	4040	
G. Orthodontics	8300	
H. Pedodontics	6280	
I. Periodontics and Dental Hygiene	11690	
J. Postgraduate Clinic	3600	
K. Restorative Dentistry		
1. Crown and Bridge	5350	
2. Operative Dentistry	15650	
3. Prosthodontics	5200	
4. Integrated Facilities for Above Areas	5800	
	83660	83660

III. Preclinical Facilities

Unit	Net Square Feet	Totals
A. Freshman Laboratory and Associated Facilities	9500	
B. Sophomore Laboratory and Associated Facilities	8760	
	18260	18260

IV. Dental Hygiene and Dental Assisting Facilities

Unit	Net Square Feet	Totals
Laboratory, Clinics and Associated Facilities	14260	14260

V. Miscellaneous Facilities

Unit	Net Square Feet	Totals
A. Administration	3100	
B. Cafeteria Lounge	10000	
C. Civil Service Men's Locker Room and Lounge	300	
D. Civil Service Women's Locker Room and Lounge	600	
E. Faculty Men's Locker Room and Lounge	800	
F. Faculty Women's Locker Room and Lounge	200	
G. Lecture Rooms	14200	
H. Locker Rooms for Juniors and Seniors	3000	
I. Photography, Television and Visual Aids	2600	
J. Reading Room	2000	
K. Seminar Rooms - General Purpose	1200	
L. Special Graduate Study Area	500	
M. Storage Rooms	1500	
	40000	40000
		221170
Corridors, Toilet Facilities, Mechanical Service Rooms, etc. 50% of above net square footage area		110585
	TOTAL	331755

Parking minimum of 500 stalls

School of Dentistry, University of Minnesota

March 8, 1966

Suggested Relationships of Dental and Medical Clinics in Combined Out-Patient Facility

The following are some possible relationships of dental and medical out-patient clinics in a combined out-patient facility.

1. Combined facilities for reception areas, admissions and records, radiology, laboratory medicine and others where common needs could be served.

2. Oral surgery with ear, nose and throat and plastic and general surgery which in turn could relate with maxillo-facial prosthodontics and a cleft palate clinic.

3. Pedodontics with pediatrics.

4. Neurology with oral pathology and oral diagnosis.

5. Oral pathology with medicine, dermatology, pediatrics and neurology.

6. Periodontics and endodontics with medicine.

7. Oral diagnosis with internal medicine, laboratory medicine, dermatology and pediatrics.

UNIVERSITY OF Minnesota

SCHOOL OF DENTISTRY · MINNEAPOLIS, MINNESOTA 55455

Office of the Dean

July 26, 1966

TO: Members of Dental Subcommittee for the Study of Physical Facilities for the Health Sciences

FROM: M. R. Holland

SUBJECT: Revision of Subcommittee's Report to the Learn Committee

As you perhaps are well aware from reading reports of the Learn Committee meetings, the subcommittees have been asked to refine and make more specific their statements of anticipated future programs. Also, we have been requested to prepare careful estimates of our space and staff needs to achieve our goals.

At the last meeting of the Dental Subcommittee some months ago, we indicated that a Dental Building Committee would proceed to obtain specific figures on space and staff needs. A preliminary effort has been made. The attached statement of future space needs has been studied by the Hamilton Associates and Central Administration. Now the dental faculty has been requested to review their estimates and to revise them as needed. Further they have been asked to submit careful estimates of needs for faculty and civil service personnel to carry out our projected programs. Estimates are to be made on an entering dental class of 150 and 200 students, as well as sharp increases in graduate, postgraduate and auxiliary programs.

You will recall that the Dental Subcommittee will act as a review body to study these projections and to suggest needs for revision, deletion and addition. Also, the Subcommittee is expected to be active in the revision of the report of Roles, Objectives and Programs.

The revised report and new information must be submitted to the Learn Committee no later than October 1, 1966. The dental faculty has been requested to submit its projections of needs by September 1. These data will be compiled by the Dental Building Committee. A statement of needs will be prepared and sent to the Dental Subcommittee for study prior to a meeting of this committee late in August or early in September.

Prior to that time, I should like to make an appeal that the members of the Dental Subcommittee review very critically our report of August 1965. A copy is attached. We have been asked to refine this report, be more specific, revise, etc. as needed. Would you please study the report carefully and prepare suggestions for change. It would be preferred that your written suggestions be sent to me prior to our next meeting in 4-5 weeks. We can discuss the revision at that meeting and study the projections of space and staff needs as submitted by the dental faculty.

I know that everyone is extremely busy with many assignments. Yet the plans for expanding the health sciences are definitely moving forward. We need to prepare careful statements of our programs and needs for staff and facilities so that intelligent and effective planning can be made by the Hamilton Associates and all concerned. We must adhere to the time schedule developed by the Learn Committee.

A copy of a letter from Elmer Learn to the subcommittee chairman is enclosed for your reference. This letter spells out the essential aspects of the planning which must be accomplished.

Thank you for your cooperation.

Sincerely,

M. R. Holland, Chairman
Dental Subcommittee for
the Study of Physical
Facilities for the
Health Sciences

MRH:jae

ENC.

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Dentistry Building Subcommittee

Minutes of Meeting July 29, 1966 (#1)

Present: Mellor Holland, Chairman; Dwight Anderson, Robert Isaacson, James Jensen, Edmund Nelson, Kathryn Ritzen

Absent: E. Severn Olsen

NEXT MEETING: Friday, August 5, 1966, 11:45 A.M., Campus Club

The purpose of the meeting was to outline the work of the Dentistry Building Subcommittee in preparing a final report to the Learn Committee, and to establish special responsibilities of each subcommittee member. In general, the Building Subcommittee will collect facts and figures on space and faculty requirements to accommodate proposed expansion of the Dental School. Dr. Anderson will be responsible for planning in the area of research (laboratories, etc.); Dr. Isaacson will do the same for research training; Dr. Jensen will work on clinical facilities (design requirements); and Dr. Olsen will work on Hospital dental facilities. Dr. Holland, in conjunction with Dean Schaffer, will review and coordinate overall space and faculty needs. The Dentistry Subcommittee itself, which contains representatives of other areas such as nursing, medicine, the Hospitals, will act as a review body and make decisions on educational philosophy and program, and on the overall space program.

As background to compiling the final report, Dr. Holland asked Mr. Nelson to explain the space consultants' projections and cost estimates to meet the needs outlined in the preliminary report. (Refer to the Minutes of the Parent Committee Meeting of May 9, 1966 for a synopsis of the space consultants' proposal.) Mr. Nelson emphasized again that the proposal is tentative, that it is just one concept of how necessary health sciences expansion could be accommodated on the present site, and that it was prepared for presentation to the legislature in time to request planning and land purchase funds this session. This proposal should not inhibit the subcommittees in their program and space planning.

Dr. Isaacson raised an important question: how will the University's role as a health sciences training institution be affected by state and federal programs which will contribute increasingly to University support in terms of funds for major expansion, third-party health care payments, and regional health centers establishment? In other words, will there be increasing pressure for the University to emphasize service over teaching? At the same time, it is apparent that the University will have to offer exemplary service to assure enough patients for the teaching program. President Wilson has already stressed the need for the University to remain flexible enough in its programs to be able to take full advantage of federal financial aid. All of these factors point to the need for the University, in the midst of these complexities, to maintain the proper balance among teaching, service and research.

Dr. Holland distributed to the subcommittee copies of Space Requirements for the New Dental School Facility, Revised as of March 7, 1966. He asked the subcommittee members to scrutinize the figures on the list and to work with other

faculty on their estimates. Dr. Holland explained that division chairmen and those responsible for specific operations within the dental school have been requested to critique the program statement and submit space and staff estimates by September 1, 1966. Part of the subcommittee's job will be to help interpret our educational philosophy to individual faculty members and help them to avoid duplication in their space requests. The Building Subcommittee will compile the requests and put them in presentable form. Specific assignments have also been given to the regular dentistry subcommittee for completion by September 1.

Space and faculty requests should reflect both current and future needs, with adequate documentation and justification in each case. Requests for faculty must be cleared with the Dean and with Vice President Shepherd. Care must be taken to assure that multiple-use areas are properly claimed. Opinion should be expressed on intramural relationships, clinic interchange and multiple use of facilities. The type of justification we are seeking for space-staff increases will add up to our philosophy of future dental education and expansion. Projections should be based on 150 dental students by 1975, and 200 students by approximately 1985.

The Building Subcommittee was concerned with the rise in building costs which will probably take place during the years required to complete the entire expansion plan, with the possible consequence that part of the planned construction could be arbitrarily curtailed. The underlying question is how to gain acceptance from the legislature for a structure which is not entirely needed for today's program, but will be required by the time it is built. To answer this question in part, Mr. Nelson suggested that the subcommittee's projections be stated in such a way as to clearly show short-term needs for the next few years, as well as long-term requirements for the more distant future.

Dr. Holland stressed the need to develop the program statement, in order to avoid building just more of the same kind of space. This will also be important in building a structure well-suited to our future needs.

Some of the subcommittee members expressed concern about anticipated faculty apathy toward space-staff planning for the future, since they have been asked to do this before without significant results. Dr. Holland pointed out, however, that University Administration has now given a very high priority to new dental school facilities; and the Administration, as well as the Deans and the space consultants, has reacted very favorably to the estimated School of Dentistry needs stated in the preliminary report, based on an increase to 150 dental students. So the faculty now have a real opportunity to shape the future growth of the School of Dentistry according to their own best judgment.

By September 1, then, projected space and faculty needs should be in to Dr. Holland, and the Dentistry Subcommittee should have a revised version of the program statement. The next meeting of the Dentistry Building Subcommittee will be on Friday, August 5, 1966, at 11:45 a.m. in the Campus Club.

Before adjourning the meeting, Dr. Holland asked the Building Subcommittee to suggest people who should be invited to future meetings. He also called attention to the Public Health Service booklet on Dental School Planning, put out by the Department of Health, Education and Welfare in 1962. Dr. Holland will order copies of this booklet for Building Subcommittee members.

Respectfully submitted,

Kathryn Ritzen
Research Assistant

UNIVERSITY OF Minnesota

SCHOOL OF DENTISTRY • MINNEAPOLIS, MINNESOTA 55455

Office of the Dean

August 2, 1966

TO: Members of the Dental Subcommittee

FROM: M. R. Holland

In response to several questions I have received, I am sending you a time schedule for planning new health science facilities for the University of Minnesota. This schedule has been verified with Dr. Elmer Learn.

I trust that you have received my mailing of July 26 and will have the opportunity to make a critical analysis of our program statement of August 9, 1965. This should be submitted in writing by September 1, 1966.

If you have any questions on this, please don't hesitate to convey them to me. Thank you for your interest and cooperation.

MRH/dg

Enclosure

Time Schedule for Health Science Planning for the University of Minnesota

October 1, 1966

Reports from subcommittees and planning committees need to be submitted to Learn Committee. Should include:

1. Refinement of program statement
2. Revision as needed of space requirements
3. Projection of faculty and staff needs

November 15, 1966

Above reports will be combined and edited by this date. Particular effort will be made to finish the programmatic report. Total space and staff needs will be completed by Hamilton Associates as close to this date as possible.

January 1, 1966

Planning money and land acquisition funds will be requested from the 1967 legislature. Projections of program and needs will be used to substantiate our requests. It is anticipated that some hearings will be held in the 1967 session on the long range plans and needs. The Fitzsimons legislative committee is expected to be active on this. This is the House Appropriations Special Subcommittee on Health Sciences in Minnesota.

Prior to July 1967

Central administration will present to the Board of Regents a rather complete report of the programs and needs for the health sciences and hopefully will receive tentative approval. Priorities for building will need to be recommended to the Board of Regents and receive approval.

July 1967

If planning money is appropriated, architects will be contracted to develop preliminary architectural plans. Therefore, prior to this time (October 1, 1966 to July 1967) the committees will need to develop the details of their plans which would be required by architects to translate into design and size of buildings, location of buildings, tentative floor plans, etc.

January 1968

Central administration will need by this date the preliminary architectural plans, firmer cost estimates, etc., for preparation of the building requests to the 1969 legislature. They require six months to prepare this for presentation to the Building Commission by July, 1968.

July 1968

Presentation of building request for the health sciences to the Building Commission.

January 1969

Presentation of building requests and faculty needs to the 1969 legislature.

July 1969

If funds are appropriated for building a new dental school, final plans would be developed and contracts made. It would seem that construction would start in 1970 and completion expected in late 1971 or early 1972.

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES
FOR THE HEALTH SCIENCES

Dentistry Building Subcommittee

Minutes of Meeting August 5, 1966 (#2)

Present: Mellor Holland, Chairman; Dwight Anderson, Robert Isaacson, James Jensen, E. Severn Olsen, Edmund Nelson, Kathryn Ritzen

NEXT MEETING: FRIDAY, AUGUST 12, 1966, AT 11:45AM, CAMPUS CLUB

1. The official title of this committee will be the Dentistry Building Subcommittee (not the Dentistry Planning Committee, as has appeared on some memoranda).

2. Dr. Holland announced that a progress report on long-range planning for the School of Dentistry had been sent to Dr. Learn and a cordial reply had already been received. He also reported that the following information has been distributed to the subcommittees and School of Dentistry faculty:

   a. Letter requesting critique of subcommittee program statement, projection of program, enrollment figures, space and staff needs.

   b. Summary of present space for dentistry as determined by Hamilton Associates.

   c. Projection of preliminary space needs (primarily distributed to subcommittee memebers). The Building Subcommittee has an important task in communicating to the faculty the philosophy behind these projections.

   d. Forms for completing estimates of space and staff. Dr. Holland reported that estimates have been received from two of the faculty thus far.

      (1) Dr. Olsen raised an important question in regard to estimating required hospital space for dentistry. Whether clinical facilities for dentistry graduate students would be in the hospital dentistry clinics, or primarily in the School of Dentistry, would have a pronounced effect on space and faculty projections. Another question is how much Orthodontics should be planned for the hospital. Dr. Holland said that the first projections provided a graduate student section in the dental school (2600 sq. ft.). Perhaps, however, graduate students should be in the hospital dentistry clinics as well. In conjunction with this question is the need to determine how graduate student dental clinics will relate to the needs of

the hospital outpatient clinics. It would be well to discuss this with the Clinic Directors group. The Dentistry Building Subcommittee favors a maximum of shared facilities and collaboration in comprehensive care. However, there are certain problems which must be resolved in this area.

In submitting hospital dentistry space needs, Dr. Holland suggested that Dr. Olsen project two estimates, one which includes graduate dental student facilities in the hospital, and one which does not, with Dr. Olsen indicating which alternative he prefers.

e. Time schedule for health science planning.

f. Copies of Dr. Learn's letter of January 10 explaining the subcommittee's assignments.

3. The subcommittee reviewed the time schedule for health sciences planning. Dr. Holland said that he had conferred with Dr. Learn in outlining the timetable. One change should be made in copies sent to subcommittee members and faculty: the third item from the top should read January 1, 1967, not 1966. The immediate deadline facing the subcommittee is October 1, 1966, when a refined program statement, and projected space, faculty and staff requirements must be submitted to the Learn Committee. The information being gathered now will be used by January 1, 1967 to substantiate the University legislative request. Dr. Holland noted that the Fitzsimons legislative committee promises to be very actively concerned with health sciences planning in Minnesota.

4. Most of the time was spent reviewing the program statement with a critical eye. Dr. Holland acquainted the Dentistry Building Subcommittee with the background of the program report, which was written in August 1965, presented to the Learn Committee at that time, and edited only slightly since then. Dr. Isaacson felt that the entire statement ought to be clarified to distinguish present from future programs, as a means of identifying quantitative expansion.

I. ROLES OF THE SCHOOL OF DENTISTRY

The second paragraph under I A of the Dentistry Report was discussed at length. The discussion revolved around whether the main objective of the School of Dentistry is to supply Minnesota with dentists, thus aimed at educating the best students in Minnesota, or whether it is to turn out the best dentists possible, regardless of their origins. Although several suggestions were made on how to revise that paragraph, the question of whether to identify the undergraduate programs as primarily concerned with Minnesota students was left for further discussion.

The first paragraph under section I was corrected to read "...are closely intertwined in programs..."

Paragraph B was changed to read: "The research role of the School of Dentistry is TO CONDUCT DYNAMIC FUNDAMENTAL AND APPLIED RESEARCH on biologic aspects of oral health, oral disease and preventive dentistry."

In regard to the research role, Dr. Isaacson suggested there should be greater emphasis on the social-human relations aspect of dental health care. For example, paragraph I B might mention that the environment of people ought to be studied for its role in oral disease.

The subcommittee noted that paragraph C contained potential teaching/service role conflicts.

It was suggested that paragraph E be clarified and made more concrete.

II. OBJECTIVES OF THE SCHOOL OF DENTISTRY

TEACHING OBJECTIVES

Paragraph C seemed ambiguous, so it was agreed to restate that paragraph.

Regarding paragraph F. the subcommittee felt it should state the absolute necessity for continually upgrading professional competence to best serve the public. Although the program section also makes this point, the subcommittee thought that a stronger statement was required about this as a teaching objective. One simple solution suggested was to move paragraph F under SERVICE to paragraph F under TEACHING.

The subcommittee agreed that paragraphs G and I should be consolidated and rearranged.

Dr. Isaacson thought that paragraph K was not really a teaching objective. It was suggested that the paragraph be separated from the preceeding teaching objectives and should be changed to read: "To accomplish these teaching objectives, we must increase the number of full-time and part-time faculty members."

RESEARCH OBJECTIVES

Paragraph E was changed to have the first sentence read: "TO CONDUCT FUNDAMENTAL BIOLOGIC RESEARCH, NOT NECESSARILY CONFINED TO ORAL STRUCTURES." The second sentence would be transferred to paragraph B, and paragraph F would be eliminated entirely. The first sentence of B would then read: "TO ADVANCE THE KNOWLEDGE OF ORAL HEALTH through investigation into the causes of oral disease and the elements of preventive measures."

The subcommittee meeting adjourned at this point. Dr. Holland asked the subcommittee members to continue reviewing the report and to be prepared to make suggestions about it at the next meeting on Friday, August 12, at 11:45 a.m.

Respectfully submitted,

Kathryn Ritzen
Research Assistant

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Dentistry Building Subcommittee

Minutes of Meeting August 12, 1966 (#3)

Present: Mellor Holland, Chairman; Dwight Anderson, Robert Isaacson, James Jensen, Severn Olsen, Kathryn Ritzen

Guests: William Kane, Chairman, Clinic Directors; John Westerman, Executive Secretary, Committee for the Study of Physical Facilities for the Health Sciences

NEXT MEETING AT THE CALL OF THE CHAIRMAN

1. Dr. Holland introduced Dr. Kane, the Chairman of the Clinic Directors group, to members of the committee. He then asked Dr. Kane to tell the committee about the philosophy and objectives of the Clinic Directors, and to give his view on areas where Dentistry and the clinics might work toward a closer relationship.

On behalf of the Clinic Directors, Dr. Kane expressed the desire for increased cooperation between Medicine and Dentistry, in both teaching and providing exemplary comprehensive patient care. Dr. Kane acknowledged that this objective is relatively new and is still wrought with problems at this stage. However, one immediate example of the potential for Dentistry and Medicine to work together in this institution, is in a proposed multiphasic screening laboratory for clinic patients. Dr. Olsen is now working with the Clinic Directors Building Subcommittee on ways in which Dentistry would participate in such a screening unit.

Dr. Kane stressed his opinion that, a very practical reason for dovetailing Medicine and Dentistry at the University is to provide the unique care which will continue to attract third-party-payment patients who are no longer under obligation to come here as a matter of course. He noted that, already in Orthopedics and in some other areas, there has been a slight decline in the numbers of former county and per-diem patients, and now they find that the ones who continue to be sent here are the extremely difficult problem cases which require the kind of expertise and consultation characteristic of a university setting.

Mr. Westerman told the committee that all along, the Clinic Directors, in planning for a new clinic building, have envisioned not only close cooperation with, but also close proximity to a new School of Dentistry. The consultants' proposal calls for a dental building contiguous to the clinic facility, with probable interchange on various floors. Mr. Westerman noted that although various reactions throughout the state to the proposed health sciences expansion plan might alter it somewhat, but the new School of Dentistry and Medical Outpatient Clinics, because of their absolute requirement, are virtually safe. Mr. Westerman also added to Dr. Kane's example of dental-medical cooperation, the comprehensive pediatric care program, financed under title 5 of Medicare, which the University is sponsoring for educational purposes. Dental care is included in the comprehensive care given children affected by the program.

Dr. Isaacson discussed with Dr. Kane the possibility that Dentistry might be swamped with patients unsuitable for dental education, if it cooperated with the medical clinics in providing comprehensive care, as a result of the regional medical centers legislation. Dr. Kane did not feel that the University would be inundated with uninteresting teaching patients, for which it would have to provide comprehensive care because the University's role is to provide consultative care, not primary care.

Dr. Isaacson raised the question of whether financial support of regional medical centers was likely to require more service and care than previously required of this institution, thus altering our mode of operation. Mr. Westerman said that several deans throughout the country had raised that same question. Some medical centers such as Duke have solved that problem by setting up cooperative arrangements with community hospitals to provide care.

Dr. Olsen returned to the subject of the multiphasic screening laboratory. He stated that if clinic patients were screened by laboratory tests in order to provide for a complete diagnosis, then it would be vital to include the oral cavity in the diagnostic screening. The question of treatment would be answered variously, depending on the situation, with some treatment possibly being done here in cooperation with the private dentist, or with all treatment being provided by the referring physician. The Mayo Clinic referral systems shows that the University need not necessarily run into conflicts with the private physician.

Dr. Olsen said that he thought the new facilities would provide the opportunity for faculty interchange in the medical and dental curriculums, to make students in each discipline more aware of the problems connected with the other discipline. Medical students would thereby be more tuned in to problems in the oral cavity, and dental students would know more about the relationship between oral disease and other bodily functions. Further, if a common chart were used for both medical and dental patients in the new outpatient facility, it would be very educational and a great advantage to both the medical and dental student.

2. After Dr. Kane and Mr. Westerman left, the subcommittee centered its attention once again on the preparation of the planning report. Among the questions remaining to be settled is, to what degree should dental facilities in the new outpatient clinics be decentralized? In resolving this question, it was thought that data processing would be vital in the new facility.

A large concern will be the planning of dental research space, particularly with respect to the stipulations of federal funds for research facilities. It was felt that a group was needed to ascertain the funds available and their requirements for constructing dental research facilities. Dr. Holland asked Dr. Anderson to take particular responsibility for examining the research section in the dental program report. Dr. Anderson mentioned that he felt that section could be consolidated without losing the original idea.

It was thought that further clarification of the terms "team approach" and "comprehensive care" was necessary in the dental report.

The last part of the discussion centered around the effect of the roles and and objectives on required number of faculty to carry those things out. There is a need to have the University Administration understand that those two factors are closely interrelated, and projected faculty numbers cannot be reduced without impairing the roles and objectives of the program. Of course this ties in with the increased responsibilities of educating an increased number of dental students.

NEXT MEETING AT THE CALL OF THE CHAIRMAN.

Respectfully submitted,

Kathryn Ritzen
Research Assistant

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Dentistry Building Subcommittee

Minutes of Meeting Friday, September 9, 1966 (#4)

Present: Mellor Holland, Chairman; Robert Isaacson, James Jensen, Edmund Nelson, Kathryn Ritzen, John Westerman

Absent: Dwight Anderson, Severn Olsen

NEXT MEETING AT THE CALL OF THE CHAIRMAN

1. Dr. Holland reported that faculty and space projections for Dentistry are nearly complete. On the other hand, relatively little comment has been received on the program statement. This may actually indicate tacit approval of the statement. Members of the Dentistry Subcommittee, however, have made suggestions on the Auxiliary Program, the program in Hospital Dentistry, and the interrelationship between dentistry and medical programs.

2. The design of the new dental facility was discussed at length, particularly with regard to integrating the space requirements of the various programs. The committee strongly felt that, with so many new factors involved, it would not be desirable merely to build more of the same kind of space. To prevent this from happening, the concept of horizontal, rather than vertical, usage of the structure was advocated. Another concern is to avoid the vertical isolation of departments, which could well develop in a high rise structure. It was pointed out, however, that horizontal expansion can be carried out on land east of Harvard Street.

Dr. Jensen suggested that careful attention be given to avoiding duplication or wastage in the organization of space to accommodate an increased student body. He thought the possibility of basing the students in modules designed for comprehensive learning and comprehensive patient care, ought to be examined. The entire design of the facilities will be affected by the decision on whether to move the faculty around permanently situated students, or vice versa. If the objective is indeed to teach comprehensive patient care, the facilities should be designed to permit the student to learn and the patient to be cared for in this manner.

There are problems in connection with assigning a student his own operatory, however. To build enough operatories to accommodate an eventual increase in the student body would mean that some space would remain unused until the projected student numbers are attained. Keeping the student stationary puts limitations on the changeability of space. If students come to the faculty, however, there are still problems, such as traffic and the provision of lockers and lack of departmental integration.

For the purpose of the forthcoming space report, it was agree to submit independent divisional and departmental space projections, realizing that these will have to be appropriately integrated and condensed at a later time.

3. Dr. Holland stated that the projections in this space report will be higher than those contained in the first report to Hamilton Associates and Central Administration because they are based on 200 dental students instead of 150, because some previous estimates submitted by the faculty were incorrectly based on 110 dental students, but mainly because there wasn't sufficient time for study in detail of all the needs. Lack of time did not permit a thorough analysis of

each faculty member's request to determine areas of omission and low estimates. Furthermore, the special Dentistry Building Subcommittee was just being selected at the time the other projection was requested. Mr. Westerman suggested, however, that for this report, the most important projections will be space and faculty for 150 students, by 1973, with faculty estimates the crucial factor, since they will have to be approved by University Administration.

Faculty estimates for Dentistry should be broken down by rank as well as numbers, so that budget estimates can be made. Space categories will be condensed and simplified for report purposes. The committee felt that it is very important for University Administration to know the faculty's honest estimates of required space even though they do exceed the estimates of the previous report and those of the space consultant.

The committee discussed at length the problem of expanding piecemeal, first for 150 students, then for 200 students, since the mode and schedule of ultimate expansion will be critical in planning the organization of space in the first facility for 150 students. The organization of research facilities is a problem, too. Will each division and department have its own research facilities, leading to fragmentation and inadequate staffing, or will all research facilities be centralized, with their usage programmed? Another area that could well be centralized, for improved efficiency, is the Business Office.

Finally, the committee voiced its disappointment that the publicity on the proposed health sciences expansion has not given appropriate attention and importance to the expansion of the School of Dentistry. Such publicity is vital to mobilize dental practitioners in the state to support the expansion into a new facility.

4. Dr. Holland concluded the meeting by saying that he expected to submit the Dentistry Report to Mr. Westerman by September 15 approximately.

Respectfully submitted,

Kathryn Ritzen
Research Assistant

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Dentistry Building and Planning Subcommittees

Minutes of Meeting October 28, 1966 (#8)

Present: Mellor Holland, Chairman; Dwight Anderson, Allyn Bridge, Robert Isaacson, James Jensen, Leon Singer, Kathryn Ritzen

Absent: Carl Heggestad, JoAnn Hubbard, Severn Olsen, Albert Sullivan

NEXT MEETING AT THE CALL OF THE CHAIRMAN

1. Purpose of meeting. The purpose of this meeting was to bring together members of both the planning and building subcommittees to review the Part II Report. The format of the dentistry section in the Part II Report is similar to that of the Preliminary Report. The work of the building subcommittee is primarily to grapple with faculty and space needs, reducing them where possible, and establishing priorities. The planning committee is expected to give broad judgment on the program and over-all report.

2. Analysis of the Part II Report. In view of the increase in the original dentistry estimates, there is serious concern with the University's judgment that the original space consultants' estimate of $54 million is the ceiling on health sciences expansion for the immediate future. The substantial increases in dentistry faculty are explained by the relatively modest level at which the School of Dentistry began. On the other hand, everyone involved in the planning process must recognize that the report needs to be soundly enough justified to virtually compel legislative acceptance. One immediate example is the need to demonstrate how importantly dentistry depends on the projected part-time faculty.

b. The question was raised, in regard to both University- and research-supported faculty, whether enough highly trained faculty will be found for the positions projected.

c. The reference to a new category of "sub dentists" on page 6 of the Appendix of the Regents' Report to the Legislative Building Commission was questioned. Also, the number of graduate students listed there was considered inaccurate.

d. The Animal Quarters space listed on page 36 of the Part II Report includes space needed by all of the dentistry departments. Basic Sciences teaching laboratory space, which Dentistry shares, is not included in dentistry space figures. Nor is Biochemistry Lab space included, since it is shared by Clinical Medicine.

e. It was concluded that greater clarification of shared space is required, including space shared within the School of Dentistry, and space shared with other schools in the health sciences complex.

The question of shared Research Training space was discussed at length. The estimates in this category are based on the fact that graduate students majoring in a basic science, but minoring in a dentistry field, may not be housed in basic science departments, because of lack of room. Therefore room has been projected for those students in the School of Dentistry. However

this is another area where attention must be given to avoid duplication and provide for maximum clarification.

f. The committee deliberated on the ratio of faculty to laboratory space. In Biochemistry at present, this ratio amounts to about 1,000 square feet per faculty. The question in regard to projected laboratory space is whether the ratio should remain about the same, or be increased. Dr. Singer pointed out that, in comparison with basic sciences research space, the figures for dentistry should be reduced.

g. Another important factor for future projections, which is still not entirely determined, is the degree of future curriculum collaboration with the Medical School.

3. Future Work. a. Dr. Bridge was asked to review the Part II Report further, to detect duplications and suggest any changes necessary from his point of view.

b. Dr. Singer was asked for suggestions on how to proceed with developing the final report for the President, including the rewritten program statement.

c. Everyone was asked to examine the space justification and to review the tables, to decide on the most concise and meaningful format for the Dentistry Report. Thought should be given to ranking program priorities as well.

d. Dr. Holland will call another meeting when there has been enough time to accomplish a thorough review of the material prepared thus far.

Respectfully submitted,

Kathryn Ritzen

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Dentistry Building and Planning Subcommittee

Minutes of Meeting December 2, 1966 (#10)

Present: Mellor Holland, Chairman; Dwight Anderson, James Jensen, Severn Olsen, McCollum Brasfield, Edmund Nelson, Kathryn Ritzen

NEXT MEETING AT THE CALL OF THE CHAIRMAN

1. Purpose of meeting. The purpose of this meeting was to discuss the report leading to the December 7th deadline and to make decisions of figures and statements to appear in the Dentistry Building Subcommittee report. Since the last meeting, Dr. Learn asked the Subcommittee to make any possible reductions and review the reports for possible duplications.

2. Analysis of final report. The Committee discussed Mr. Stephan's question of the ability to attract as many faculty members as the Committee projects. The Committee thought a point of emphasis should be in the final report that good facilities will certainly be needed to attract faculty members, especially considering the climate of Minnesota.

3. Future Work. Dr. Holland distributed copies of the proposed space changes. Summaries of the changes are:

a. Animal quarters: The total space projected here is less than the Committee desires and less than government standards. The Committee is open to consideration of shared animal quarters if the Parent Committee requests this.

b. Biochemistry: There are a few changes in the present and now needed categories, but not in the total.

c. Biomaterials: The projected space is cut in half. A point will be made in the report that many figures in the Dentistry Building Subcommittee report are less than USPHS recommendation. Will federal support be possible if the space is less than USPHS recommendation?

d. Genetics: The space for genetics was cut by 100 sq. ft. for 1973.

e. Microbiology: No reductions.

f. Oral biology: 300 feet reduction for 1973, and 1500 feet reduction for 1986. Oral biology will include other disciplines and facilities.

g. Oral pathology: The estimates here are very conservative. The Committee thinks oral pathology may need more space and decided not to change the request.

h. Physiology: Minor reductions were made.

i. Preventive Dentistry: The Committee discussed whether space allotment for preventive dentistry is extensive. This is a consultative rather than a clinical area; therefore planning space is somewhat more difficult. Minor reductions were made for 1973.

j. Research training: The research training area is a sit-down area, with modest research equipment proposed. There is a question as to whether this space will be centralized or decentralized, since relationships have not yet been determined. More discussion will clarify the plans for this area.

4. Reduction of Faculty Positions Requested. Most of the reductions the Committee discussed were previously discussed with faculty members in each division. Reductions made which were not reviewed with faculty members will be reviewed with the faculty members in the next few days.

COMMITTEE FOR THE STUDY OF PHYSICAL FACILITIES FOR THE HEALTH SCIENCES

Dentistry Subcommittee

Minutes of meeting March 2, 1967 #11

Present: Dr. Mellor Holland, Jo Ann Hubbard, Severn Olsen, James Jensen
Dwight Anderson, Robert Isaacson, Leon Singer, Edmund Nelson

Dr. Holland reviewed for subcommittee members Dr. Learn's explanation of the Editing Committee report presented in Part III - Subcommittee Program and Space Reports.

The Editing Committee recommended new subcommittee totals based on a total goal of $54 million and asked each subcommittee to adjust its faculty and space requests within this new total. This adjustment should be completed for presentation at the next full Learn Committee meeting March 13, 1967.

The Subcommittee felt there was no need to change the narrative of its report and proceeded to review division space and faculty requests.

SCHOOL OF DENTISTRY

UNIVERSITY OF MINNESOTA

REVISED STATEMENT OF FACULTY AND SPACE ALLOCATIONS FOR 1973

Submitted
by

DENTISTRY SUBCOMMITTEE
and
DENTISTRY BUILDING SUBCOMMITTEE

March 13, 1967

SUMMARY

SCHOOL OF DENTISTRY

Space (Net Square Feet)

Program	Existing (1966)	Projected (1973)
Research	16,966	65,195
Clinical	28,284	107,275
Preclinical Facilities	12,638	20,049
Dental Hygiene and Dental Assisting Facilities	2,111	16,625
Miscellaneous	7,398	20,856
Total	67,397*	230,000
Hospital Program	487	20,564

Faculty

	Existing (1966)	Projected (1973)
Research	12	32
Clinical	43.5	86
Preclinical Facilities	3	4
Dental Hygiene and Dental Assisting Facilities	3.2	15
Hospital Program	1	7
Miscellaneous	1.5	3
Total	64.2	147

Students

	Existing (1966)	Projected (1973)
Undergraduate D.D.S.	400	560
Graduate Study and Advanced Clinical Training	47	163
University Hospital Program		
Rotating Interns		8
Resident Dental Fellows		8
Dental Hygiene (2 year)	81	285
Dental Assisting (1 year)	35	140
Postgraduate	6	20
Continuing Education	495	800

* Adjusted by Sub-Committee from 63,190

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY
PROJECTED FACULTY ALLOCATIONS FOR 1973

PROGRAMS AND ACTIVITIES	F-T Faculty Total	F-T Faculty Univ.	P-T Faculty Total	P-T Faculty Univ. FTE
I. RESEARCH				
Animal Quarters	-	-	-	-
Biochemistry	3	2	-	-
Biomaterials	2	1	-	-
Genetics	6	3	-	-
Microbiology	4	2	-	-
*Oral Biology	5	2	-	-
Oral Pathology	4	3	-	-
Physiology	2	1	-	-
Preventive Dentistry	6	3	-	-
TOTALS	32	17		
II. CLINICAL				
Cleft Palate-Maxillo Facial	2	1	1	1
Oral Diagnosis, Oral Medicine, and Oral Roentgenology	5	4	2	1.5
Oral Surgery	3	3	3	3
Orthodontics	6	5	3	3
Pedodontics	8	6	4	4
Pericdontics	6	5	5	5
Postgraduate Clinic	1	0.5	-	-
Restorative Dentistry				
1. Crown and Bridge	5	4	6	5
2. Operative-Endodontics	8	8	9	8
3. Prosthodontics	4	3	5	5
TOTALS	48.0	39.5	38.0	35.5
III. PRECLINICAL				
Oral Anatomy and Histology	1	1	3	3
IV. DENTAL HYGIENE and DENTAL ASSISTING				
Dental Hygiene	13	13	-	-
Dental Assisting	2	2	-	-
TOTALS	15	15	-	-
V. HOSPITAL PROGRAM	7	5	-	-

* Includes faculty for new programs only. Periodontics and oral physiology faculty allocations listed below under periodontics.

PROGRAMS AND ACTIVITIES	F-T Faculty Total	F-T Faculty Univ.	P-T Faculty Total	P-T Faculty Univ.
VI. MISCELLANEOUS				
Administration (Dean's Office)	3	3	-	-
SUMMARY				
RESEARCH	32	17	-	-
CLINICAL	48	39.5	38	35.5
# PRECLINICAL	1	1	3	3
DENTAL HYGIENE and DENTAL ASSISTING	15	15	-	-
HOSPITAL PROGRAM	7	5	-	-
MISCELLANEOUS	3	3	-	-
TOTALS	106.0	80.5	41.0	38.5

Most of the 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 will be needed.
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 allocations
2. Univ.--support from University funds for School of Dentistry Budget
3. University column for hospital program represents commitment for School of Dentistry's budget. Balance would be hospital commitment.
4. FTE--full-time equivalent
5. F-T -- full-time
6. P-T -- part-time

UNIVERSITY OF *Minnesota*

December 23, 1969

TO: Mr. Peter Sammond

FROM: Dr. E. Severn Olsen

SUBJECT: Subcommittee on Hospital Dental Service Planning

Please appoint the following committee to expedite the planning process for the clinical facilities for Dentistry in Unit C:

Dr. E. Severn Olsen, Chairman
Dr. Daniel Waite
Dr. Kurt King
Dr. Robert Jeronimus
Dr. Anna Hampel
Dr. Carl Bandt
Mrs. Margie Antoncich

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY
PROJECTED SPACE ALLOCATIONS FOR 1973

PROGRAMS AND ACTIVITIES	Net Square Feet
I. RESEARCH	
Animal Quarters	9,000
~~Biochemistry~~ ✓	6,050
Biomaterials	1,940
~~Genetics~~ ✓	6,500
~~Microbiology~~ ✓	6,830
* Oral Biology	11,800
~~Oral Pathology~~ ✓ - incomplete	3,410
~~Physiology~~ ✓	2,900
Preventive Dentistry ~~HUMAN ECOLOGY~~	5,289
Research Training	11,476
TOTALS	65,195
II. CLINICAL	
~~Cleft Palate - Maxillo Facial~~ ✓	3,175
# Graduate Student Clinic for Restorative-Periodontics	--
Integration Clinic for Freshmen-Sophomores	5,400
~~Oral~~ Diagnosis, Oral Medicine, and Oral Roentgenology ✓	7,200
~~Oral~~ Surgery ✓	5,590
~~Orthodontics~~ ✓	9,700
~~Pedodontics~~ ✓	13,500
~~Postgraduate Clinic~~ ✓ (cont. from)	3,000
Restorative-Periodontics-Dental Hygiene Multipurpose Clinics and Associated Facilities ✓	59,710 ✓
TOTALS	107,275
III. PRECLINICAL FACILITIES For Freshmen and Sophomores ✓	20,049
IV. DENTAL HYGIENE AND DENTAL ASSISTING FACILITIES ✓	16,625

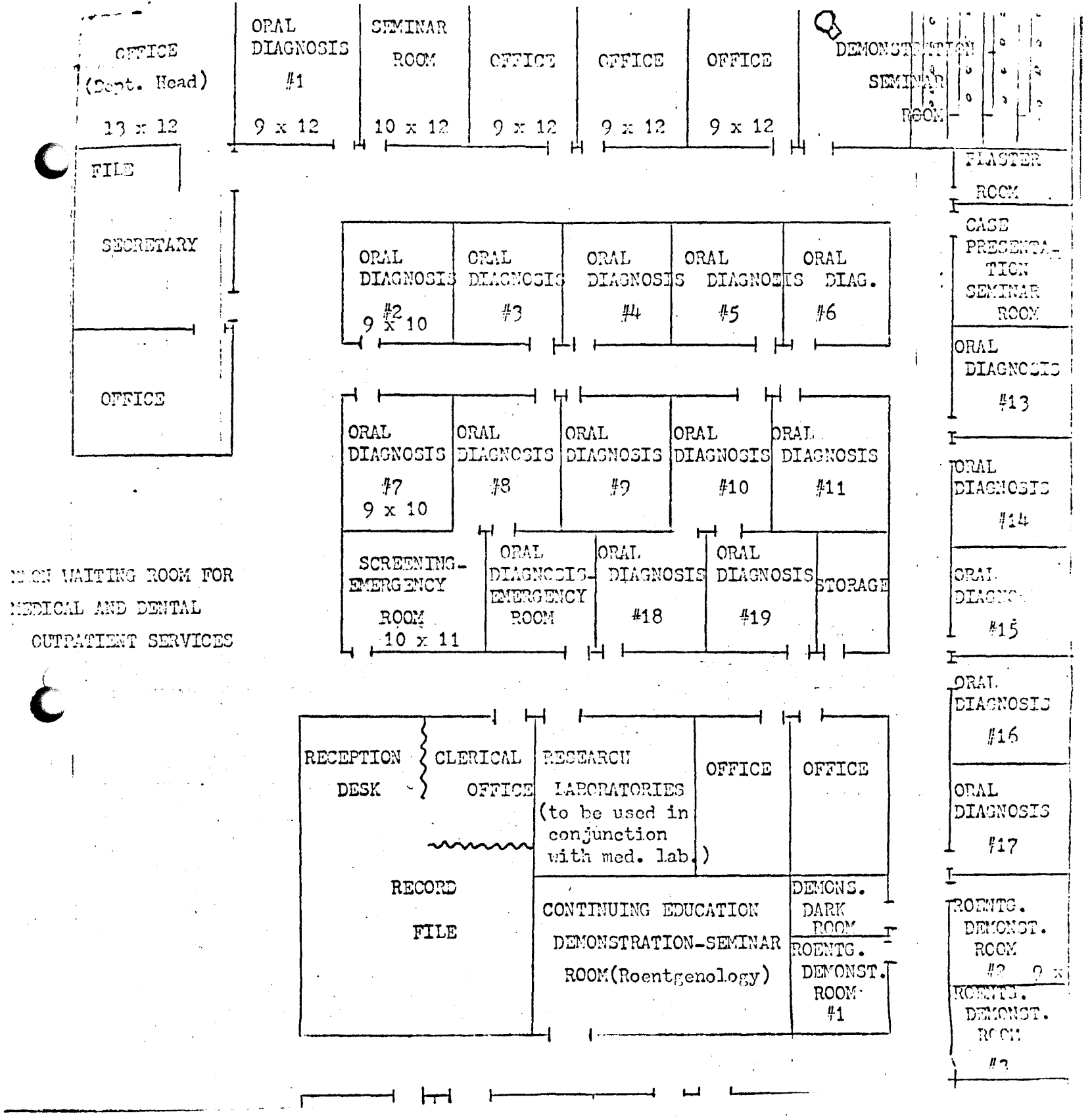
* Includes Periodontics, Oral Physiology, and New Programs

\# Tentative plan to absorb this activity in hospital dental clinics

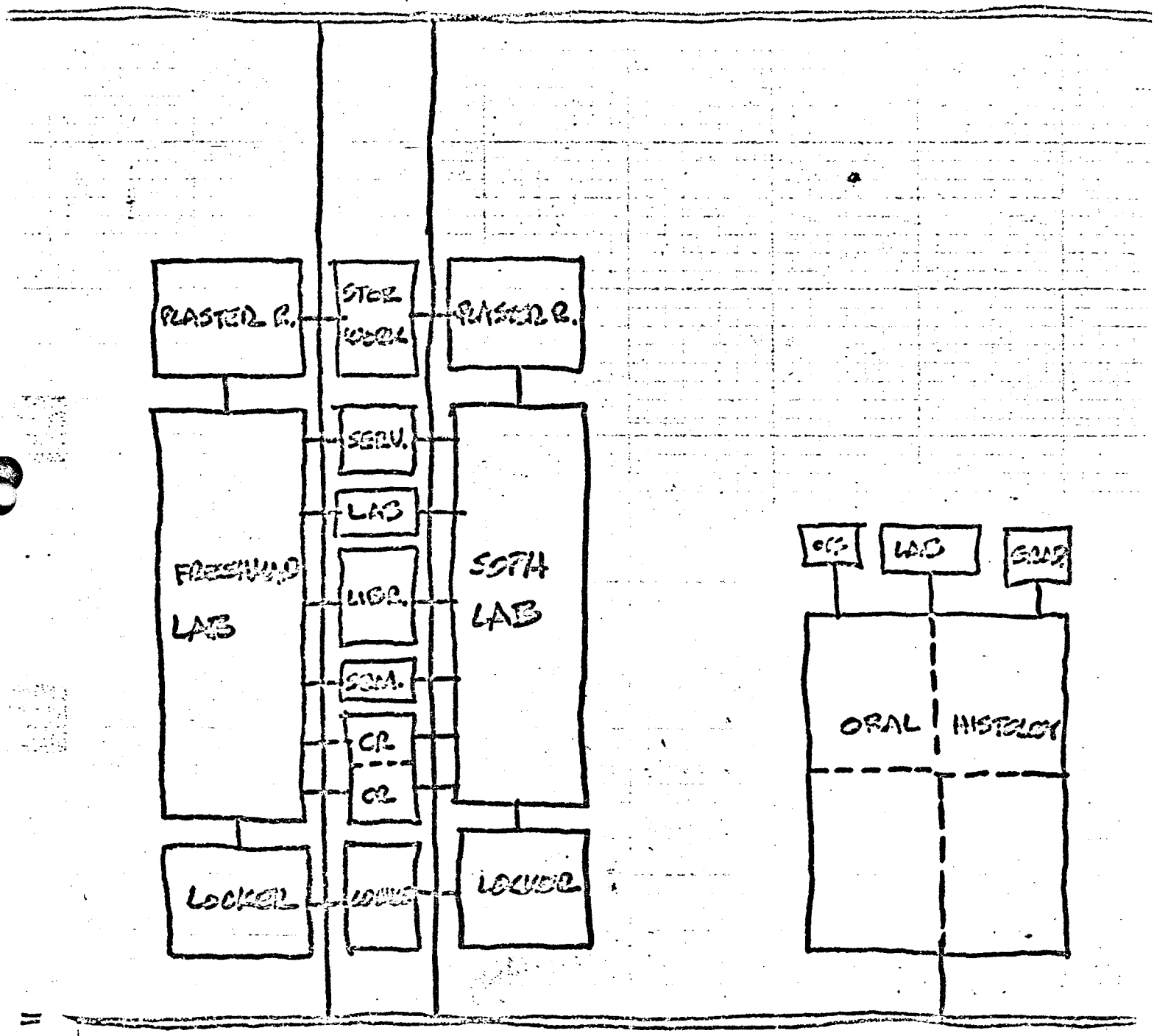
PROGRAMS AND ACTIVITIES	Net Square Feet
V. HOSPITAL PROGRAM ✓	20,564
VI. MISCELLANEOUS	
~~Administration (Dean's Office)~~ ✓	3,210
Business Office	1,000
Student Lounge	1,500
Civil Service Men's Lockers and Lounge	400
Civil Service Women's Lockers and Lounge	700
Data Collection and Transcription for Clinics	600
* Lecture Rooms	--
Locker Rooms - Juniors and Seniors	4,500
Locker Room for Men Faculty	600
Locker Room for Women Faculty	200
Lounge for Faculty	600
~~Photography-Television~~	3,046
Reading Room - Archives	1,800
Seminar Rooms - General Purpose	1,200
Storage	1,500
TOTALS	20,856

SUMMARY	
Research	65,195
Clinical	107,275
Preclinical	- 20,049
Dental Hygiene and Dental Assisting	16,625
Miscellaneous	20,856
School of Dentistry TOTALS	230,000
HOSPITAL PROGRAM	20,564

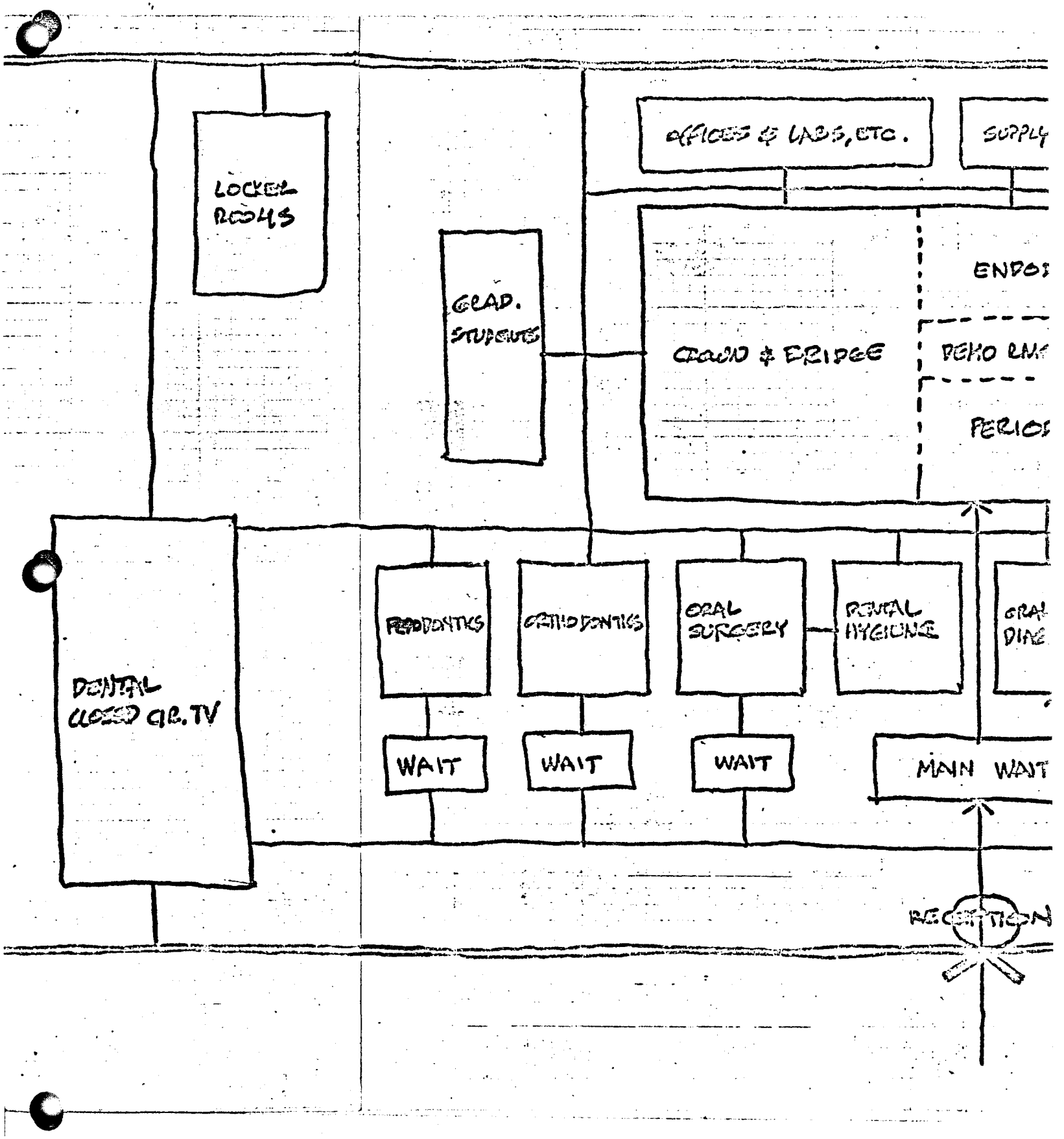
* Space projection omitted since lecture room space will be provided in other planning sections.

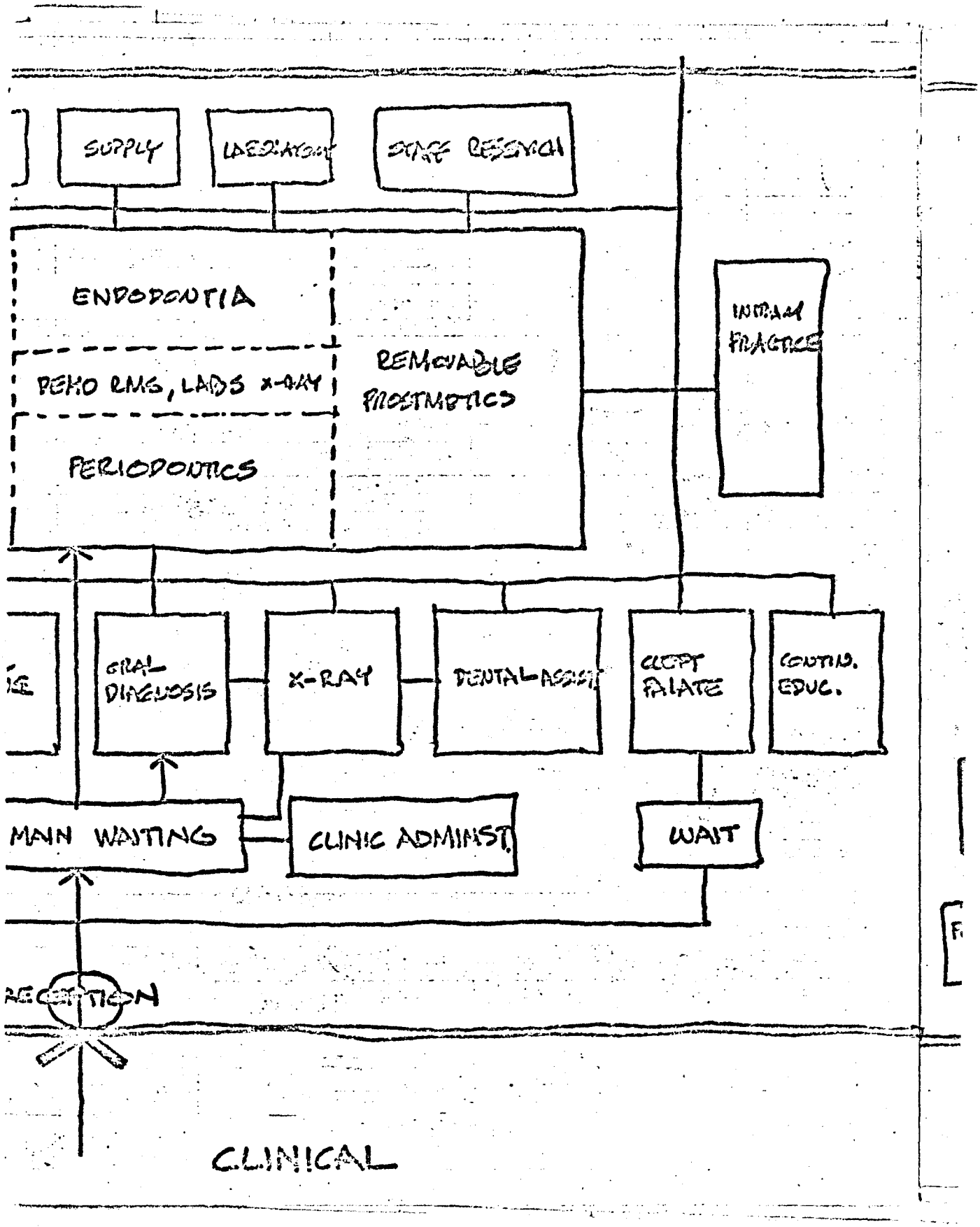


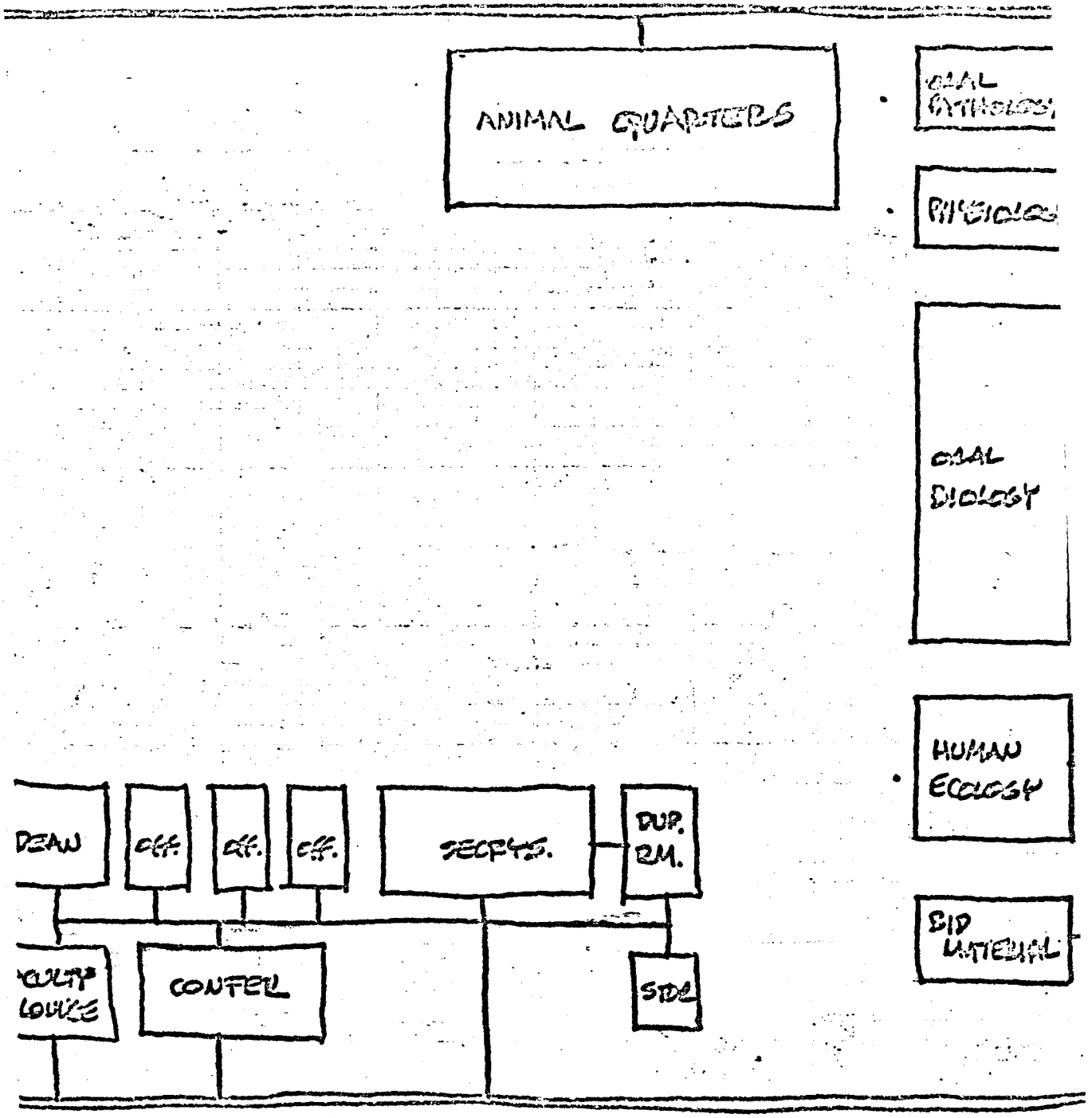
MAIN WAITING ROOM FOR MEDICAL AND DENTAL OUTPATIENT SERVICES



PRECLINICAL


LOCKER ROOMS
GRAD. STUDENTS
OFFICES & LABS, ETC.
SUPPLY
CROWN & BRIDGE
ENDO
PERIO
PROSTHETICS
ORTHODONTICS
ORAL SURGERY
DENTAL HYGIENE
WAIT
WAIT
WAIT
MAIN WAIT
DENTAL CLOSED CIR. TV


SUPPLY
LABORATORY
STAFF RESEARCH
ENDODONTIA
PERIO RMS, LABS X-RAY
PERIODONTICS
REMOVABLE PROSTHETICS
INTRAM PRACTICE
ORAL DIAGNOSIS
X-RAY
DENTAL ASSIST
CLEFT PALATE
CONTIN. EDUC.
MAIN WAITING
CLINIC ADMINIST.
WAIT
RECEPTION
CLINICAL



ADMINISTRATION

SERVICE
BIO CHEM
GENETICS
MICRO BIOLOGY
RESEARCH TRAINING
PUBLIC
SCHOOL OF DENTISTRY
SPACE FLOW DIAGRAM
LECTURE ROOMS, LIBRARY &
ARCH

UNIVERSITY OF M

I

C.

UNIT

DEPARTMENT OR DIVISION Biochemistry

SPACE NAME

INFORMATION FROM Dr. Leon Singer

DATE February 2, 1968

DESCRIPTION

1. Function (brief description)

The space should be arranged for staff offices and research facilities. See attached drawing. The research space is to be used for basic biochemistry and the training of Graduate students and Post-doctoral investigators.

2. Program area - 1973

4800 square feet

3. Probable Area Requirement - 1986

6000 square feet

4. Space subdivision (square footage)

See attached drawing

5. Special considerations

(a) Laboratories wired for 110 and 220 current- compressed air, hot and cold water, and current should be available on the laboratory benches. Sinks at end of each bench and drainage along center of bench. Fume hood in each laboratory. Safety shower in each laboratory. Large sinks for cleaning equipment.

(b) Instrument room - air conditioned. Benches to support heavy instrumentation. Ample wall sockets every 36 inches - one bench with water source and drain.. Fume Hood.

(Over)

RELA

1. Consistently Works Wi

Others in biochemistry.

2. Frequently Works With

Basic Scientists in Physi

3. Relation to Public

At times.

4. Relation to Other Healt

Infrequently with Medical

ESOTA HEALTH SCIENCES PROGRAM DATA FORM

SHIP

H ID MEDICINE & DENTISTRY
OF MAJOR IMPORTANCE

, Microbiology, etc.
OTHER DISCIPLINES
BASIC SCIENCES

ience Units

Dental disciplines

REQUIREMENTS

1. Architectural

A. Floors (load requirement, material, special considerations Solvent, acid and alkaline resistant floor covering

B. Walls, partitions (acoustic requirement, movable, materials, etc.) none

C. Ceiling (height, special considerations) none

D. Windows, doors (sill height, security, extent of glass, door size, etc.) normal

2. Utilities, Services

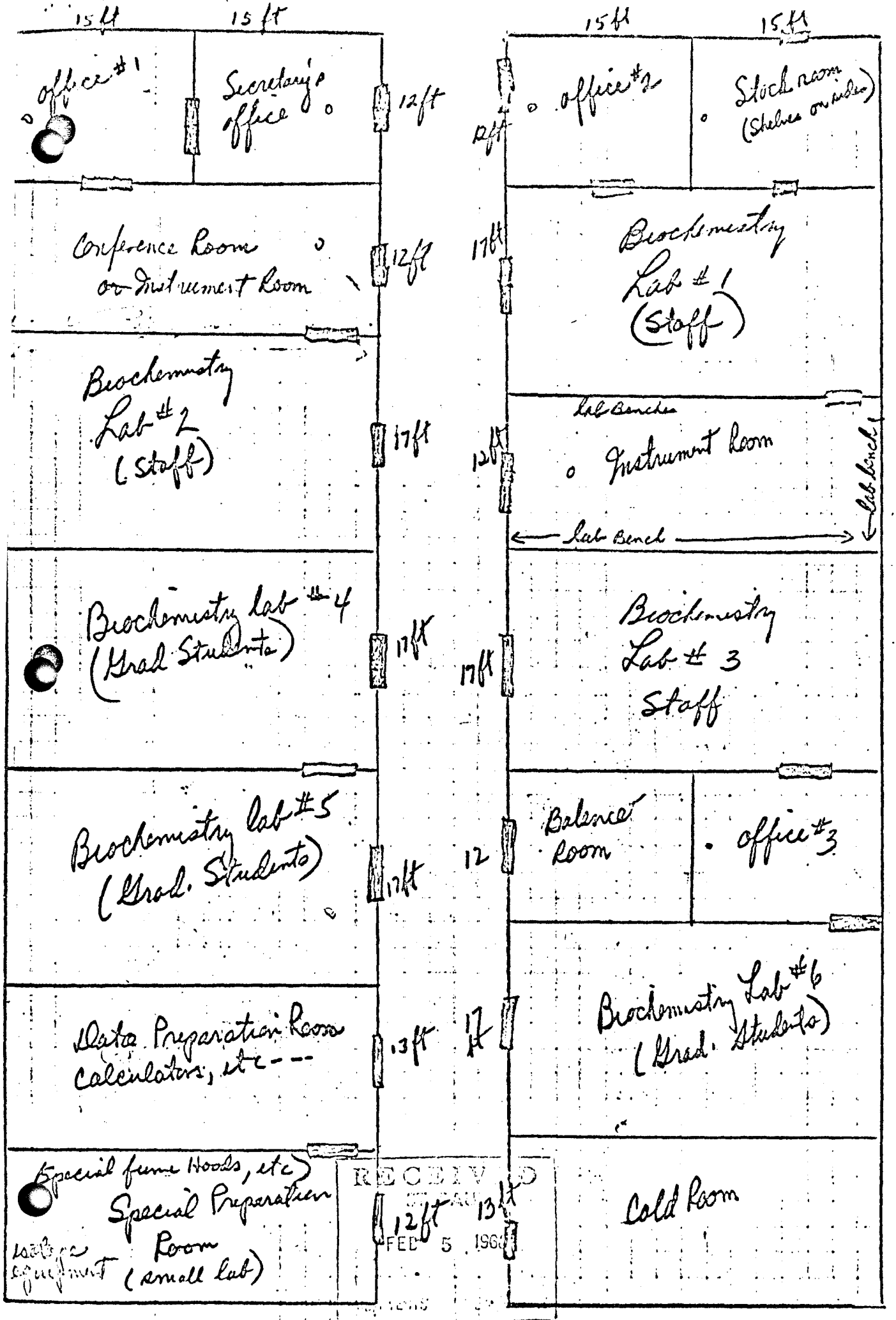
A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) See notes

B. Electrical (lighting power, communications, etc.)

C. Other See notes

3. Major equipment

Tri Carb Beta Counter
Jarrell-Ash Atomic Absorption (c)
Radioisotope Counters
High Temperature flame photometer(c)
Spectrophotometers (c)
Whole Body Counter
Refrigerated Centrifuge
Floor Centrifuges
Calculators


15 ft
15 ft
15 ft
15 ft
office #1
Secretary's office
12 ft
12 ft
office #2
Stock room (Shelves on sides)
Conference Room or Instrument Room
12 ft
17 ft
Biochemistry Lab #1 (Staff)
Biochemistry Lab #2 (Staff)
17 ft
12 ft
Lab Benches
Instrument Room
Lab Bench
Lab Bench
Biochemistry lab #4 (Grad Students)
17 ft
17 ft
Biochemistry Lab #3 Staff
Biochemistry lab #5 (Grad. Students)
17 ft
12
Balance Room
office #3
Data Preparation Room calculators, etc---
13 ft
17 ft
Biochemistry Lab #6 (Grad. Students)
Special fume Hoods, etc
Special Preparation Room (small lab)
Isotope equipment
12 ft
13 ft
Cold Room
RECEIVED
FEB 5 1968

Hammel Green + Abrahamson. St. Paul

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UNIVERSITY OF MINN

UNIT RESEARCH
DEPARTMENT OR DIVISION Human and oral genetics
SPACE NAME
INFORMATION FROM Carl J. Witkop
DATE 1-28-68

DESCRIPTION

1. Function (brief description) Research and research training in genetics and hereditary diseases of the oral cavity involving cellular, chemical, developmental and human aspects. this involves biochemical, histological, cytological, speech, human clinical, animal, data reduction and analysis type of functional space.

2. Program area - 1973 9,000 (6,500 allotted)

3. Probable Area Requirement - 1986 12,000 sq.ft.

4. Space subdivision (square footage)

	needed	allotted
Biochemical	2,500	1,725
Histological	2,500	1,725
Clinical	500	362
Speech	1 500	1,000
Data reduction and analysis	1 500	1 000
office	500	326
Serological	500	362
	9,000	6,500
Service rooms	1,000	1,000
	10,000	7,500

5. Special considerations

Biochemical	Labs	1,500	office	225
Histological	Labs	1,500	office	225
clinical	Exam room ~~waiting~~	200	waiting	162
Speech	Labs	800	office	200
Data reduction	Labs	800	office	200
office	~~Secretary 200~~		chief 136 Secretary	200
Serological	Lab	500		

Labs 5,800 office 1,400

RELATION

1. Consistently Works With
1- cafy. animals, clinic

2. Frequently Works With
dermatology; in medical genetics

3. Relation to Public [illegible]
studies in speech interviewing for [illegible] taking of biologic [illegible] etc.

4. Relation to Other Health S[ciences]
with Dwight [illegible]
Patients seen with ~~oral~~ internal me[dicine]
Psychology and [illegible]

OTA HEALTH SCIENCES PROGRAM DATA FORM

IP	REQUIREMENTS
ochemistry, Electron mi... mbryology, cleft palate	1. Architectural — see reverse. A. Floors (load requirement, material, special consideration B. Walls, partitions (acoustic requirement, movable, materials, etc.) C. Ceiling (height, special considerations) D. Windows, doors (sill height, security, extent of glass, door size, etc.)
l pathology, pediatrics, nal medicine,	2. Utilities, Services A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) B. Electrical (lighting power, communications, etc.) C. Other
patients for special physiological testing, ...tic history and samples of blood	3. Major equipment — centrifuges, ultracentrifuges, [illegible] electrophoresis, scintillation counters, microtomes, electron microscope, multiple channel [illegible] recorders, oscilloscopes, amino acid analyzer, dental chair, distillation (if distilled water not available centrally) — access to dish & cage washing, animal diet preparation room, animal cages & housing and animal surgery
nce Units — Teaching and medical center ...mmatology, pediatrics and educational ...logy.	

UNIVERSITY OF MI

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UNIT Dentistry
DEPARTMENT OR DIVISION
SPACE NAME Microbiology
INFORMATION FROM Dwight L. Anderson
DATE Feb 2, 1968

DESCRIPTION

1. Function (brief description)

Research & research training in microbiology and electron microscopy

2. Program area - 1973

6,830 sq ft

3. Probable Area Requirement - 1986

12,000 sq ft

4. Space subdivision (square footage)

Research laboratories	3,460	(includes 385 ft walk-in
Staff & Student Offices	600	incubators & cold rooms)
Electron Microscopy Rooms	450	
EM prep room	300	
Wash room & media prep	500	
Assembly	375	
Instrument room	230	
Clerical	120	
Toxic materials	95	
Photo lab	200	
Storage	200	
Lockers	200	
Toilets	100	

5. Special considerations

RELATI

1. Consistently Works With

Biochemistry
Genetics
Developmental Biology

2. Frequently Works With

Physiology

3. Relation to Public

4. Relation to Other Health
Should be adjacent to
in the College of Med

HIP

ce Units
obiology and Biochemistry
Sciences

REQUIREMENTS

1. Architectural Other Side ---

   A. Floors (load requirement, material, special considerations

   B. Walls, partitions (acoustic requirement, movable, materials, etc.)

   C. Ceiling (height, special considerations)

   D. Windows, doors (sill height, security, extent of glass, door size, etc.)

2. Utilities, Services Over

   A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.)

   B. Electrical (lighting power, communications, etc.)

   C. Other

3. Major equipment

Electron microscopes & diffraction equipment
Ultracentrifuges (preparative & analytical)
Print dryers
Water stills
autoclaves
drying ovens
dishwashers
ice machine
incubator shakers (Gyrotory)
amino acid analyzer
refrigerators
deep freeze
gas chromatography
ultramicrotomes
scintillation counters
xerox machine

1. A. Floors
chemical-resistant tile (esp. solvents: acetone, ether, benzene, alcohol, etc.)
at least 2000 lbs over 4 sq ft for electron microscopes and power supply units.
other laboratory floors at least 2,500 lbs for 9 sq ft area, up to 6 of these per 300 sq ft laboratory

B. Walls
temporary or movable walls OK for all laboratories except electron microscope rooms

C. Ceiling
at least 10 ft in EM rooms (see EM specifications)

D. Windows
preferably in laboratories and offices, not in EM rooms which must be light tight.

Doors
at least 3 ft. wide (see EM specs)

2. Utilities

a. Mechanical
air conditioning, humidity control and electrostatic air filtration are required for all laboratories, instrument rooms and electron microscope facilities;
ready access to deionized and distilled water in each laboratory, preferrably from a central supply in the school;
each large laboratory has two large sinks, one at each end, drains acid proof
all laboratories must be equipped with fume hoods, gas, vacuum, and compressed air;

b. Electrical
all laboratories 110 and 220 v power, 1-110v outlet per 1½ ft lab bench
6-220v outlets per large laboratory (scattered)
adequate overhead lighting
nice to have intercom system for all rooms

c. Other

Walk-in cold rooms	25°C to 0°C
Walk-in incubators	25 C to 60 C
Walk-in freezer	0 C to -20 C

ELECTRON MICROSCOPES

no vibration producing equipment or strong electromagnetic fields (elevators, compressors, generators, etc.) should be near the EM facilities. The effects of automotive traffic in producing vibrations should also be considered. See also installation requirements.

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UNIVERSITY OF MIN[illegible]

UNIT Dentistry
DEPARTMENT OR DIVISION Oral Pathology
SPACE NAME
INFORMATION FROM R. Gorlin + R. Vickers
DATE 18 Jan 68

DESCRIPTION	RELATION

1. Function (brief description)

A. Teaching - Undergraduate
(a) Dental students
(b) Dental Hygienists
graduate
4-6 students

B. Research

C. Service - Consultation for Dental, Medical Center, Public.

2. Program area - 1973

3400 sq ft

Probable Area Requirement - 1986

4000 sq ft

3. Space subdivision (square footage)

Faculty off space - 500
student + Cler off - 600
Research - 600
Teach Lab/[illegible] - 1000 <
[illegible] Quar - 200
Toilets - 40
Seminar Rm 80 SEMINAR ROOM ?
Waiting - 100
Locker LOCKER - 40
Storage STORAGE 50
[illegible] - 200

Special considerations

Be sure to have lab space for undergrads big enough for ~~all~~ whole class

1. Consistently Works With

Oral Surgery

2. Frequently Works With

Pedodontics
Dermatology
Radiology
Int Medicine
Genetics
Pedodontia

3. Relation to Public

Consultative

4. Relation to Other Health Sc[illegible]

ENT.

RECEIVED
ST. PAUL
FEB 5 1968
HAMMEL, GREEN AND ABRAHAMSON, INC.

COTA HEALTH SCIENCES PROGRAM DATA FORM

IIP	REQUIREMENTS
	1. Architectural A. Floors (load requirement, material, special considerations B. Walls, partitions (acoustic requirement, movable, materials, etc.) C. Ceiling (height, special considerations) D. Windows, doors (sill height, security, extent of glass, door size, etc.)
dental School	2. Utilities, Services A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) hood, yes! B. Electrical (lighting power, communications, etc.) C. Other
medical School.	3. Major equipment
Units	

I

UNIVERSITY OF M

(Program) DEPARTMENT OR DIVISION: School of Dentistry
UNIT: Basic Research
SPACE NAME: Physiology
INFORMATION FROM: Maurice W. Meyer
DATE: January 31, 1968

DESCRIPTION

1. Function (brief description) Perform basic physiologic research, much of which may be applied in dental and some medical clinical fields

2. Program area - 1973 2900 ft^2

3. Probable Area Requirement - 1986
5200 ft^2

4. Space subdivision (square footage)

5. Special considerations

a. If multi-level building, then research (basic) area should be in the upper level to provide ease for further expansion.

b. Consider need for common reading (library) area , a specialsconference room(s) for the subdivisions in the basic research program (area). May be each subdivision will relinquish some portion of their assigned space for this purpose.

c. Major animal quarters should be in the basement and requires easy access for delivery by suppliers (away from patient entrance) and special elevator for transporting animals to the research area.

RELA

1. [redacted] PROJECTED RELATIONS dependent upon in subdivisions)

1. Other Basic Res
   a. Biochemist
   b. Biostatist
   c. Genetics
   d. Microbiolo

2. Clinical Resea
   a. Oral Diagn
   b. Oral Physi
   c. Oral Path
   d. Oral Surge
   e. Orthodonti
   f. Pedodontic
   g. Prosthodon
   h. Restorativ

2. [redacted]

3. Relation to Public

For basic Research

4. Relation to Other Hea

Departments of Medi

1. Physiology
2. Surgery
3. Neurology
4. Laboratory Me
5. Biomedical D

SOTA HEALTH SCIENCES PROGRAM DATA FORM

HIP

e amount of time or degree
s of individuals in other

reas

as

istry and Dental Materials

mal

lenco Units CURRENT AND PROJECTED

chool

ocessing

REQUIREMENTS

1. Architectural

A. Floors (load requirement, material, special considerations) Perhaps special load and vibrational requirements for the floor in photomicrography laboratory

B. Walls, partitions (acoustic requirement, movable, materials, etc.) Special area for storage of radioactive wastes to minimize health hazard.

C. Ceiling (height, special considerations) none at this time

D. Windows, doors (sill height, security, extent of glass, door size, etc.) no special considerations at this time

2. Utilities, Services

A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) Air conditioning, each laboratory equipped with hood, floor drains in each laboratory, distilled water supply

B. Electrical (lighting power, communications, etc.) intercom system, communications to Biomedical Computer Center, adequate electrical, gas and air outlets

C. Other

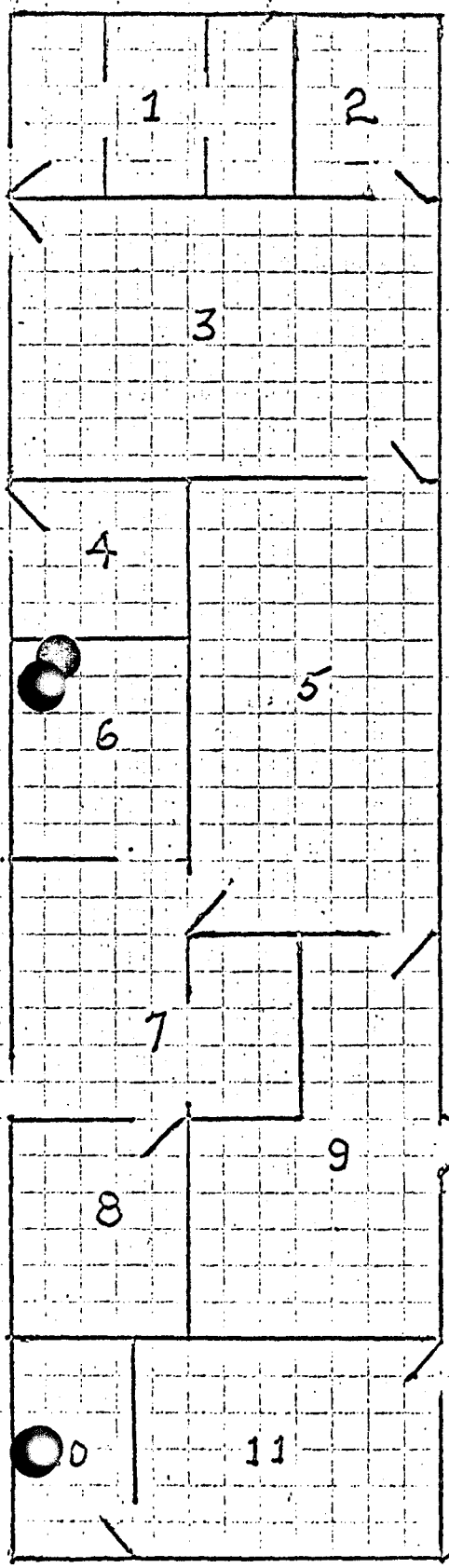
3. Major equipment

Usual lab benchs, shelves and cabinets for the labs; equipment for autoradiography and photography dark rooms Special storage space for certain chemical materials.

SEE SCHEMATIC FLOOR PLAN

SCHEMATIC FLOOR PLAN
for
Physiologic Research

Scale: 0.4 ft/mm



Room Number		Approximate Area (ft^2)
1.	Students or assistances	160
2.	Storage	80
3.	Laboratory #1	360
4.	Storage or Office	80
5.	Laboratory #2	350
6.	Office	120
7.	Clericall and Data Computation Room	200
8.	Office	120
9.	Electronic Lab and Shop	240
10.	Autoradiographic Dark Room	80
11.	Isotopic Counting Room	200
12.	Laboratory #3	480
13.	Dark Room	100
14.	Photomicrography Room	240
	Animal Quarters at another location	90
	Total Area	2900 ft^2 ~~3610~~ ~~3620~~ 2900

UNIVERSITY OF M

UNI
DEPARTMENT OR DIVISIO
SPACE NAM
INFORMATION FRO
DAT

Univ. of Minn. School of
Division of Human Ecol
Dr. L. A. Merrion
February 5, 1968

DESCRIPTION

1. Function (brief description)

Offices for Division of Human Ecology Staff and clerical staff
Reception area
Data reduction area for research and study projects and their review and storage
Assembly and conference combination area large enough

2. Program area - 1973 6559

See attached plan

Probable Area Requirement - 1986

Same as #2

4. Space subdivision (square footage)

See attached floor plan

5. Special considerations

Non-bearing and moveable partition and walls wherever possible to allow flexibility of space and space change requirements at maximum.

RELAT

1. Consistently Works Wit

All administrati

2. Frequently Works With

Students most fr
(No regular clini

3. Relation to Public

Indirect except d
examination and i

4. Relation to Other Hea

Not affected by r

ESOTA HEALTH SCIENCES PROGRAM DATA FORM

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tudies involving direct
ew of subjects.

onco Units

e proximity of work areas

REQUIREMENTS

1. Architectural

   A. Floors (load requirement, material, special considerati
      No special floors

   B. Walls, partitions (acoustic requirement, movable, materials, etc.) Moveable walls

   C. Ceiling (height, special considerations)
      No special requirements

   D. Windows, doors (sill height, security, extent of glass, door size, etc.) Outside wall with windows preferred, but no special requirements as to size or sill height

2. Utilities, Services

   A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) Standard heating, ventilating, and air conditioning requirements for entire space.

   B. Electrical (lighting power, communications, etc.)
      Phones for all offices and Data Reduction area, flush strip lighting to facilitate partition flexib

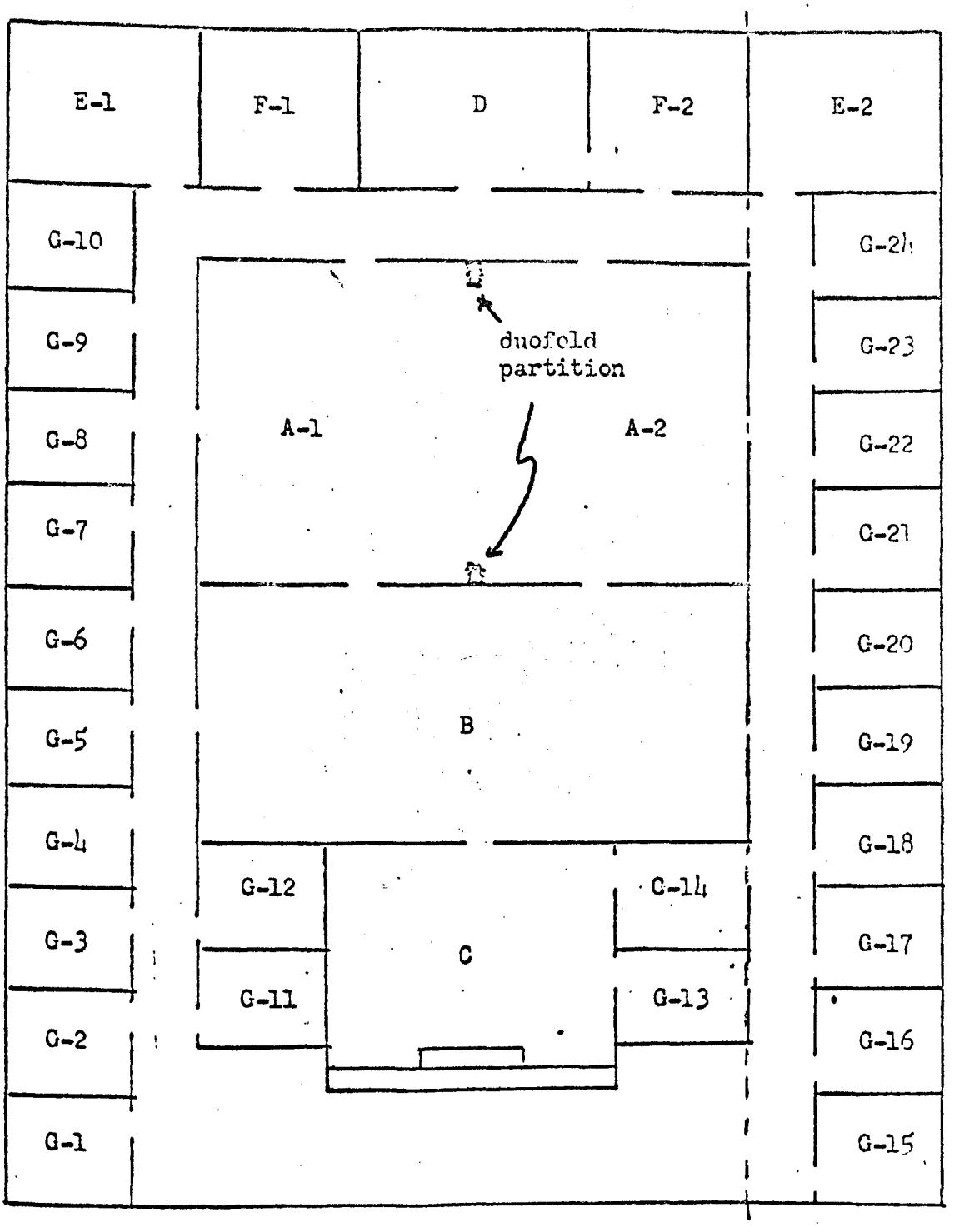
   C. Other
      Blackboards and projection screens in conference-assembly and Data Reduction areas

3. Major equipment

FUTURE SPACE REQUIREMENTS FOR

Human Ecology

THE DIVISION OF ~~PREVENTIVE~~ DENTISTRY



Space based upon overall dimensions of 72 feet by 90 feet Scale- 2mm/foot

The following room dimensions are approximate:

Assembly Area = A-1 + A-2		41' X 25'
Data Collection	B	41' X 20'
Reception Area	C	20' X 17'
Exec. Office	D	18' X 12'
Sect. Offices	E-1&2	15' X 12'
Offices,	F-1&2	12 X 12'
Offices or Operatory-Interview Rooms G-1 through 24		10' X 7'6"

I

UNIVERSITY OF MINN

UNIT School of Dentistry
DEPARTMENT OR DIVISION
SPACE NAME Cleft Palate Maxillo-faci
INFORMATION FROM Ralph B. Kersten, D.D.S.,
DATE January 25, 1968

DESCRIPTION

1. Function (brief description) The Clinic functions as an outpatient in three major areas:
   1. Service - Orthodontic and prosthetic treatment of cleft palate patients. Prosthetic reconstruction of maxillo-facial deformities. Clinical examination and diagnosis of cleft palate and maxillo-facial patients by the following disciplines: pediatrics, psychology, otolaryngologist, orthodontist, dentist, prosthodontist, periodontist, social service, and genetics.

Con't (over)

2. Program area - 1973

3175 square feet

3. Probable Area Requirement - 1986

,000 square feet

4. Space subdivision (square footage)

Maxillo-facial Area	
Interview room and office	180
Impression and casting room	180
Laboratory	180
Cleft Palate Treatment and Diagnosis Area	
Four operatories and offices	960
Prosthetic and orthodontic laboratory	240
Instrument room	80
Speech Area	
Two speech rooms	200
Data collection and storage	110
Genetic and Psychology Interview Room	90
Pediatric and ENT Examining Room	100
Social Service Office	100

Con't (over)

5. Special considerations

-Sound control should be built in the speech area (acoustic walls, carpet and so forth)
-Two-way mirrors should be provided between speech rooms
Conduit should be provided for closed circuit television
Special consideration should be given the need for outside lighting for the impression and casting room in the Maxillo-facial area. Interior color also should be special
-Window sills should be eliminated throughout
-Secretary area should be adjacent to the recep-

RELATION

1. Consistently Works With
   1. Orthodontic depart
   2. Dental x-ray depar
   3. Speech research de

2. Frequently Works With
   1. Prosthetic departm
   2. Pedodontic departm
   3. Oral pathology
   4. Oral surgery

3. Relation to Public

All patients are outp
in age from several m
Some of the adults ar

4. Relation to Other Health S
   1. ENT
   2. Physical Medicine
   3. Pediatrics

SOTA HEALTH SCIENCES PROGRAM DATA FORM

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NIP

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lents and they range
this to elderly adults.
not always ambulatory.

onco Units

REQUIREMENTS

1. Architectural

A. Floors (load requirement, material, special considerations
1. Floors in laboratories and operatories (over
B. Walls, partitions (acoustic requirement, movable, materials, etc.)
1. Walls in speech area should be such to (over
C. Ceiling (height, special considerations)
There are no special considerations for (over
D. Windows, doors (sill height, security, extent of glass, door size, etc.)
Attempt should be made to eliminate window (over

2. Utilities, Services

A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.)
There are no special requirements for (over
B. Electrical (lighting power, communications, etc.)
All rooms will require overhead lighting (over
C. Other

3. Major equipment

Impression and casting room, laboratories, and operatories should have sinks with laboratories requiring special laboratory sinks.

Operatories should be equipped with mobile dental units and dental chairs.

Pediatric and examining rooms should have examining table and examining chair.

DESCRIPTION

1. Function con't

2. Education - Orthodontic and prosthetic graduate students will be assigned to this clinic and will be involved in the treatment of patients, fabrication of appliances and prostheses. Undergraduate and graduate speech students will participate in examination of patients. All graduate students will obtain data from Clinic for these. In addition, direct observation, two-way mirrors and closed circuit television should be available for training of undergraduate dental students, speech correctionists, dental hygienists and assistants, and for production of television educational films for use in undergraduate, graduate and postgraduate courses.

3.

4. Space Subdivision con't

Director's Office	120
Secretary and Receptionist's Office	120
Reception Room	240
Conference Room	280

5. Special Considerations con't

-Area should be proximal to speech research department where there are sound proof facilities for testing, hearing and recording speech
-Area should be near public rest rooms since adults and patients must wait for periods of time
-Area should be easily accessible to dental x-ray area, cephalometric and cinefluorography area
-Facial laboratory should be immediately adjacent to the impression and casting room
-The prosthetic and orthodontic laboratory should be readily accessible to the operatories
-The extra-oral prosthetic laboratory and intra-oral laboratory must be separate entities

3. con't

Research - Research data will be collected and analyzed in all rooms except laboratories where investigation of material techniques will be done.

REQUI

1. Architectural

A. Floors etc. co

would require c
2. Floors in speec
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B. Walls, partitio

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2. The walls in th
room should not
determinations.
3. There are no oth
for walls in th
maintenance.

C. ceilings except
deadening.

D. Windows, doors e

sills to reduce
should be wide e
of a wheel chair

2. Utilities, Services

A. Mechanical etc.

heating. All ro
tioned. Laborat
venting. All la
and the impressi
have air, water,
instrument room

B. Electrical etc.

in addition to s
All rooms should
system and have t

TV

EMENTS

nsiderable maintenance.
and interview areas should
y would deaden sound. This
cessary in the speech area.

s etc. con't

impression and casting
adversely affect color

er special requirements
other rooms except easy

hat they should be sound

c. con't

ust collection. All doors
oug to permit easy entry

con't

ms should be air-condi-
ries should have special
oratories, operatories,
n and casting room should
vacuum and gas. The
hould be well vented.

con't

cial operatory lighting.
e connected by intercom
lephone services.

UNIVERSITY OF MIN

II

UNIT	DENTISTRY
DEPARTMENT OR DIVISION	CLINICAL
SPACE NAME	DIVISION OF ORAL DIAGNO
INFORMATION FROM	GEORGE M. YAMANE
DATE	FEBRUARY 1, 1968

DESCRIPTION

1. Function (brief description) four fold:

   1. Teaching - to teach undergraduate and graduate dental students in the art and science of diagnosis.
   2. Service - Screening, evaluating, selecting, and providing patients for all of the clinical areas of the entire dental school - admission clinic for the entire dental school.
   3. Clinical research.
   4. Administrative responsibility - Filing, storage, and up-dating of patients' charts.

2. Program area - 1973 - 8,696

Probable Area Requirement - 1986 13,274

4. Space subdivision (square footage)

For 1973 only

Oral Diagnosis Clinical area	3,062
Oral Roentgenology Clinical area	2,131
Oral Medicine Clinical area	750
Supporting Service Room (Patient reception, office area, record file, etc.)	720
Clinical Research Area	440
Office's (faculty, staff, etc.)	1,593

5. Special considerations

RELATIO

1. Consistently Works With

This division works consi of clinical dentistry.

2. Frequently Works With

Hospital Dentistry
Diagnostic Medical Labora
Neurology
Internal Medicine

3. Relation to Public

The patient's first intr and clinic is through th that comes for treatment seen in this division.

4. Relation to Other Health

In order to carry out th responsibilities, this d aid of the neurologist, radiologist, dermatologi laboratory. We are cons otolaryngologist, dermat

OTA HEALTH SCIENCES PROGRAM DATA FORM

AL MEDICINE, AND ORAL ROENTGENOLOGY

IP

y with all disciplines

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on to the dental school
ision. Every patient
e dental school will be

co Units

hing, service, and research
n frequently enlists the
l internist, phychiatrist,
d the diagnostic medical
by neurologist,
t and hospital dentistry.

REQUIREMENTS

1. Architectural

A. Floors (load requirement, material, special considerations) For easy maintenance.

B. Walls, partitions (acoustic requirement, movable, materials, etc.)Isolation of sound, x-ray shielding, and strong enough to support wall mounted x-ray units.

C. Ceiling (height, special considerations)

D. Windows, doors (sill height, security, extent of glass, door size, etc.) Oral Roentgenology and Oral Roentgenology area should be properly secured.

2. Utilities, Services

A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.)

Vacuum, air, gas, plumbing, air conditioning.

B. Electrical (lighting power, communications, Intercomm to offices, reception desk, oral diagnosis clinic, roentgenology clinic and different area of clinical disciplines.

C. Other

3. Major equipment

Dental Chairs and units
Laminagraph
Panorex
Cephalometric unit
Extra-oral roentgenographic machine - wall mounted
Intra-oral roentgenographic machines
Dark room equipment

UNIVERSITY OF MINN

II

UNIT Dentistry
DEPARTMENT OR DIVISION Division of Orthodontics
SPACE NAME Orthodontic Clinic
INFORMATION FROM Dr. Robert J. Isaacson
DATE February 1, 1968

DESCRIPTION

1. Function (brief description)

This area is responsible for producing practitioners limited to orthodontics and for improving the methods of preventing or treating orthodontic problems. This discipline is growing rapidly, doubling in size both nationally and locally in about the last six years. The area described here functions to teach patient care under optimal conditions as well as to produce new information.

2. Program area - 1973

The clinical area and supporting activities will require about 10,000 sq. ft. exclusive of areas devoted primarily to research.

3. Probable Area Requirement - 1986

Depending upon programmatic changes this area should increase by at least an additional 50%.

4. Space subdivision (square footage)

Present plans have suggested a clinic facility capable of serving 24 students, 48 auxillary personnel, and 48 dental operatories. Each operatory occupies 125 sq. ft., which equals 6,000 sq. ft.

Waiting areas	780 sq. ft.
Staff offices	1,050 sq. ft.
Laboratory	2,070 sq. ft.
Reading - seminar room	600 sq. ft.
Student cubicals	240 sq. ft.
Records storage & supporting area	1,060 sq. ft.
Total	10,000 sq. ft.

5,800
6,000
11,800

5. Special considerations

a. Special orthodontic records are bulky and fragile.

b. Most patients are adolescents.

c. Total Graduate School activity.

Treatment may run actively for two years and observation four subsequent years.

RELATIO

1. Consistently Works With

Future programs involving co necessitate working closely a comprehensive pediatric de

Frequently cooperative treat Division of Oral Surgery and

2. Frequently Works With

Intrarelated patient problem Department of Orthopedics.

Relationships should be deve activities in the hospital.

Some patients require orthod restorative procedures.

3. Relation to Public

Public demand for orthodonti This year we accepted 100 ne treatment files to over 600 patients we are unable to se for several years despite a services rendered. Third pa nificantly increase the dema

4. Relation to Other Health S

Consultations are requested units.

Research projects have been Orthopedics, Oral Surgery an science areas. Most stude which has been traditionally

SOTA HEALTH SCIENCES PROGRAM DATA FORM

HIP

ehensive patient care and
h and deriving patients from
stry clinic.
ts are performed with the
e Maxillofacial Clinic.

ave been studied with the

ed with child development

ic care prior to comprehensive

is strong and growing stronger.
atients, bringing our active
ients. We also examine 13,000
. This 13:1 ratio has existed
eral fold increase in area
payment programs must sig-
for orthodontic services.

nco Units

a wide variety of other clinical

peratively undertaken with
any of the basic medical
i r area minor in Anatomy
r closest tie.

REQUIREMENTS

1. Architectural

SEE BACK OF THIS PAGE

A. Floors (load requirement, material, special considerations

B. Walls, partitions (acoustic requirement, movable, materials, etc.)

C. Ceiling (height, special considerations)

D. Windows, doors (sill height, security, extent of glass, door size, etc.)

2. Utilities, Services

SEE BACK OF THIS PAGE

A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.)

B. Electrical (lighting power, communications, etc.)

C. Other

3. Major equipment

Routine clinical activities require dental chairs and units
Research area associated with the clinic involves x-ray equipment and access to shielded rooms.

ARCHITECTURAL

A. Floors--No special load should not be randomly designed in order to avoid adequate housecleaning, i.e., not show the dirt. This factor of design makes it very difficult to recover miniature objects which may be dropped. I strongly recommend low nap carpeting as quieter, cleaner, and cheaper, as demonstrated by most private offices.

B. Require only sufficient strength to hang cabinets, etc.

C. Ceiling--No special considerations. Suggest lighted ceilings.

D. Windows--Prefer all windows sealed with thermostatic temperature control for adequate cleanliness.

2. UTILITIES, SERVICES

A. Mechanical--Complete central heating and air conditioning. Usual plumbing for dental units, sinks, etc.

B. Electrical--220 lines for computer hook-up, x-ray equipment, etc. are necessary. Adequate interdepartment communication system.

C. Other--

II

UNIVERSITY OF MIN

UNIT School of Dentistry

DEPARTMENT OR DIVISION Oral Surgery

SPACE NAME Clinical

INFORMATION FROM D. E. Waite

DATE January 18, 1968

DESCRIPTION

1. Function (brief description)

Surgical care of patients. Teaching undergraduate and graduate students surgical technic. Local and general anesthesia must be provided. Waiting room and traffic patterns are very important. Demonstration surgery unit necessary

2. Program area - 1973 5590

3. Probable Area Requirement - 1985

Increase 15%

4. Space subdivision (square footage) 8160 sq. ft.

Demonstration surgery area	500 sq. ft.
Undergraduate student area	2500
Staff offices; secretary	1000 " "
Clinical research area	500 " "
Recovery rooms (4)	200 " "
Central sterilization	500
Waiting room area	500 " "
	5700

5. Special considerations

Traffic pattern - Contaminated and uncontaminated.
Central Sterilization room - Plumbing for anesthetic gases, oxygen and suction.
Air-conditioning. Lead room for X-ray.
Demonstration rooms with gallery.
Electrical cautery unit - special grounding.

RELATIO

1. Consistently Works With

Oral Diagnosis
Orthodontics
Prosthodontics
Pedodontics
ORAL PATH

2. Frequently Works With

General surgery (Hospital)

General x-ray (Hospital)

3. Relation to Public

Waiting room

Considerable patient traffic

4. Relation to Other Health Sc

Hospital
Hospital dental department
Ear, Nose, & Throat
Student Health Service

SOTA HEALTH SCIENCES PROGRAM DATA FORM

HIP

ico Units

REQUIREMENTS

1. Architectural X-ray unit, dental chairs, & autoclave

   A. Floors (load requirement, material, special consideration Good acoustics, some walls moveable, stub walls
   B. Walls, partitions (acoustic requirement, movable, materials, etc.)

   C. Ceiling (height, special considerations) Operating lights from ceiling, head light connections
   D. Windows, doors (sill height, security, extent of glass, door size, etc.)

   Door width for wheel chair and carts

2. Utilities, Services

   A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) Air conditioning - plumbing.

   B. Electrical (lighting power, communications, etc.) Communication to each surgery area
   C. Other

3. Major equipment

   Research equipment
   Chairs (operating table) type
   Anesthesia machine
   Refrigerator
   Autoclaves
   Television or video tape equipment

II

UNIVERSITY OF MI

UNIT School of Den
DEPARTMENT OR DIVISION Pediatric Denti
SPACE NAME CLINICAL
INFORMATION FROM Rosenblum
DATE 1-22-68

DESCRIPTION	RELAT

1. Function (brief description)
   1. CLINICAL teaching of UNDERGRAD. PEDIATRIC dentistry.
   2. CLINICAL teaching of grad. pediatric dentistry
   3. CLINICAL RESEARCH IN Pediatric Dent.
   4. Implementation of INTRA-MURAL STAFF PRACTICE.

2. Program area - 1973 13,500 sq. ft.

3. Probable Area Requirement - 1986 18,700 sq. ft.

4. Space subdivision (square footage)
   * REFER to enclosed DESCRIPTION

5. Special considerations

1. Consistently Works Wit
   1. ORthodontics
   2. ORAL SURGERY

2. Frequently Works With
   MAXILLO FACIA
   DENTAL HYGIEN

3. Relation to Public
   Patient load
   a. per day 55
   b. 20 days/mo
   total for year
   7300 vis
   1400 de
   - variable

4. Relation to Other Heal
   PEDIATRIC ME
   CHILD REHABIL
   OPERATING ROO

(grad. & undergrad)

REQUIREMENTS

1. Architectural

A. Floors (load requirement, material, special considerations

B. Walls, partitions (acoustic requirement, movable, materials, etc.)

C. Ceiling (height, special considerations)

D. Windows, doors (sill height, security, extent of glass, door size, etc.)

2. Utilities, Services

A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.)

B. Electrical (lighting power, communications, etc.)

C. Other

3. Major equipment

1) one XRAY
2) APPROX. 47 UNITS (DENTAL)

...uate student
...pointment
...ent / day

...ined
...appointment
...student

... Units

II.

POSTGRADUATE

UNIVERSITY OF MIN

UNIT School of Dentistry
DEPARTMENT OR DIVISION Continuing Dental E
SPACE NAME
INFORMATION FROM Jerovimus
DATE Jan 19, 1968

DESCRIPTION	RELATIC
1. Function (brief description) To provide practicing dentists short courses in various dental disciplines to permit them to remain current in their profession. Conference room for lectures, Clinical area for application, demonstration, laboratory procedures, and office space.	1. Consistently Works With
2. Program area - 1973 3000 sq. ft. net.	2. Frequently Works With personnel
3. Probable Area Requirement - 1985 x 4 ? legislation may require mandatory attendance.	
4. Space subdivision (square footage) 875 ft² conference room 1600 ft² clinic & lab 525 office, storage, corridor 3000	3. Relation to Public Cen for practicing den
5. Special considerations May be used intermittently by other departments for demonstrations or graduate students.	4. Relation to Other Health

SOTA HEALTH SCIENCES PROGRAM DATA FORM

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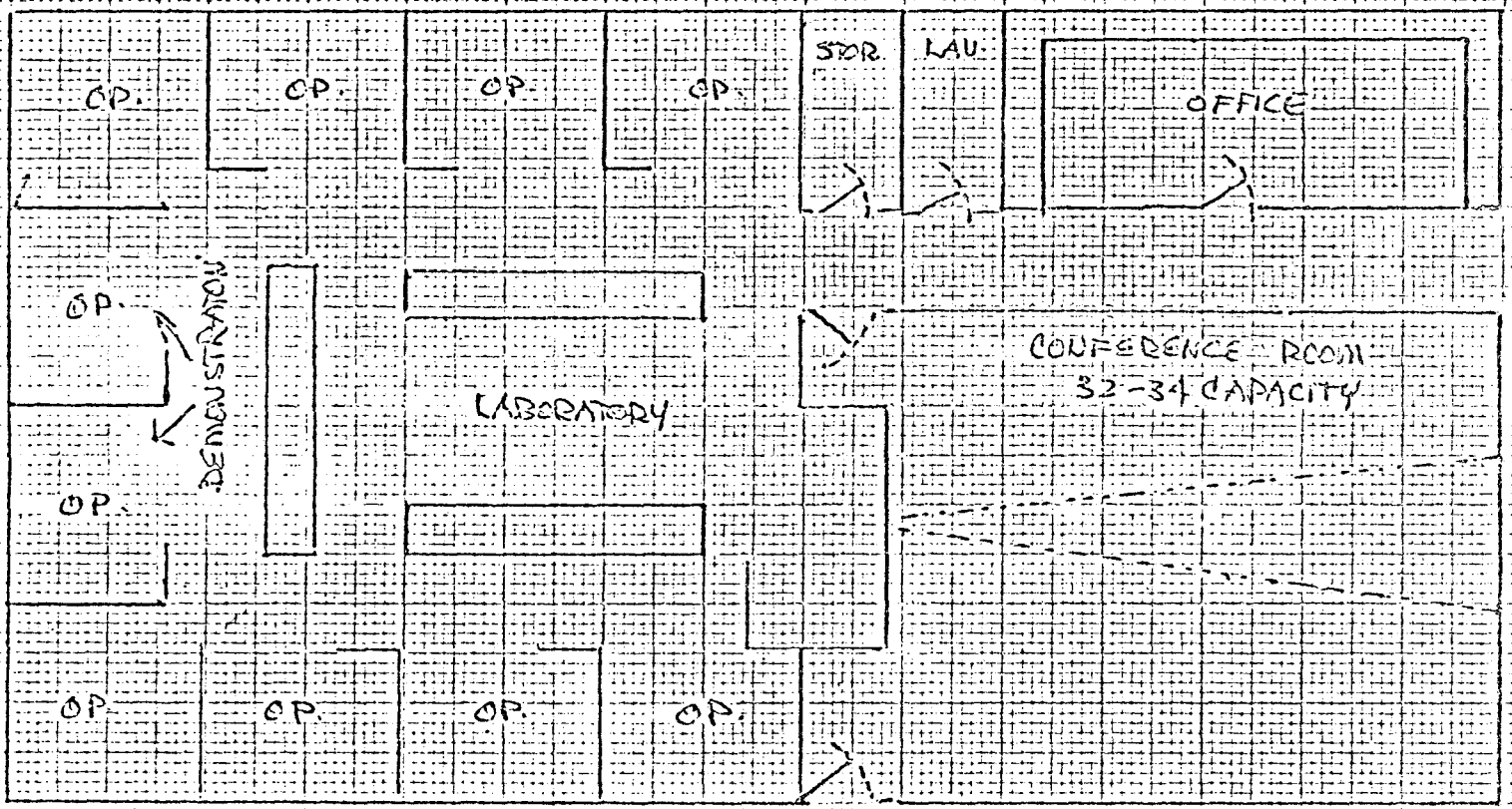
HIP	REQUIREMENTS
major clinical disciplines	1. Architectural A. Floors (load requirement, material, special consideration. ~~etc~~ Dental and laboratory equipment B. Walls, partitions (acoustic requirement, movable, materials, etc.) acoustic ceilings & partitions C. Ceiling (height, special considerations) normal. D. Windows, doors (sill height, security, extent of glass, door size, etc.) Doors to accommodate rolling litter and wheel chair
lary and ancillary	2. Utilities, Services A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) as per requirements. B. Electrical (lighting power, communications, etc.) normal for clinical set up - C. Other
ing education series ts.	3. Major equipment 10 Dental operatories (chairs, units, etc) 1 complete dental laboratory a. Plaster b. Investing c. Burnout d. Casting e. Processing f. Sterilizing, etc.
nce Units	



Post Graduate Clinic 3000 Sq ft.

R.D. JERQUINUS

UNIVERSITY OF MIN

UNIT School of Dentistry
DEPARTMENT OR DIVISION Clinical & Pre-Clinical
SPACE NAME CROWN & BRIDGE CLINIC &
INFORMATION FROM Dr. Douglas H. Yock
DATE February 1, 1968

DESCRIPTION

1. Function (brief description) Pre Clinical technic laboratory and clinical Fixed Crown and Bridge instruction & research to undergraduate, graduate and post-graduate dental students. This requires:
   (1) Cr. & Br. undergrad. clinic area. (4,200 sq.ft. (currently used by Jrs. & Srs.)
   (2) Clinical Cr. & Br. Dent. Technician's Lab. (800 sq. ft.) (or combined divisional restorative joint Lab. ____P____ sq. ft.).
   (3) Cr. & Br. student Clinic Lab. and work-bench facilities (1500 sq. ft.) (or combined Div. Rest. student-clinic Lab. (5,000 sq. ft.) See #4 below for continuation..

2. Program area - 1973

Clinic	Technic
65,000	20,000

3. Probable Area Requirement - 1986

Clinic	Technic
90,950	30,600

4. Space subdivision (square footage)
   (4) Pre-clinical Tech. Cr. & Br. Lab. facilities (5000 sq. ft.) (Used by several Divisions) (to include office & technician's space)
   (5) Cr. & Br. Grad. Students' clinic & Lab. (500 sq. ft.) (may be in comb. Div. Area ____P____ sq. ft.)
   (6) Cr. & Br. Grad. students study-office Area. (400 sq. ft.) (or comb. Div. Area (____P____ sq.ft.)
   (7) Cr. & Br. Adm. Staff offices with space allocated for a Divisional Secretary and a small clinical research lab. (1400 sq. ft.)
   (8) Post-Grad. refresher course clinic & Lab. (2000 sq. ft.) - (Combined Divisional area)
   (9) Cr. & Br. Seminar Conference Room (350 sq. ft.) (combined divisional)
   *(10) Cr. & Br. Intra-Mural Faculty Practice Facilities (360 sq. ft.) See below for continuation.....

5. Special considerations
   Flexibility of Partitions. False floor plumbing: (air - water - electricity - gas - evacuating system)

(10) Cont'd. (includes student-clinic demonstration room) (combined intra-mural Faculty Practice area) 1500 sq. ft.)
(11) Dental Library-reading room (1200 sq. ft.)

* Note: Areas numbered 1,5,8, and 10, will require ____ sq. ft. for patient reception, sterilization, x-ray, and secretary and assistants' supply depots.

RELATIO

1. Consistently Works With
   Part of Prosthetic Di

2. Frequently Works With P
   Division and Endodon

   Occasionally works wi
   and Oral Surgery Divi

3. Relation to Public Eac
   the Crown and Bridge
   emergency treatment
   bridge reconstructio

4. Relation to Other Health
   Not significantly re

RECEIVED
FEB 5 1968

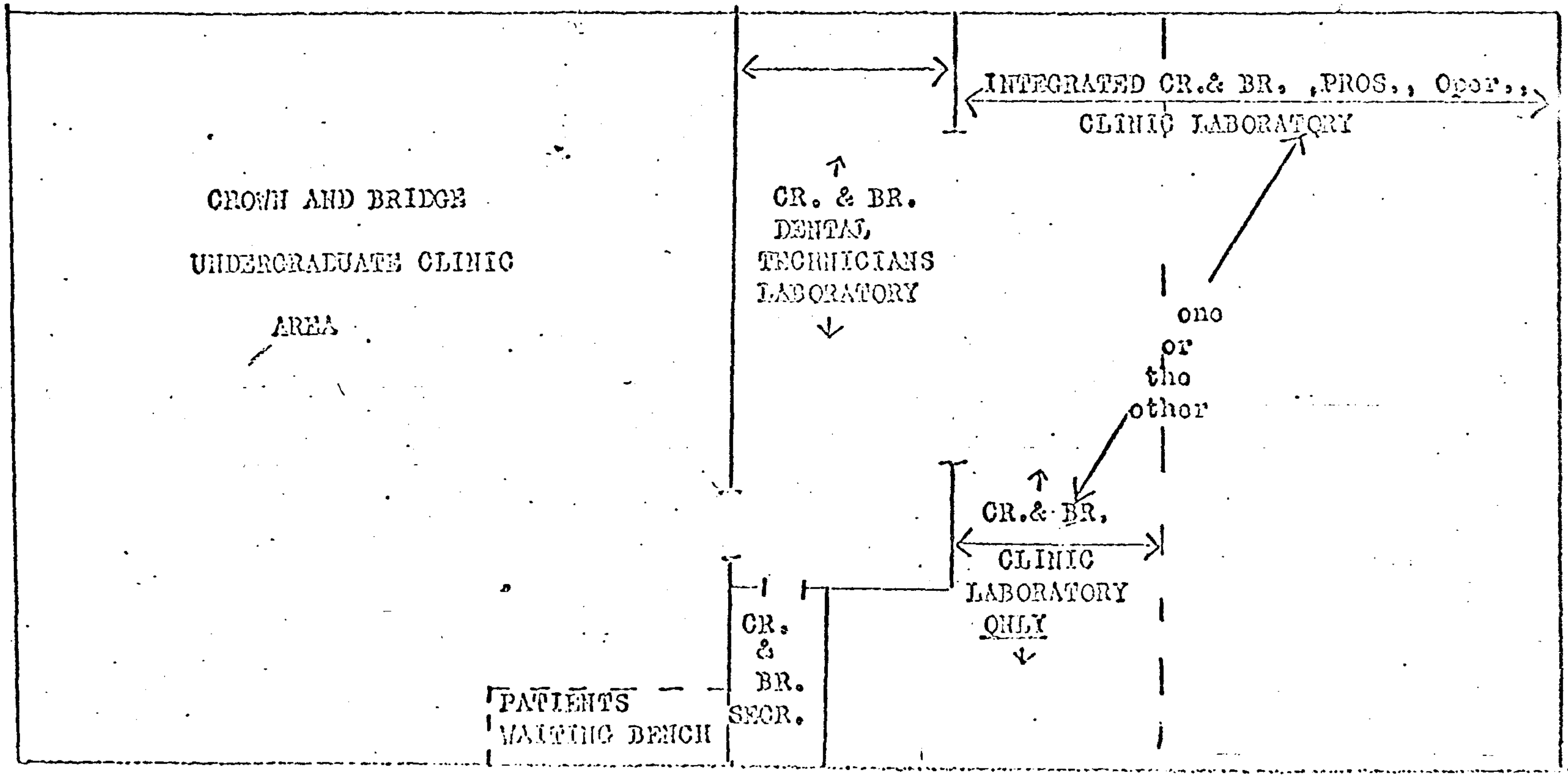
OTA HEALTH SCIENCES PROGRAM DATA FORM

ERIDGE
LABORATORIES

IP	REQUIREMENTS
vable Partial Denture on.	1. Architectural A. Floors (load requirement, material, special considerations) 1: Support dental unit & chair-patients & personnel 2: Sub-floor all inclusive plumbing of all utilities B. Walls, partitions (acoustic requirement, movable, materials, etc.) Flexibility desired. Partial walls for isolation of individual clinic unit areas. C. Ceiling (height, special considerations) accoustical tile for air turbine handpiece noise level control. D. Windows, doors (sill height, security, extent of glass, door size, etc.) Good artificial light necessary.
ontia Division, Operative rthodontia, Pedodontia s.	2. Utilities, Services A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) Total air conditioning important. Adequate ventilation in labs important (see ***) B. Electrical (lighting power, communications, etc.) Television & intercom system. C. Other
y 70 plus patients come to nic area for diagnosis, restorative dental fixed	3. Major equipment Adequate compressors and filtered, dry air lines. Evacuating system.
nce Units d.	***where gas bunsen burners and acid hoods are used. False floor, (removable floor block sections advisable) to contain all plumbing.

Item
3

Crown and Bridge Undergraduate Clinic and Related Facilities.***************



Elaboration of information relative to items (space requests) listed under "Description Column" of the University of Minnesota Health Sciences, Program Date Form. - Dr. Douglas H. Yock 2-1-1968

1. Crown and Bridge Undergraduate Clinic Area.

Using the figure of 80 square feet per semi-private operatory, the following total square footage would be needed.

150	students
4,800	sq. feet

This includes space for a Crown and Bridge appointment secretary, and waiting room benches for patients.

2. Clinical Crown and Bridge Dental Technician's Laboratory.

Immediately adjacent to the clinic area there should be a Crown and Bridge dental technician's laboratory.

	students
800	lab. technicians
	sq. feet

This dental technician's laboratory area should be located so that a student or assistant can walk but a short distance and through a window-like opening, deliver to the technician a prescription for an impression to be poured, a bridge to be soldered, etc., and receive necessary supplies and the completed technician's work. Combined Divisional restorative Joint lab. — F sq. ft

3. Crown and Bridge Student-Clinic Laboratory.

Adjacent to the technician's work room area should be the students clinic laboratory and work bench facilities. The part of the technician's area facing this student clinic laboratory should be quite open, so that the senior technician is more or less in charge of the conduct and activities of the students in the clinic laboratory area.

If this clinic laboratory area is to be strictly a crown and bridge laboratory because the vertical form of the proposed dental building does not allow space sufficient for an integrated Prosthetics, Crown and Bridge, Operative clinic dental laboratory area (which would be desirable in this spot), the number of bench spaces would not have to be many in number.

		students
Cr. & Br. Clinic Laboratory only	1500	sq. feet
Integrated Cr. & Br., Prost., & Oper. Laboratory	5,000?	sq. feet

4. Pre-Clinical Technic Crown and Bridge Laboratory Facilities.

There is little question in my mind but that a bench and laboratory facility will be needed to teach crown and bridge pre-clinical laboratory technic, and as far as I can foretell, this will be taught in the sophomore year of undergraduate training. I am sure this facility will continue to be an integrated facility with several divisions using it. It should be so constructed as to be devoid of supporting posts,--an open area! The casting, cast pouring laboratory room, of course, would be semi-enclosed. Office space for a technician and perhaps, one or two offices for the technic faculty should be included. A locker room and lounge area for the students should also be included in the space allocation.

150 students
5,000 sq. feet plus locker & lounge area

5. Crown and Bridge Graduate Students Clinic and Laboratory.

Two, four chair clinics or four, two chair clinic units should meet the clinic space requirements for crown and bridge graduate student clinical activities. Again, these should be adjacent to the undergraduate Crown and Bridge Clinic facilities if at all possible spacewise.

Cr. & Br. Graduate Students Clinic 500 sq. feet

Integrated Cr. & Br., Pros., Oper., Perio. graduate Clinic facilities ? sq. feet

6. Crown and Bridge Graduate Student's Study-Office Area.

The graduate students should have a "home base", a relatively small allocation of space where they can have a small study desk and a small locker. Sixty plus square feet of space for each graduate student would suffice. Crown and bridge anticipates from two to six graduate students in its discipline so that four hundred square feet would be the maximum needed. If possible, this facility would be advantageiously placed if it were close to the reading room. This may want to be combined with other Divisions' graduate student, study-office areas. → ? sq. ft.

7. Crown and Bridge Administrative Staff Offices with Space Allocated for a Divisional Secretary and a Small Clinical Research Laboratory.

Administrative Offices:

a. A private office should be provided for the Chairman and private secretary of the Crown and Bridge Division. Estimate 400 square feet.

b. Office space for the other full-time teachers in the Crown and Bridge Division should be included in space requirements, including a small clinical research laboratory.

students
1400 full-time teachers
sq. feet

These offices could be combined in order that several full-time teachers could actually office in the same area with partial desk isolation.

8. Post Graduate Refresher Course Clinic and Laboratory. (Combined Divisional-)

This should be similar in design and space to Doctor Jensen's High-Speed Clinic on the first floor of Owre-Jackson Hall. I would recommend expanding this facility to 20 units. It would be used by the several divisions of our School of Dentistry. (2000 sq. ft.)

9. Crown and Bridge Seminar Conference Room. (Combined Divisional)

Undoubtedly this will be integrated with perhaps, the divisions of operative and prosthetics. I am quite sure these divisions would keep such a room scheduled throughout the week. This would be a room similar in size to 239 Owre. Perhaps it could be just a little larger in square footage, say in the neighborhood of 350 square feet.

10. Crown and Bridge Intra-Mural Faculty Practice Facilities. (Includes student-clinic demonstration room.)

A most important facility which should be included in the space allocation for a new dental building is that of providing for office space for a controlled limited private practice of dentistry by our full-time staff. These should be private offices, yet physically closely associated. X-ray facilities should be close at hand and a small dental laboratory should be included, as well as, a small area for the appointment secretary, who could be the coordinator for this program. The Crown and Bridge Division would require at a minimum three such offices, one of which would be used for the most part as a demonstration room for small undergraduate student group clinics such as are now being done in Owre, Room 305. These rooms would undoubtedly also be used more extensively for an expanded "consultation program" to help practicing dentists who refer patients to us for diagnosis and treatment planning. This activity has been growing. Each office should have a minimum of one hundred and twenty square feet, or three hundred and sixty square feet minimum for the Crown and Bridge Division. Combined with other divisional areas this could be as large as 1500 square feet.

11. Dental Library Reading Room.

A reading room (dental library) similar in size to our present facility is a must! (1200 sq. ft.)

II

UNIVERSITY OF MIN

UNIT SCHOOL OF DENTISTRY
DEPARTMENT OR DIVISION CLINICAL AND PRECLINICAL
SPACE NAME DENTAL CLINICS
INFORMATION FROM JAMES R. JENSEN, D.D.S.
DATE FEBRUARY 1, 1968

DESCRIPTION

1. Function (brief description)
   a. Pre Clinical Laboratories will be in Dr. Hall's report.
   b. Clinical area combined with Prosthetics, Periodontics, Crown and Bridge and Dental Hygiene
   c. Function (1) Practice of dentistry involving operative dentistry, endodontics and above listed disciplines for undergraduate students; (2) clinical research; (3) intramural practice for faculty; (4) Administrative offices.

2. Program area - 1973
   69,110
   65,110 Total for above disciplines.

3. Probable Area Requirement - 1986
   90,950

4. Space subdivision (square footage)

A. Student operatories	30,000
B. Waiting room area	4,000
C. Laboratory (s)	3,750
D. Sterilizing, Supply centers	2,500
E. Administrative office, staff and Civil Service	6,800
F. Intramural practice	6,000
G. Graduate Student study areas and operatories	4,600
H. Staff Research Areas	7,460
I. Demonstration Rooms	2,000
J. Xray and Developing rooms	2,000

5. Special considerations
   Utilities must be flexible on clinic areas.

RELATIO

1. Consistently Works With
   Periodontics
   Crown and Bridge
   Oral Diagnosis
   Dental Hygiene
   Dental Assisting

2. Frequently Works With
   Prosthodontics
   Oral Surgery

3. Relation to Public
   It is anticipated tha operatories will be c daily.

4. Relation to Other Health
   Nothing significant.

RATIVE DENTISTRY AND ENDODONTICS

IIP	REQUIREMENTS
	1. Architectural A. Floors (load requirement, material, special considerations Adequate for equipment. B. Walls, partitions (acoustic requirement, movable, materials, etc.) Lead lined in Xray areas. C. Ceiling (height, special considerations) No special consideration. D. Windows, doors (sill height, security, extent of glass, door size, etc.) Security at all entrances, and especially in supply areas and demonstration rooms. 2. Utilities, Services A. Mechanical (heating, ventilating, (air conditioning,) plumbing, etc.) Air adequate for 300 units at 60 lbs.at the uni electricity, water, gas. B. Electrical (lighting power, communications, etc.) C. Other Traps in laboratory sinks. Acid hoods in Laboratories. 3. Major equipment Dental chairs and units, Xray machines. Design of areas must bear in mind maintenance and cleanliness.
;ach of the three hundred ıpied three or more times	
ɔnce Units	

II CLINIC

UNIVERSITY OF MIN

UNIT Dentistry
DEPARTMENT OR DIVISION Periodontics
SPACE NAME Clinic
INFORMATION FROM Richard E. Stallard
DATE January 19, 1968

DESCRIPTION

1. Function (brief description)

Undergraduate clinical training in the field of periodontology.

2. Program area - 1973 Equivalent of one individual clinic area as described in report by James R. Jensen to M.R. Holland, September 26, 1966 (6,000 sq. ft.).

Probable Area Requirement - 1986 With anticipated increase in enrollment and emphasis on periodontology the equivalent of 2 individual clinics will be necessary (12,000 sq. ft.)

4. Space subdivision (square footage)

30 operatories	3000 sq. ft.
xray chair and darkroom	150 " "
8 demonstration-surgery rooms	1800 " "
* Graduate Student Study Area	350 " "
* Clinical Laboratory	500 " "
* Divisional Office	200 " "
	6000 sq. ft.

5. Special considerations
It is my expressed hope that by the year 1973, periodontology will be integrated with restorative dentistry. In this way the true essence of Total Patient Care can be carried out with the students performing the clinical aspects of periodontology throughout the entire clinical facilities.

*Consistent with the present discussions and administrative decisions regarding future resea it appears imperative that office and research space be provided in the clinical area for the

RELATI

1. Consistently Works With

2. Frequently Works With

3. Relation to Public
It is anticipated with t Comprehensive Dental represent the first pat

4. Relation to Other Healt

FEB 5 1968

HIP	REQUIREMENTS
Endodontics Prosthetics (removable) Crown and Bridge	**1.** Architectural **A.** Floors (load requirement, material, special consideration Adequate to prevent personnel and equipment from falling throug **B.** Walls, partitions (acoustic requirement, movable, materials, etc.) Smooth surface, preferably tile. **C.** Ceiling (height, special considerations) Height dependent upon type of lighting and ventilation. **D.** Windows, doors (sill height, security, extent of glass, door size, etc.) At lease one door and adequate windows for ventilation if not air conditioned.
Operative Oral Surgery	**2.** Utilities, Services **A.** Mechanical (heating, ventilating, air conditioning, plumbing, etc.) Yes **B.** Electrical (lighting power, communications, etc.) Yes **C.** Other Wall suction or central aspiration at each unit.
ther development of that periodontics may ontact in the dental school.	**3.** Major equipment 30 dental units and chairs 1 xray machine 2 autoclaves 5 Cavitron Units
nce Units Hospital - Surgery - ENT	
cilities and activities, ion of Periodontics.	

CLINIC

UNIVERSITY OF MINN

UNIT School of Dentistry

DEPARTMENT OR DIVISION

SPACE NAME Removable Prosthodontics

INFORMATION FROM A. T. Morstad, D.D.S., M.S., P

DATE January 25, 1968

DESCRIPTION

. Function (brief description)

Diagnosis, treatment planning, and construction of removable prosthesis.

2. Program area - 1973

9,900 square feet

Probable Area Requirement - 1986

14,000 square feet

4. Space subdivision (square footage)

Clinical Space	7,500 sq. ft.	) can be used jointly with
Laboratory	800 "	) Crown and Bridge
Consultation Rooms	300 "	
Special Prosthetics	400 "	
Staff Offices	900 "	
Total	9,900 sq. ft.	

5. Special considerations

One of the consultation rooms should be shielded for use with Cephalostat and X-ray.

The special prosthetics rooms should be soundproof for work with difficult patients.

RELATION

1. Consistently Works With

A. Crown and Bridge

B. Periodontics (for Parti

2. Frequently Works With

A. Oral Surgery
B. Operative Dentistry
C. Endodontics
D. Oral Diagnosis

3. Relation to Public

Close to public access. T approximately two per stud 75 students per half day, a seen per half day.

4. Relation to Other Health S

As close to internal medic We are working with older

ssor & Chairman, Prosthodontics

IP	REQUIREMENTS
Denture Prosthesis)	**1. Architectural** A. Floors (load requirement, material, special considerations) Should be of type easiest to keep clean. B. Walls, partitions (acoustic requirement, movable, materials, etc.) Shielded room for X-ray and Cephalostat. C. Ceiling (height, special considerations) For good lighting and ventilation. D. Windows, doors (sill height, security, extent of glass, door size, etc.) In special prosthetics rooms, doors should be wide enough to receive any special equipment. **2. Utilities, Services** A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) Air conditioning is mandatory for all clinical and office areas. B. Electrical (lighting power, communications, etc.) Best that can be arranged, including extensive windows to C. admit natural light for consideration of Esthetics in restoration of patients. **3. Major equipment** Equipment of operatories can be of same type used in operatories for Crown and Bridge and Operative Dentistry.
low of patients is per half day. Based on 150 patients would be	
ice Units and E.N.T. as possible. le.	

III.

UNIVERSITY OF MINN

UNIT School of Dentistry
DEPARTMENT OR DIVISION Preclinical Facilities(
SPACE NAME Freshman and Sophomore Laborat
INFORMATION FROM A. B. Hall
DATE January 29th 1963

DESCRIPTION

1. Function (brief description)
Preclinical laboratory courses taught which include: Dental Anatomy, Prosthodontics, Operative Dentistry, Crown & Bridge, Biomaterials and Orthodontics. Courses involving the use of microscopes, such as, Dental & Histology and Microscopic Anatomy could also be taught in these laboratories.

2. Program area - 1973 Space alloted in projected program for the above two laboratories and surrounding areas is 20,049 sq. ft. This is about 2,000 sq.ft. less than what is needed. This will accomodate 150 incoming students.
Probable Area Requirement - 1986
To accomodate 200 incoming students, the space allotment for the same function would be 29,006 sq.ft. Space alloted in the projected program is 30,611 sq.ft.

4. Space subdivision (square footage)
Freshman area: which includes: the laboratory, plaster work room, locker room, faculty office, dispensing and technician room, filing-storage-work room, lecture room and a toilet toilet facility. 10,804 sq. ft.
Sophomore area: which includes: the laboratory, plaster and casting room, locker room, faculty office, dispensing and technicians room, storage and work room, a lecture room and a toilet facility. 10,096 sq. ft.
Supplemental area: which includes: a seminar room, a library room, research lab., office for graduate students, gown and laundry facility, a lounge room and an audio-visual storage room. 2,000 sq.ft.

Total 22,900 sq.ft.

5. Special considerations
The Freshman and Sophomore laboratories should be in close proximity to each other.

Blackboards in differents walls

RELATION

1. Consistently Works With
The courses taught in thes related to each other.

2. Frequently Works With
The basic sciences that are Sophomores, such as; Bioch Microscopic-Neuro and Gros are now housed in Jackson building and probably will to the new proposed Health objectionable.

3. Relation to Public
None

4. Relation to Other Health Sc
The Freshman and Sophomore during their first two ye of the laboratories to the Students transport instrum laboratories to the clinic service for student-faculty

HEALTH SCIENCES PROGRAM DATA FORM

REQUIREMENTS

1. Architectural

   A. Floors (load requirement, material, special considerations

   B. Walls, partitions (acoustic requirement, movable, materials, etc.)

   C. Ceiling (height, special considerations)

   D. Windows, doors (sill height, security, extent of glass, door size, etc.)

2. Utilities, Services

   A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.)

   B. Electrical (lighting power, communications, etc.)

   C. Other

3. Major equipment
   (1) Architectural:
   A. Considerable load, concrete construction with tile covering. Maintainance is an important factor.
   B. Walls: Tile and plaster. No columns to obstruct view.
   C. Ceiling: 10-11 feet high. Acoustic tile.
   D. Windows: Natural light is an important factor.
   Doors: Large double doors. Security is a factor.

   (2) Utilities:
   A. Mechanical: Ventilization is a very important factor.
   Plumbing and utilities should be concealed.
   Disposition of waste is important.
   Gas, air and electricity used extensively.
   B. Electrical: Use of electricity is very extensive.
   Ceiling lighting, bench lighting and current for operating a great deal of electrical equipment.
   Public address system necessary.

   (3) Major equipment:
   A. Acid hoods. Processing equipment using gas and electricity.
   B. Electricity for large motors.
   C. Gas used for large gas furnaces.
   D. Nests of sinks with disposal traps.

...oratories are closely

...to the Freshman and ...Microbiology.
...y Physiology and Pathology ...rd Hall and the Mayo ... Their present location ... building would not be

...its ...inical assignments ...refore the proximity ...a consideration. ...quipment from the ...this purpose elevator ...is important

UNIVERSITY OF MIN

III

UNIT
DEPARTMENT OR DIVISION ORAL HISTOLOGY.
SPACE NAME
INFORMATION FROM DR. HEDDIE - O - SEDA
DATE 2/7/68

DESCRIPTION

1. Function (brief description)

Laboratory area for Oral Histology - Present capacity 50 students.

2. Program area - 1973 Depends of the number of students admited to dental school, probably 150

3. Probable Area Requirement - 1986 Capacity for 200 students

4. Space subdivision (square footage)
The area for 200 students should be planed in a way that can be divided by means of probably folding doors in four differents areas with capacity for 50 students each.
Also desirable are independets office for staff member, laboratory area for medical technician and two offices for graduates students, with facilities for research.

5. Special considerations
Individual drawers for slide box (200)
Individual compartiments for microscops (200)
Space asigned to a permanent located microproyector
Space asigned to a permanent slide proyector
Film screen
Storage area for additional slides boxes
Black shades in each windows
Color T.V. with two or more monitors per each area of 50 students
Microproyector
Slide proyector (35mm)
Microphono system
Blackboards in differents walls

RELATIC

1. Consistently Works With

ORAL - PATHOLO

2. Frequently Works With

3. Relation to Public

NONE

4. Relation to Other Health S

GENERAL - HIST
EMBRYOLOGY
ORAL ANATOM

SOTA HEALTH SCIENCES PROGRAM DATA FORM

HIP	REQUIREMENTS
– ORAL ANATOMY.	1. Architectural A. Floors (load requirement, material, special consideration B. Walls, partitions (acoustic requirement, movable, materials, etc.) C. Ceiling (height, special considerations) D. Windows, doors (sill height, security, extent of glass, door size, etc.) 2. Utilities, Services A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) B. Electrical (lighting power, communications, etc.) C. Other 3. Major equipment
ice Units ...my. Med. School. ... School.	

12

UNIT School of Dentistry
DEPARTMENT OR DIVISION Program in Dental Hygiene
SPACE NAME Dental Hygiene & Dental Assis
INFORMATION FROM Mrs. Donna Aker
DATE 1-30-68

DESCRIPTION

1. Function (brief description) (The Program in Dental Hygiene) To provide for the administration & training of the dental hygiene student. The area should provide laboratory facilities, completely equipped dental operatories, demonstration rooms, work rooms, locker-lounge facilities for 300 dental hygiene students & 150 dental assistant students in 1974. (400 Dental Hygiene students and 200 Dental Assisting students in 1986.) The administrative & reception area for dental hygiene should include office space for 5 full-time faculty, 5 part-time faculty, & one clerical person, by 1974 (By 1986 space would be needed for 8 full-time faculty, 8 part-time faculty, 2 clerical people and one civil service assistant). Seminar rooms should seat at least 20-25 people.

2. Program area - 1973
16,625 square feet. 150 Dental Assistant students and 300 Dental Hygiene students.

3. Probable Area Requirement - 1986
20,290 square feet. 200 Dental Assistant students and 400 Dental Hygiene students.

4. Space subdivision (square footage)

	1973	1986
Dental Hygiene	4720 sq. ft.	6670 sq. ft.
Dental Assisting	4170 sq. ft	6620 sq. ft.
Shared Dental Hygiene & Dental Assisting space	5880 sq. ft.	7580 sq. ft.
	14,770 sq. ft.	20,870 sq. ft.

5. Special considerations -- Dental Hygiene & Dental Assisting Administrative offices should be in close proximity so that it would be easy to economize on reception area, etc. Women in Dental Hygiene must make a complete change of clothing for clinic assignments, therefore, locker facilities should be adequate. We also might anticipate more refresher or post-graduate people & more women in dentistry. The policy has been to assign these men to facilities in the dental hygiene and assisting area. Possible expansion of the dental hygiene program to 3 or 4 years may also be considered. This would require increased staff facilities for counseling and other expanded facilities. Also proposed, increased post-graduate refresher courses would increase space demands. A telephone service area would be required since dental hygiene students are required to recall many patients

RELATIO

1. Consistently Works With:
Clinically: the dental hygien immediately adjacent to the p consultations are sometimes n is required by the patient th must be administered by a DDS. generally work on their own as much as the dental student wo

2. Frequently Works With:
Educational work: (1) Use of classroom situation. (2) gr
Dental Laboratory work - pour wax patterns, making dies.

3. Relation to Public:
Students telephone patients t call them from the reception clinical area where they proc prescribed. Usually the dent the first clinical procedure

4. Relation to Other Health
Clinically dental hygiene is
Since dental hygiene service dental ecology department is

IP	REQUIREMENTS
ident clinic should be ontal department. Frequent ury. Occasionally anesthesia dont has been assigned. This o dental hygiene students ks in the clinical area	**1. Architectural** A. Floors (load requirement, material, special considerations: Removable panels, easy to clean. B. Walls, partitions (acoustic requirement, movable, materials, etc.) Movable walls, sound-proof if possible. C. Ceiling (height, special considerations) Good over-all lighting is important. D. Windows, doors (sill height, security, extent of glass, door size, etc.) No special requirement. **2. Utilities, Services** A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) Compressed air at dental units and lab benches. B. Electrical (lighting power, communications, etc.) Outlets on lab benches - small desk type lights. C. Other Gas to dental units and lab benches. **3. Major equipment** Dental Chair & units Dental X-Ray units
io-visual equipment in a ork - small conferences. p impressions, carving	
ke appointments and/or to guide them to the ith the dental procedure ygiene student performs r diagnosis.	
nce Units : tly related to periodontics. largely preventive, the ely associated in function.	

UNIVERSITY OF MIN

UNIT School of Dentistry
DEPARTMENT OR DIVISION Dental Assisting
SPACE NAME Dental Assisting and D
INFORMATION FROM Helen M. Tuchner
DATE 1/31/68

ON

To provide ... training ... assistant students. This ... facilities for ... students ... 86; and completely equipped ... demonstration and ... ience ... include areas of ... istration ... Student ... and ... included in this department. Work areas ... are required ... at bottom of column three ...

... the entire facilities for both ... assisting and dental hygiene ... students ... students.
1965
... combined facilities
... students ... students

...erage)

1956

Dental Assisting	,620
Dental Hygiene	,670
Combined areas	7,580
	,870

... the Dental Assisting Program ... would ... educational ... ration rooms.

... would also ... for the dental assistant ... dental ... who ... background

RELATIONS

1. Consistently Works With

Dental assistant ... works directly with ... dental service to ...

administrative area ... to those of dental hygiene ... situations tend ...

2. Frequently Works With

Many lecture classes are held jointly ... hygiene class.

3. Relation to Public

The dental assistant ... is assigned to the ... situations she will ... as she assists the ...

4. Relation to Other Health ...

SOTA HEALTH SCIENCES PROGRAM DATA FORM

Quene

HIP	REQUIREMENTS
l in her clinical experience dental student as he provides tient dental assisting should be close since many activities and lap. dental assistants equivalent dental will have patients when she clinics. In other clinical me in contact indirectly ntal student. ence Units	1. Architectural A. Floors (load requirement, material, special considerations B. Walls, partitions (acoustic requirement, movable, materials, etc.) Laboratory and assembly rooms sho[uld] have movable walls yet soundproof for small class, situation C. Ceiling (height, special considerations) X-ray areas should have lead-lined walls. D. Windows, doors (sill height, security, extent of glass, door size, etc.) 2. Utilities, Services A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.) B. Electrical (lighting power, communications, etc.) C. Other Laboratory benches will need outlets for gas, electric, compressed air and suitable bench lig[hting] 3. Major equipment Demonstration operatories will need installations for dental chair, dental unit and dental x-ray machines Laboratories to include the latest burn out, casting and investing equipment. Continued from column 1. Function – demonstrations and provide class materials. seminar or assembly rooms for use by both faculty-staff and student groups. In addition are needed locker and lounge facilities for students. Note: The dental assistant and dental hygiene student have to make a complete change into uniform for clinic and laboratory assignments, so ample locker space should be provided.

V

UNIVERSITY OF M

UNIT School of Dentistry - U
DEPARTMENT OR DIVISION Hospital Dentistry - He
SPACE NAME Comprehensive Dental Ca
INFORMATION FROM E. Severn Olsen, D.D.S.
DATE January 30, 1968

DESCRIPTION

1. Function (brief description)

The dental clinic in the new health science facility will serve both in and out-patients of the University Hospitals. It will include clinical research facilities and will provide an environment for the education of undergraduate and graduate dental students, dental hygienists, and dental assistants.

2. Program area - 1973

16,347 sq. ft. (revised January 1968)

3. Probable Area Requirement - 1986

17,937 sq. ft. (revised January 1968)

4. Space subdivision (square footage)

See attached detail breakdown

5. Special considerations

RELA

1. Consistently Works Wi

School of Dentistry
College of Medical Scienc
Department of Pediatr
Department of Anesthe
Department of Physica

2. Frequently Works With

College of Medical Scienc
Division of White Surg
Department of Otolaryn
Department of Internal
Department of Radiolog

2A. Periodically Works Wi

Basic Science Areas:
Microbiology, Anatomy,
Pharmacology

3. Relation to Public

Serves the public di
of Dentistry or from priv
Referred patients will be
clinic or as in-patients
operating rooms.

4. Relation to Other Hea
relation to the University
research relation to the
conjoint teaching and res
Pharmacy. The Section on
Ob-GYN and the Chronic Di
Surgery to the Department
General Surgery, the Sect
the Department of Pediatr
the Section on Restorative
named areas of Medical Sc
Surgery, Radiation Therap

(See the attached Funct

SOTA HEALTH SCIENCES — PROGRAM DATA FORM

y of Minnesota Hospitals
ental Service
e

HIP

litation

EDT
ne

logy, Biochemistry,

Referrals from the School
sicians and dentists.
d as out-patients in the new
new clinic or hospital

ence Units Direct service
tals. Direct teaching and
of Dentistry. Indirect but
elation with the College of
ntics relates to the Division of
ervices, the Section on Oral
laryngology and the Division of
Periodontics and Orthodontics to
d the Rehabilitation Services,
stry relates to all of the above
but principally to Maxillofacial
Chronic Disease Services.

Diagram)

REQUIREMENTS

1. Architectural — See Attached

   A. Floors (load requirement, material, special consideration

   B. Walls, partitions (acoustic requirement, movable, materials, etc.)

   C. Ceiling (height, special considerations)

   D. Windows, doors (sill height, security, extent of glass, door size, etc.)

2. Utilities, Services

   A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.)

   B. Electrical (lighting power, communications, etc.)

   C. Other

3. Major equipment

Adequate (dry) air pressure service. Piped oxygen in specific areas. TV studio with reception capability in specified areas.

UNIVERSITY OF MINNESOTA

SCHOOL OF DENTISTRY

Date 2-19-68

TO: Mr. Abrahamson

FROM: Dr. Holland

☐ For your approval ☒ For your attention ☐ Please advise me ☐ Comment ☐ For your information ☐ Note and file ☐ Note and return ☐ Please reply directly with copy to my office ☐ Please see me ☐ For your reaction or recommendation, please ☐ Please handle for my signature	Deliver to: _____ _____ _____

COMMENT:

Please add this to the information submitted by Dr. E. Severn Olsen for the Hospital Dental Service. Thank you.

RELATIONSHIP

1. In considering juxtaposition relationships, the Hospital Dental Service has the following primary proximity priorities:

   (a) Hospital Dental Reception Center - ADMISSION SECTION OF THE SCHOOL OF DENTISTRY

   (b) Hospital Dental Reception Center - OUTPATIENT ADMISSIONS, UNIVERSITY HOSPITALS

   (c) Hospital Pedodontic - Orthodontic Section - OUTPATIENT PEDIATRICS

   (d) Hospital Oral Surgery Section - OTOLARYNGOLOGY OUTPATIENT CLINIC

   (e) Hospital Oral Surgery Section - HOSPITAL OUTPATIENT OPERATING ROOM

4. Space subdivision (square footage)

1. Departmental Administrative Offices:

(a) Private office (Chairman) to provide a small conference area (4-6 People) plus desk, credenza file, etc. - (12'x18')	216 sq. ft.
(b) Secretary's office to include seating for visitors, files, etc. (12'x22')	264 sq. ft.
(c) Conference Room to include book shelves, conference table and chairs for 10-12 people (12'x16')	192 sq. ft.
(d) Supply and storage room (6'x8')	48 sq. ft.
1973 TOTAL	720 sq. ft.*

*no increase for 1986

2. Faculty Staff Offices: (within or adjacent to clinic)

(a) Section Chief Offices (associate or full professors) (10'x12') 6@ at 120 sq. ft.	720 sq. ft.
(b) Dental Health Coordinator (senior dental hygienist) (8'x10') 2@ at 80 sq. ft.	160 sq. ft.
(c) Secretary, clinic administration (8'x10')	80 sq. ft.
(d) Attending faculty and house staff offices: 10 part time faculty (5'x10') 500 12 full time residents (4'x10') 480	980 sq. ft.
(e) Staff Conference Room to accomodate 16-18 people (12'x20')	240 sq. ft.
1973 TOTAL	2180 sq. ft.
Projections for 1986 include a Vice Chairman for Department Administration who will also serve as Director of the Comprehensive Dental Care Clinic (full professor) (10'x18')	180 sq. ft.
and six more full time attending staff members (assistant or associate professors) with office space requirements (10'x12') @120 sq. ft.	720 sq. ft.
1986 TOTAL	3080 sq. ft.

3. Clerical Offices and Clinic Reception and Record Center:

(a) Clinical Offices (2 clerk typists, dictaphone, files, etc.) (8'x10') @80 sq. ft.	160 sq. ft.
(b) Clinic Reception and Record Center (two receptionists, clerk filing and 1 receptionist, clerk typist w/files, etc.) (16'x40')	640 sq. ft.
1973 TOTAL	800 sq. ft.
Projections for 1986 include 2 additional clerk typists and a key punch operator for clinic data processing (8'x10') @80 sq. ft.	240 sq. ft.
1986 TOTAL	1040 sq. ft.

4. Clinical Research Laboratories:

(15'30') @450 sq. ft. (2)	900 sq. ft.
Research and Equipment Supply Room (10'x10')	100 sq. ft.
1973 TOTAL	1000 sq. ft.
One additional laboratory is projected for 1986 (15'x30')	450 sq. ft.
1986 TOTAL	1450 sq. ft.

5. Technical Service and Diagnostic Laboratories:

Removable Prosthodontics (20'x20')	400 sq. ft.
Maxillofacial (10'x12')	120 sq. ft.
Fixed Prosthodontics (10'x12')	120 sq. ft.
Orthodontic-Pedodontics (10'x12')	120 sq. ft.
1973 TOTAL	760 sq. ft.*

* no additional laboratory requirements projected for 1986

6. Seminar and Reading Rooms:

Seminar, conference room (15'x30')	450 sq. ft.
Seminar, reading, and reference room (15'x20') (2)	600 sq. ft.
1973 TOTAL	1050 sq. ft.*

* no additional seminar, conference, or reading rooms are projected for 1986

7. Diagnosis Rooms, including X-ray Facilities:

(a) Examination rooms to accomodate litter or wheel chair as well as a mobile dental chair (10'x12') (2)	240 sq. ft.
(b) Clinical Oral Diagnosis Laboratory (6'x9')	54 sq. ft.
(c) Oral Medicine Diagnosis Laboratory (12'x14')	188 sq. ft.
(d) Panographic x-ray room (6'x6')	36 sq. ft.
(e) Cephalometric x-ray room (10'x12')	120 sq. ft.
(f) Periapical (dental) x-ray room (8'x8') (2)	128 sq. ft.
(g) X-ray Control Center (6'x6')	36 sq. ft.
(h) X-ray reading and consultation room (8'x12')	96 sq. ft.
(i) Dark Room (12'x12')	144 sq. ft.
1973 TOTAL	1042 sq. ft.
Projections for 1986 include 2 additional examination rooms (10'x12')	240 sq. ft.
1986 TOTAL	1282 sq. ft.

8. Treatment Rooms (based upon the projected patient load and educational requirements)

(a) Oral Surgery rooms (local anesthesia) (10'x12') (4)	480 sq. ft.
(b) General Anesthesia (out-patient) operating room (25'x25')	625 sq. ft.
(c) Periodontics (10'x12') (6)	720 sq. ft.
(d) Dental Hygiene (10'x12') (4)	480 sq. ft.
(e) Operative Dentistry (10'x12') (4)	480 sq. ft.
(f) Fixed Prosthodontics (10'x12') (3)	360 sq. ft.
(g) Removable Partial Prosthodontics (10'x12') (3)	360 sq. ft.
(h) Complete Denture Prosthetics (10'x12') (4)	480 sq. ft.
(i) Cleft Palate and Maxillofacial Prosthetics (10'x12') (2)	240 sq. ft.
(j) Pedodontics (10'x12') (6)	720 sq. ft.
(k) Orthodontics (10'x12') (2)	240 sq. ft.
1973 TOTAL	5185 sq. ft.*

* no additional treatment room expansion is projected for 1986

9. Storage and Service Rooms

(a) Scrub Room to accomodate 6 students and one instructor (10'x12')	120 sq. ft.
(b) Recovery Room (6'x8') (4)	192 sq. ft.
(c) Supply Room (Oral Surgery and Periodontics) (8'x10')	80 sq. ft.
(d) Supply Room (all other hospital clinic sections) (8'x10')	80 sq. ft.
1973 TOTAL	472 sq. ft.*

* no additional storate space requirements projected for 1986

10. Reception and Waiting Rooms

(a) Adults (40'x25')	1000 sq. ft.
(b) Children (20'x25')	500 sq. ft.
1973 TOTAL	1500 sq. ft.*

* no additional space requirements for 1986

11. Men's Locker and Lounge

Locker room (28'x16')	448 sq. ft.
Lounge (12'x14')	168 sq. ft.
1973 TOTAL	616 sq. ft.*

* no additional space projections for 1986

12. Ladies Locker and Lounge

Locker room (9'x18')	162 sq. ft.
Lounge (12'x14')	168 sq. ft.
1973 TOTAL	330 sq. ft.*

* no additional space projections for 1986

TOTAL SQ. FT., 1973 - 16,367 sq. ft.

TOTAL SQ. FT., 1986 - 17,937 sq. ft.

VI FUNCTIONAL DIVISION

- REQUIREMENTS -

1. Architectural REQUIREMENTS

A. Floors

(1) load requirement - Adequate to support dental chairs, mobile and fixed cabinetry, and dental x-ray equipment

(2) material - Carpet in selected areas. Seamless vinyl floor covering in others

(3) special considerations - Workers, for the most part, will be "standing" in the performance of their service. Some of the materials used in rendering treatment and in support activities require special maintenance handling (example: gypsum products, waxes, metallic oxide pastes, medicaments, etc.).

B. Walls, partitions

Walls should be "easy to clean", as acoustically "dead" as possible, and capable of relocation or removal without major remodeling processes. They should be "fire proof" or at least fire "resistant", and should be esthetically pleasing.

C. Ceiling

Nine to Ten feet finished height, with utility access space above (preferably 3 to 4 feet), be acoustically "dead", accomodate recessed lighting fixtures, and be capable of modification in the event walls are relocated or removed.

D. Windows, doors

Windows - No special sill height required, no special security necessary, maximum outside light (but be shadable), preferably without tinting.

Doors - 42" doors from corridors to treatment rooms.

2. Utilities, Services

A. Mechanical

Zone heating control, preferably room by room in treatment rooms; other areas not as critical. Good ventilation - special hood requirements in service and research labs. Air conditioned, again with maximum control in treatment rooms and laboratories. Normal dental plumbing requirements (i.e. traps, suction lines, "dry" air lines, etc.).

PIPED OXYGEN IN SPECIFIED AREAS

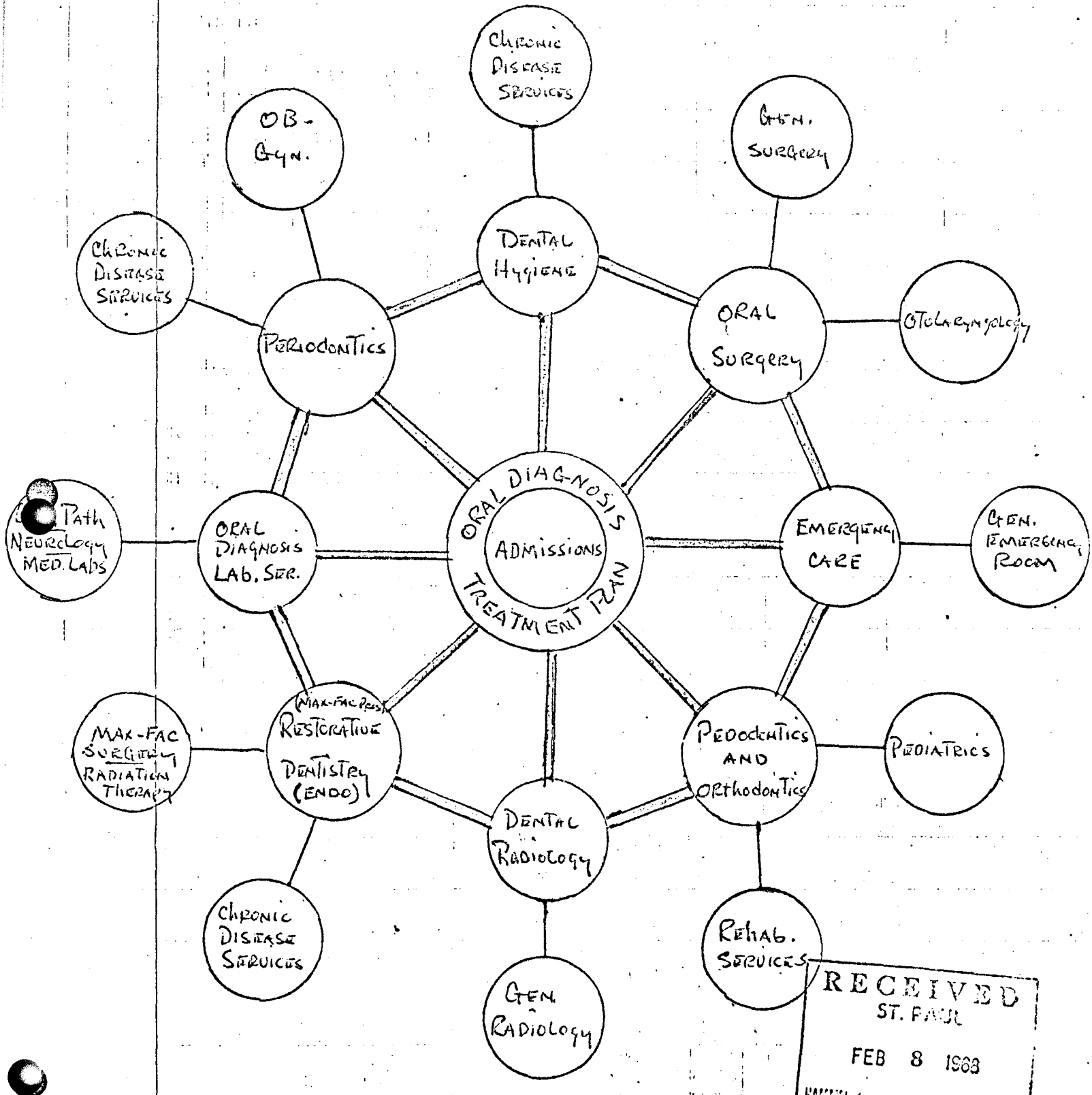
B. Electrical

Good general illumination, provision for adequate outlets to accomodate mobile treatment room equipment and laboratory equipment. Intercom system within the clinic - a tie-in to the "building" intercom at the reception desk.

TV RECEPTION AND PROGRAM ORIGINATION IN SPECIFIED AREAS.

3. ALSO SEE ATTACHED OUTLINE OF ADDITIONAL DATA REQUIRED.

Functional Relation Diagram of the University Hospitals Dental Service



* ——— Indicates component Dental Service Activities

VI

UNIVERSITY OF MINN

UNIT: SCHOOL OF DENTI
DEPARTMENT OR DIVISION: ADMINISTRATION (DE
SPACE NAME: ADMINISTRATIVE OFF
INFORMATION FROM: M. R. Holland
DATE: 1-30-68

DESCRIPTION

1. Function (brief description)

MAIN ADMINISTRATIVE OFFICES OF THE SCHOOL OF DENTISTRY

2. Program area - 1973

3210 NET SQUARE FEET

Probable Area Requirement - 1986

3610 NET SQUARE FEET

4. Space subdivision (square footage)

SPACE	NET SQ. FT.
DEAN'S OFFICE	280
3 ADMINISTRATORS' OFFICES @ 240	720
4 SECRETARIAL OFFICES @ 200	800
DUPLICATING ROOM	150
CONFERENCE ROOM	400
STORAGE	200
HALL ACCESS AREA	300
	3210
	2850

5. Special considerations

THE ADMINISTRATIVE OFFICES SHOULD BE OUT OF THE MAIN TRAFFIC FLOW OF PATIENTS AND STUDENTS. PREFERABLY SHOULD BE ON AN UPPER FLOOR.

RELATIO

1. Consistently Works With

ALL DIVISIONS, PRO
THE SCHOOL OF DEN
ADMINISTRATION OF T
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SCIENCE UNITS OF

2. Frequently Works With

MANY COLLEGES
OF THE UNIVERS
OUTSIDE AGENCI

3. Relation to Public

HAS CLOSE RELA
PUBLIC THROUGH
PERSONAL VISITS
THE PUBLIC. COM
OUTSIDE GROUPS

4. Relation to Other Health

DEVELOPING AN
RELATIONSHIP WIT
SCIENCE UNITS OF
EVIDENCED BY
COOPERATIVE PRO

SOTA HEALTH SCIENCES PROGRAM DATA FORM

'S OFFICE)

HIP

AMS AND ACTIVITIES IN
ISTRY; CENTRAL
UNIVERSITY; OFFICE OF
; AND OTHER HEALTH
UNIVERSITY.

EPARTMENTS AND UNITS
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UCY WORKS WITH MANY

ence Units

CREASINGLY CLOSER
ALL THE OTHER HEALTH
F UNIVERSITY AS
T PLANNING AND
AMS.

REQUIREMENTS

1. Architectural

A. Floors (load requirement, material, special consideration
CARPETING

B. Walls, partitions (acoustic requirement, movable, materials, etc.)
ACOUSTIC REQUIREMENT { NEED TO ABSORB NOISE OF DUPLICATORS, CALCULATORS AND TYPEWRITERS

C. Ceiling (height, special considerations)
NORMAL

D. Windows, doors (sill height, security, extent of glass, door size, etc.)
DOORS OF SUFFICIENT WIDTH FOR NEEDED MACHINES (e.g. XEROX) AND FURNITURE. LOCKED FOR SPECIAL SECU

2. Utilities, Services

A. Mechanical (heating, ventilating, air conditioning, plumbing, etc.)
AIR CONDITIONING, PLUMBING FOR TOILETS & SINKS

B. Electrical (lighting power, communications, etc.)
220 + 110

C. Other

3. Major equipment

DUPLICATING MACHINES
CALCULATORS
TYPEWRITERS

UNIVERSITY OF MINN.

UNIT DENTAL ILL RATION LAB. SCHOOL OF DENTISTRY
DEPARTMENT OR DIVISION UNIV. OF MINNESOTA
SPACE NAME MINNEAPOLIS, MINN.
INFORMATION FROM LeRoy P. Christenson
DATE 2-9-68

DESCRIPTION

Function (brief description) Still and motion picture photography of patients, photography of specimens (gross), photomicrographs of tissue sections, and photocopy of printed materials and artwork. Production of displays, teaching aids (overhead transparencies by thermofax and ammonia vapor process)

Darkrooms for film processing and paper printing and enlarging, art studio for preparation of drawings charts, work area for preparation of materials, paper drying, print mounting, binding and mounting color and b&w projection slides and filing of negatives.

Storage of A-V projection equipment, library for storage of projection slides and motion pictures. Motion picture sound and tape recording studio

Program area - 1973 CCTV Studio and Motion Picture filming - patient operatory Teaching demonstration area CCTV in Laboratory (student)

Classroom CCTV demonstration area CCTV controlroom (switching & monitoring)
2700 Sq. Ft.

Probable Area Requirement - 1986

3400 to 3600 Sq. Ft.

Space subdivision (square footage)

CCTV control room	260	Sq. Ft.
CCTV Studio and motion picture	430	"
Photographic studio	750	"
Darkrooms (film processing	100	"
Darkrooms (printing, enlarging)	120	
Film Loading and Storage	40	"
AV equipment Storage	80	"
General workroom	144	"
Artists workroom	144	"
Slide and Film library & film editing	288	"
Film preview, projection & sound recording	288	"
Clerical space	100	"

Special considerations 2744

CCTV Studio and Photographic Studio possible back to back for dual useage (however sound transfer into cctv not allowable from other areas)

Daylight exclusion control for studios and projection areas and classroom areas used for CCTV viewing and A-V sutiablity.

Inside sound exclusions for sound recording area.

RELATION:

1. Consistently Works With (1) p
   processing of same (
   cameras, motion p
   graphy, photomicr
   materials - black
   (4) sound recordi
   slide-lecture
   sound track

   Patients from all
   and equipmt from
   pathology specimen
2. Frequently Works With
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   and patient f
   CCTV programing f
   graduate sessi
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3. Relation to Public more im
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4. Relation to Other Health Sc

+ T.V.

ed. Photographs.

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still, microphoto-
(3) art studio
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nd motion picture

reas; specimens
areas and laboratory

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staff, students or
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sthodontia, Period
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REQUIREMENTS

(A) FLOORS

1. Studio- neutral light color, acceptable for color photography and easily cleaned.

2. Darkrooms - non-slip and non-staining possible floor drains for easy cleaning and flushing off of spilled chemicals.

(B) WALLS

1. Studio and other areas light neutral light coloracceptable for color photography.

2. Darkrooms - non-staining tile or easily cleaned structural glass light color.

3. area for sound recording and CCTV studio some sound proofing to eliminate outside noises. Acoustical tiling to control revirbirations.

4. Studio(photographic) coved ceiling for bounce light applications coved floor base

(C) Ceiling can be of standard height

(D) Windows, Etc.
Darkrooms windowless
Other areas- dustproof with room darkening shades.
Art studio- preferable on north side.
Security lock system for equipt areas (photo studio, darkrooms recorders)

UTILITIES, SERVICES

Aircondition CCTV & Photo studio positive prossure A/C for darkrooms darkrooms - adequate air exchange

DESCRIPTION

4. Space subdivision (square footage)

1. Departmental Administrative Offices:

(a) Private office (Chairman) to provide a small conference area (4-6 People) plus desk, credenza file, etc. - (12'x18')	216 sq. ft.
(b) Secretary's office to include seating for visitors, files, etc. (12'x22') (1-2)	264 sq. ft.
(c) Conference Room to include book shelves, conference table and chairs for 10-12 people (12'x16') unshared	192 sq. ft.
(d) Supply and storage room (6'x8') needs - files - clerical	48 sq. ft.
1973 TOTAL	720 sq. ft.*

*no increase for 1986

2. Faculty Staff Offices: (within or adjacent to clinic)

(a) Section Chief Offices (associate or full professors) (10'x12') 6@ at 120 sq. ft.	720 sq. ft.
(b) Dental Health Coordinator (senior dental hygienist) (8'x10') 2@ at 80 sq. ft.	160 sq. ft.
(c) Secretary, clinic administration (8'x10')	80 sq. ft.
(d) Attending faculty and house staff offices: 10 part time faculty (5'x10') 500 12 full time residents (4'x10') 480	980 sq. ft.
(e) Staff Conference Room to accomodate 16-18 people (12'x20')	240 sq. ft.
1973 TOTAL	2180 sq. ft.

Projections for 1986 include a Vice Chairman for Department Administration who will also serve as Director of the Comprehensive Dental Care Clinic (full professor) (10'x18')	180 sq. ft.
and six more full time attending staff members (assistant or associate professors) with office space requirements (10'x12') @120 sq. ft.	720 sq. ft.
1986 TOTAL	3080 sq. ft.

SEE PAGE 23

JOINT PROGRAM STATEMENT OF THE SCHOOL OF DENTISTRY

AND

THE COLLEGE OF MEDICAL SCIENCES/UNIVERSITY HOSPITALS

Introduction

The School of Dentistry recognizes the increasingly important role of the hospital in the care and management of dental patients. In turn, the University Hospitals consider it part of their role to provide a clinical environment for all of the health sciences. Undergraduate and graduate dental educational programs are conducted in the University Hospitals, community hospitals (county and private) and other state supported health centers.

The community hospitals offer undergraduate dental students an opportunity to assist in specialized oral health treatment of patients under general anesthesia, and to gain experience in emergency care of patients with acute dental infections and/or oral-facial trauma. Conjoint educational objectives with the University Hospitals relate primarily to diagnosis and treatment planning for care of the physically and/or mentally ill, and to preventive and comprehensive rehabilitative care of patients referred for specific therapy. The University Hospital setting provides an environment for interaction with a variety of health professionals not readily available in a non-university setting.

The School of Dentistry and University Hospitals also have direct relationships in fulfilling the research and service roles of the University Health Sciences. These activities relate to treatment of specific oral health diseases and to the organization of hospital dental services for their most effective utilization. This relationship imposes an obligation upon the participants to translate research findings to programmatic services. The purpose of this report is to delineate the common areas of responsibility.

Roles

1. Education

   A. To provide staff and a clinical environment for the education of undergraduate and graduate dental students and the training of paradental personnel.

   B. To promote interdisciplinary health sciences relationships through conjoint educational, research, and service programs as a model for students.

2. Service

   A. To make dental consultation available to all patients admitted to the University Hospitals, and to provide adjunctive dental treatment in support of medical, surgical and psychiatric therapy.

B. To provide exemplary comprehensive and/or specialized ambulatory and inpatient care to patients referred to University for dental consultation and treatment.

3. Research

A. To conduct applied clinical research in cooperation with other health professionals.

B. To experiment with improvements in systems and facilities for the provision of dental care.

Objectives

1. Education

A. To prepare dental students at the undergraduate and graduate levels for their respective responsibilities in the dental care of ambulatory patients with health problems and hospital inpatients.

B. To train dental auxiliary personnel for their role in the treatment of patients in a hospital environment.

C. To offer continuing educational opportunities in hospital dental practice appropriate to dentists, physicians and other health professionals of the region.

D. To integrate the teaching programs of the School of Dentistry with those of the other health sciences so as to demonstrate the health "team" concept.

E. To review and develop new methods of teaching principles and skills of hospital dental practice.

F. To gain maximum utilization of educational resources through the development of cooperative programs with other state, county and federally supported hospitals and private community hospitals.

2. Service

A. To make efficient dental consultative service available to referring dentists and physicians.

B. To provide exemplary comprehensive dental care to those patients specifically referred for this purpose.

C. To cooperate in the development of dental services in hospital facilities throughout the state and region.

D. To share meaningful oral health knowledge with health professionals and the public.

3. Research

A. To advance the knowledge of dental science by investigating specific dental diseases in a hospital setting.

B. To study medico-dental health patterns as opposed to specific dental diseases. The objective of this research will be to seek relationships between oral and systemic dysfunctions and to consider the effects of combined medical and dental treatment processes upon total health.

C. To experiment with new systems for the accomplishment of dental services in a hospital environment. This will include investigation into the composition of the "dental team," and the relationship of such a "team" to other health professionals.

D. To encourage interdisciplinary participation in the above research areas.

Programs

Education

1. Undergraduate Dentistry

Undergraduate dental students receive instruction in the basic sciences and in clinical dentistry. They also receive some exposure to physical diagnosis and laboratory medicine. There is, however, a need for more correlative experience.

A. Dental Clerkship Program - University Hospitals

This program is offered to third and fourth year students and includes:

(1) An opportunity for students to broaden their understanding of the relationship of oral diseases to other systemic dysfunctions through the review of medical records, and the performance of detailed oral diagnostic procedures on hospitalized patients under supervision.

(2) Instruction in the organizational framework of the hospital. The student will become acquainted with:

a. The organization of the hospital staff.
b. Departmental relationships and policies.
c. Procedures involved in patient admissions and discharges.
d. The function of hospital records.

(3) Orientation and experience in the operating room including scrubbing, gowning, operating room protocol, observation of the administration of general anesthetics, and pre- and post-operative patient management.

(4) Education in patient care on a hospital station including diet, drug and other therapeutic modalities; orders; and the technique of bedside visits (rounds). Inter-relationship with other health sciences in patient care is emphasized.

(5) An opportunity to observe and assist in the dental treatment of ambulatory patients who are best treated in a hospital environment.

(6) Exposure to such diagnostic and treatment services as laboratory medicine, radiology, radiation therapy, and others.

B. Dental Clerkship Program - Affiliate Hospitals

This is a fourth year dental student activity which includes:

(1) An opportunity for active student participation in the treatment of dental patients under general anesthesia.

(2) Instruction and experience in the care of patients with acute dental pathology and oral-facial trauma.

This program is offered in private community hospitals and at Hennepin County General Hospital. When University resources do permit inclusion of the foregoing educational experiences, they will supplement those of the affiliate hospitals.

C. It is felt that the dental clerkship programs will better prepare dentists of the future to meet the total demands of "family practice."

2. Graduate Dentistry

A. Hospital Residency Program

(1) University Hospitals

Graduate students in the clinical specialties of dentistry will each be assigned to the Hospital Dental Service. The amount of time each student will spend in this assignment will naturally depend upon the particular clinical discipline giving the training, but in each instance the purpose is to provide an opportunity for treatment of both ambulatory and hospitalized patients who have special physical or psychological problems. All graduate students will make "rounds," take "calls," participate in "Clinical Pathological Conferences," and receive instruction in administrative procedures pertinent to hospital admission, inpatient care and discharge.

a. Oral Surgery

Oral Surgery graduate students are assigned to the University Hospitals for one calendar year. Six months is devoted to training in anesthesiology. During this assignment students

are taught techniques in endotracheal and intravenous anesthesia, and venipuncture. Instruction is also given in selection and administration of pre- and post-anesthetic drugs, and in the management of pain. The other six months is spent in diagnosis and treatment of patients for all types of oral surgical problems.

b. Peridontics

Graduate students in Peridontics will have periodic assignments to the Hospital Dental Service. They will participate in preventive and rehabilitative clinical care of inpatients with medical, surgical or psychological complications. They will also receive instruction in operating room protocol including pre- and post-operative patient management and will treat patients under general anesthesia.

c. Prosthodontics

Graduate students in prosthodontics will receive a portion of their advanced clinical training in fixed and removable denture prosthetics in the Hospital Dental Service. During this assignment they will also participate in the treatment of patients with congenital and acquired oro-facial defects, and will receive instruction and experience in the fabrication of devices useful in therapeutic radiology.

d. Pediatric Dentistry

Pedodontic and Orthodontic graduate students will be assigned to the Hospital Dental Service for an extension of their clinical experience in the treatment of children who are physically ill or handicapped. Students will receive instruction and experience in the most advanced concepts of preventive, interceptive, and restorative clinical practice under both local and general anesthesia. These programs are conducted in cooperation with the Department of Pediatrics and the Department of Physical Medicine and Rehabilitation of the College of Medical Sciences.

e. Oral Pathology - Oral Medicine

Graduate students in oral pathology and oral medicine have an opportunity to relate local pathologic findings to systemic conditions, general pathology, and treatment patterns. Instruction and experience are offered in the application of advanced oral diagnostic procedures with emphasis on recent developments. Correlation is provided by Departments of the College of Medical Sciences.

f. Endodontics

Graduate students in endodontics will participate in the diagnosis and treatment of patients with pulpal and periapical pathology. They will receive instruction and experience in

providing therapy under general anesthesia, and in the management of complex treatment under local anesthetics.

g. Resident Dental Fellowship (Rotating)

The rotating resident dental fellowship is a 12 month graduate study program designed to increase the scope and depth of the undergraduate curriculum in general dentistry. Students will participate in all clinical areas of dental practice in a hospital environment and will receive instruction and experience in all protocols of hospital practice.

h. Biological Sciences

Graduate students with majors in other than the dental specialties, such as genetics, microbiology, physiology, anatomy, etc., will have an opportunity to relate their academic knowledge to a clinical environment.

(2) Affiliated Hospitals — Hennepin County General Hospital
Cambridge State Hospital
Veterans Administration Hospital

Graduate students in the several clinical specialties of dentistry will receive a portion of their instruction and clinical experience in the above affiliate hospitals. These programs are specialty oriented and they serve to diversify the student's educational opportunities.

B. Continuation Education

The cooperative Continuation Educational Program of the School of Dentistry and University Hospitals is rapidly expanding. Three to five day courses in various aspects of hospital dentistry are being developed. The purpose of these courses will be to give graduate dentists in this state and throughout the country an opportunity to learn current concepts of patient care in a hospital so that they may best serve their public trust. Courses in pediatric dentistry in the hospital and hospital dentistry (general) are among those currently being offered. Continuation courses to benefit physicians and other health professionals will also be developed. Examples of conjoint areas of interest are maxillofacial and cleft palate rehabilitation and preventive dentistry.

C. Paradental Training

Students in Dental Hygiene and Dental Assisting will receive instruction and experience in effecting oral health care within the limits of their responsibility in a hospital clinic environment and at bedside. Dental Hygiene students will perform bedside dental prophylaxes on appropriate hospitalized patients under supervision. Both groups of students will receive instruction and experience in taking and developing panographic radiographs, in the preparation of treatment trays, in special sterilization techniques, and in chairside and bedside assisting when patients are physically and/or mentally ill or otherwise handicapped.

D. Participation in the Undergraduate Curricula of Other Health Professionals

(1) Medical School

Just as it is important for dental students to recognize and relate systemic dysfunction to oral disease, it is equally important that medical students be aware of the relationships of oral health to total health. A course in stomatology and preventive dentistry should include lectures, seminars, rounds and informal discussions with the dental faculty and graduate and undergraduate dental students.

(2) School of Nursing

To fully perform her duties as a health professional, a nurse must be educated in preventive oral health measures. The School of Dentistry-University Hospitals conjoint program in preventive dentistry will be an on-going orientation and in-service type of program including lectures, seminars, demonstrations and clinical exercise sessions under supervision of the faculty of the School of Dentistry.

(3) College of Pharmacy

Modern scientific dentistry utilizes pharmaceutical services to a much greater extent than ever before. It naturally follows that dental students at all levels receive instruction in drug therapy. It is equally important that pharmacy students be informed on the effects of such therapy clinically. A seminar program will be developed to facilitate this orientation in the best interests of patient care. Joint rounds on dental inpatients receiving drug therapy will be conducted to reinforce this learning experience.

E. Teaching Methods Analysis

A continuing review of teaching methods for developing skills pertinent to treatment of the hospitalized patient will be conducted. New and different equipment will be clinically tested and evaluated.

The School of Dentistry-University Hospitals program in education will serve as a model for future affiliation programs. As clinic space, hospital beds and faculty become available, the program can be implemented to its full potential.

Service

1. Consultative Services

The quality of consultative service is directly reflected in patient care. Since the hospital program involves dental and paradental students at various levels, it is especially important that the services rendered

set a standard worthy of their emulation when they assume their professional and technical responsibilities upon completion of their training. Among the services provided are: functional analysis of occlusal disharmonies, differential diagnosis of oral lesions by biopsy and cytological processes, and oral roentgenographic interpretation.

2. Oral Health

The cooperative comprehensive oral health program includes diagnostic, preventive, supportive and rehabilitative dental care. Patients are examined and treated at bedside when necessary. Clinical facilities are presently inadequate to satisfy outpatient service needs and teaching and research objectives. When facilities are expanded according to present plan, these deficiencies will be corrected.

3. Community Cooperation

Upon the invitation of proper authority, our professional, technical and administrative staffs will serve as consultants in the development of dental services in hospital facilities throughout the state and region.

4. Oral Health Knowledge

Quality in dental care is dependent upon the knowledge and abilities of the professionals providing treatment. The School of Dentistry and the University Hospitals recognize their responsibility in the dissemination of information to expand and update dental services. Data obtained from evaluation of new and different equipment, experimentation with new modules for rendering patient service, and researching specific disease problems will be disseminated to appropriate professionals and institutions. This will be accomplished through continuation education programs, graduate courses of study, and the publication of research findings. The results of these efforts are directly reflected in service to patients.

Research

A long range projection of conjoint School of Dentistry-College of Medical Sciences-University Hospitals research activities is difficult to establish accurately. However, investigations will embrace the biological aspects of oral health in relation to specific oral dysfunctions, medico-dental health patterns, preventive dentistry, systems for the accomplishment of dental services in a hospital environment, and educational methods. Research training will be an integral part of the investigations. As facilities and funds become available, these programs will be implemented or expanded.

1. Oral Disease

A. Caries and Hard Tissues

Studies of the formation, calcification, composition and fine structure of dental hard tissues including bone will be pursued.

B. Peridontal Disease and Soft Tissues

Subject areas for consideration include: normal and diseased peridontal tissues, oral cancer, saliva and salivary glands, oral microorganisms, oral ulcerations, and the reaction of oral tissues to temperature change and applications of force.

C. Oro-Facial Growth and Development

Studies on cleft lip and palate and other oral and facial deformaties including the malalignment of teeth will be conducted.

2. Preventive Dentistry

Investigations into the control of oral disease including clinical testing of new approaches to prevention will be advanced. These studies require interdisciplinary cooperation in that implementation and acceptance of preventive measures is so largely affected by sociological, psychological and cultural patterns.

3. Medico-Dental Health Patterns

There is a distinct need for more knowledge and a better understanding of the relationship of dental and systemic disease entities. The effect of treatment processes and the biologic aspect of materials used must also be investigated. Studies to achieve these goals will be fostered.

4. Patient Care

Treatment systems must be developed to meet the dental care needs of our growing population. The composition of the "dental team" and its relationship to other health professionals must be studied in greater depth. Experimentation in design and use of space and equipment is necessary. System studies dealing with closer integration of medical, dental and hospital programs must be implemented. Such studies will deal with various methods of dental treatment as they affect and are affected by systems of medical care and hospital administration protocol, and will include investigations into greater conjoint utilization of diagnostic and therapeutic facilities, records, and other administrative processes.

5. Educational Methods

New pedagogical techniques and achievement measurement devices are needed if students are to receive maximum benefits from their educational experiences. The body of knowledge in biology of oral tissues is increasing at a pace which demands a change from traditional methodology.

6. Interdisciplinary Participation

Fundamental and applied research programs which are multidisciplinary in nature will become increasingly integrated with hospital activities. The opportunities for participation of other health professionals is unique in this environment.

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 1973, and that the Mayo-Heart-Rehabilitation Hospital complex will continue to serve as a facility for patient care until 1986.

2. The professional staff and supporting personnel estimates are based upon the average population of 150 undergraduate dental students in each of two classes, 150 student dental hygienists, 150 student dental assistants, and 75-80 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 inpatient dental clinic in the Mayo complex. Clinical services in all disciplines of dentistry including maxillofacial and cleft palate prosthetics will be offered.

4. Projected floor space requirements* are:

	1973	1986
a. Dental 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:

	1966	1973	1986***
a. Professional Staff			
Chairman, Department of Dentistry, School of Dentistry	1	1	1
Vice-Chairman, Department of Dentistry, School of Dentistry, and Director, University of Minnesota Hospitals Dental Clinics	0	0	1
Chief, Section on Oral Surgery	1/3	1	1
Attending Staff Oral Surgeon	0	0	1

* 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 Service Center. Emergency dental treatment will continue to be provided for rehab and heart patients in a multi-purpose room within the Rehab Center or at bedside as indicated. Routine dental therapy after 1986 will be provided in the new comprehensive care clinic or in the OR suite.

a. Professional Staff (continued)	1966	1973	1986***
Chief, Section on Periodontics	0	1	1
Attending Staff Periodontist	0	0	1
Chief, Section on Prosthodontics, and Director, Maxillo-Facial, Cleft Palate Program	0	1	1
Attending Staff Prosthodontist	0	0	1
Chief, Section on Pedodontics	0	1	1
Attending Staff Pedodontist	1/10		1
Chief, Section on Restorative Dentistry (operative and endodontics)	0	1	1
Attending Staff Operative Dentist	0	0	1
Chief, Section on Oral Diagnosis and Oral Medicine	1/6	1	1
Attending Staff Clinical Oral Pathologist or otherwise qualified oral diagnostician	0	0	1****
	1.6	7(5)Univ. support	14(10)Univ. support

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.

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. 1(1973), 2(1986)
2. The Section Chiefs as either associate or full professors. (6)
3. The Attending Staff as either assistant or associate professors. (6)1986

*** Additional University of Minnesota Hospitals professional staff requirements are not anticipated in 1986 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 1973 and dental screening is included as a function of that clinic, one more oral diagnostician will be needed.

b. Civil Service Staff (Clinical and Administrative)	1966	1973	1986
Dental Health Coordinator (dental hygienist)	0	2	2
Registered Nurse (OR Assistant)	0	2	3
Clinical Dental Hygienist	1	3	3
Dental Assistant (Clinical)	0	10	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	2	4
Data (key punch) Operator	0	0	1
	2	29	35

Additional civil service personnel requirements are not anticipated prior to 1986. However, if the hospital adopts the "Multiphasic Clinic" concept, and if dental screening is included as a routine 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 July, 1967)

	1966	1973	1986
1. Departmental Administration	86	720[1]	920
2. Comprehensive Hospital Dental Clinic (in- and out-patient)			
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
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 (Inpatient)	Listed	1973	1986
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 Floor Space Requirements	487	20,564	18,958

[1]The request for Hospital departmental administrative space has been considered in this report. Clinical personnel and space will be considered as a part of future planning for the Outpatient Clinics. Requests for beds and operating room space will be considered by select committees in those areas.