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ABSTRACT

This summary report of staffing patterns in 6 medical schools established between 1952 and 1960 is the first phase of a proposed study of biomedical staffing requirements in institutions of higher education, 1965-1975. The 6 schools are: the University of Miami, Albert Einstein College of medicine at Yeshiva University, the University of Florida, the New Jersey College of Medicine (Seton Hall), the University of Kentucky, and the University of West Virginia. Chapter I discusses the purpose of the report. Chapter II presents summary statistics of the 6 schools and focuses on: (1) the admission of the first class; (2) graduation of first class; (3) change between admission and graduation of first class; (4) school status in 1964-65; and (5) comparative resources data with all medical schools. For each focus quantitative measures and ratios were obtained for: faculty, students, student/faculty ratios, beds, research space, research and training support, and ratios of research space, beds, and research and training support per faculty member. Chapter III discusses the major factors influencing faculty staffing patterns and program development, such as the appointment of a Dean, service responsibilities, research facilities, and availability of funds. Chapter IV deals with sources of support for faculty salaries; Chapter V considers faculty recruitment; and Chapter VI covers faculty shortage areas. (AF)

DEVELOPMENT OF STAFFING PATTERNS IN SIX NEW MEDICAL SCHOOLS ESTABLISHED 1952-1960

Resources Analysis Branch
Office of Program Planning
National Institutes of Health

November 1965

FOREWORD

This summary report of staffing patterns in six new medical schools, established 1952-1960, is the first phase of a proposed study of biomedical staffing requirements in institutions of higher education, 1965-1975. Great changes are being wrought in the social milieu of the modern medical center; it would be unwise to extrapolate the staffing requirements of the Sixties and Seventies from the unique experience of the Fifties. Nevertheless, this experience clearly points up the more significant factors which must be taken into account in planning programs for training scientists and clinicians who will comprise the faculties of the twenty-five new medical schools which must be staffed in the next decade.

- To calculate teaching load, multiply the number of medical students by two; residents and interns, postdoctoral fellows, and graduate students account for one-half of the total student body.

- The total number of faculty must be increased at least more than 100 percent in the interim between admission and graduation of first class.

- Clinical faculty must be increased by at least 200 percent in this four-year interval. It can be expected that the demand for clinical faculty will be expanded even more rapidly in the future to staff regional medical centers, to provide more extensively for health services under the aegis of the medical center, and to develop and administer more effective programs of continuing education.

- Projections of faculty requirements developed by individual deans consistently understate future need; the nature and mix of research, service, and training opportunities are influenced primarily by national decisions and national programs.

- During the next decade, 5,000-10,000 full-time faculty will be required to staff 25 new medical schools; an additional 5,000-10,000 part-time faculty will be needed, largely in communities where this tradition will not reflect a continuation of prior commitments but the development of new institutional arrangements and rapport between the medical school and broader community of practicing physicians; an additional increment of roughly one-third may be needed to compensate for attrition. The second phase of the study, focusing upon the new schools now in varying stages of authorization, accreditation, construction, and operation, should provide more definitive insight into the validity of these estimates and the factors which now appear most significant in influencing staffing requirements.

Within the Resources Analysis Branch, Office of Program Planning, Office of the Director, Mr. Richard S. Dingle was primarily responsible for survey design, study execution, and preparation of this preliminary report; the planning and the conduct of this first phase of the study benefited materially from the intimate collaboration and participation of Dr. John F. Sherman, Asscciate Director for Extramural Programs, and Dr. Aaron Ganz, Training Grants and Fellowship Officer.

The second and subsequent phases of this study, especially when linked with follow-up studies of NIH fellows and trainees and the development of a medical school faculty roster, should prove of considerable value for planning NIH training programs.

Herbert H. Rosenberg

HERBERT H. ROSENBERG,
Chief, Resources Analysis Branch

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PRELIMINARY REPORT ON SIX MEDICAL SCHOOLS ESTABLISHED IN PERIOD 1952-1960

I. INTRODUCTION

This report presents a preliminary summary of the findings of a study of program development and staffing in medical schools established in the decade 1950-1960. The six schools which began operations during this period are the University of Miami (1952); Albert Einstein College of Medicine of Yeshiva University (1955); the University of Florida (1956); the New Jersey College of Medicine (Seton Hall) (1956); the University of Kentucky (1960); and the University of West Virginia (1960).[1/]

The six schools study was undertaken as the first phase of a proposed larger study designed "to assess the magnitude and nature of biomedical staffing requirements in new and expanded medical schools in the next ten years and to produce information relevant to the planning of NIH training programs." (See Appendix A -- Copy of Study Proposal).

The specific purpose of this first phase was to determine from the experience and developmental patterns of the six schools the more critical factors involved in staffing new medical schools in the past decade and to develop guidelines for further investigation, most relevant to estimating the staffing requirements of the 25 new medical schools to be established between 1960 and 1975.

1/ Seton Hall is presently undergoing a transition from private to public control and the present intention evidently is to construct a complete new physical plant at an undetermined new site in New Jersey. Because of the recency of conversion to a State-supported school, specific plans for future program development are tentative but the magnitude of needs for this school at its new site may approximate those of a completely new medical school.

Conduct of the study involved (1) development of core data for each school from widely varied sources, (2) site visits to ascertain major factors influencing faculty staffing patterns and program development, assuming each situation to be unique, and to verify and complement statistical data (including projections to 1970), and (3) analysis of findings, including both quantitative and qualitative relationships. (See Appendix B -- Copies of the memoranda reporting on the site visits to each of the six schools.)

II. SUMMARY STATISTICS ON THE DEVELOPMENT OF SIX NEW MEDICAL SCHOOLS, 1950-1960

The presentation of statistical data focuses first upon common developmental points: (a) year first M.D. classes were admitted; 2/ and (b) year first class graduated (Tables 1, 2, and 3). The second focus provides a calendar frame of reference, e.g., current (1964-65) levels irrespective of common developmental points (Tables 4 and 5). For each focus the following quantitative measures and ratios, discussed below, were obtained: Faculty, students, student/faculty ratios, beds, research space, research and research training support, and ratios of research space, beds and research and research training support per faculty member.

2/ The West Virginia School was converted from a previously existing 2-year school of medicine. Data from this school are for the year instruction was initiated for third year medical students and are not comparable with the first year data from other schools.

Table 1

Summary Statistics on Medical Schools Established 1950-1960:
Admission of First Class

Resource Factors	Total six schools	Range High	Range Low
1. Total faculty	265	80	21
a. Basic sciences	155	42	12
b. Clinical specialties	103	51	1
(c. Other professional staff--not included in totals)	(20)	(11)	(0)
2. Total students	608	257	26
a. Medical students	358	109	26
b. Residents and interns	209	201	0
c. Graduate students	34	22	0
d. Postdoctoral students	7	6	0
3. Clinical service (number of beds)	4,820	1,400	400
4. Research space (net square feet)	328,460	140,000	14,460
5. Research dollars (thousands)	$1,070	$583	0
6. Research training dollars (thousands)	$157	$103	0
Ratios			
1. Medical students/faculty	1.4	3.8	.7
2. Total students/faculty	2.3	3.8	1.2
3. Research dollar/faculty	$4,038	$7,571	0
4. Research training dollars/faculty	$592	$1,350	0
5. Research space/faculty	1,239	1,825	519
6. Residents & interns/clinical faculty	2.0	3.9	0
7. Number of beds/clinical faculty	47	400	15

SOURCE: National Institutes of Health

Resources Analysis Branch
Office of Program Planning, NIH
September 1965

Table 2

Summary Statistics on Medical Schools Established 1950-1960:
Graduation of First Class

Resource factors	Total six schools	Range	
		High	Low
1. Total faculty	595	154	59
a. Basic sciences	258	59	32
b. Clinical specialties	337	95	27
c. Other professional staff (not included in totals)			
2. Total students	2,350	615	231
a. Medical students	1,395	332	160
b. Residents and interns	700	245	30
c. Graduate students	115	41	0
d. Postdoctoral students	140	92	0
3. Clinical service (number of beds)	4,670	1,400	400
4. Research space (net square feet)	361,000	140,000	27,000
5. Research dollars (thousands)	$6,756	$2,300	$136
6. Research training dollars (thousands)	$2,522	$1,200	$0
Ratios			
1. Medical students/faculty	2.3	5.1	1.7
2. Total students/faculty	3.9	7.3	2.7
3. Research dollars/faculty	$11,354	$18,181	$1,402
4. Research training dollars/faculty	$4,239	$7,792	$0
5. Research space/faculty	607	909	320
6. Residents and interns/clinical faculty	2.1	4.9	.71
7. Number of beds/clinical faculty	14	23	6

SOURCE: National Institutes of Health

Resources Analysis Branch
Office of Program Planning, NIH
September 1965

Table 3

Summary Statistics on Medical Schools Established 1950-1960, Change Between Admission and Graduation of First Class

Resource factors	First class		Total six schools	Change between admission and graduation	
	Admission	Graduation		Number	Percent
1. Total faculty	265	595	1,128	330	125
a. Basic sciences	155	258	383	103	67
b. Clinical specialties	103	337	745	234	227
c. Other professional staff (not included in totals)	(20)		(203)		
2. Total students	608	2,350	3,186	1,742	287
a. Medical students	358	1,395	1,695	1,037	290
b. Residents and interns	209	700	982	491	235
c. Graduate students	34	115	260	81	238
d. Postdoctoral students	7	140	249	133	1,900
3. Clinical service (number of beds)	4,820	4,670	4,720	-150	-3
4. Research space (net square feet)	328,460	361,000	634,000	32,540	10
5. Research dollars (thousands)	$1,070	$6,756	$24,975	$5,686	531
6. Research training dollars (thousands)	$157	$2,522	$8,180	$2,365	1,506
Ratios					
1. Medical students/faculty	1.4	2.3	1.5	.9	64
2. Total students/faculty	2.3	3.9	2.8	1.6	70
3. Research dollars/faculty	$4,038	$11,354	$22,140	$7,316	181
4. Research training dollars/faculty	$592	$4,239	$7,252	$3,647	616
5. Research space/faculty	1,239	607	562	-632	-51
6. Residents and interns/clinical faculty	2.0	2.1	1.3	.1	5
7. Number of beds/clinical faculty	47	14	6.3	-33	-70

SOURCE: National Institutes of Health

Resources Analysis Branch
Office of Program Planning, NIH
September 1965

Table 4

Summary Statistics on Medical Schools Established 1950-1960: Status in 1964-65

Resource Factors	Total six schools	Range	
		High	Low
1. Total faculty	1,128	406	98
a. Basic sciences	383	128	39
b. Clinical specialties	745	278	59
c. Other professional staff (not included in totals)	(203)	(96)	(3)
2. Total students	3,186	843	400
a. Medical students	1,695	372	220
b. Residents and interns	982	349	63
c. Graduate students	260	86	10
d. Postdoctoral students	249	95	12
3. Clinical service (number of beds)	4,720	1,450	400
4. Research space (net square feet)	634,000	260,000	62,000
5. Research dollars (thousands)	$24,975	$12,000	$1,375
6. Research training dollars (thousands)	$8,180	$3,400	$480
Ratios			
1. Medical students/faculty	1.5	2.8	.9
2. Total students/faculty	2.8	4.1	2.1
3. Research dollars/faculty	$22,140	$29,557	$13,690
4. Research training dollars/faculty	$7,252	$11,905	$4,444
5. Research space/faculty	562	663	399
6. Residents and interns/clinical faculty	1.3	2.0	.9
7. Number of beds/clinical faculty	6.3	10.0	3.4

SOURCE: National Institutes of Health

Resources Analysis Branch
Office of Program Planning, NIH
September 1965

Table 5

Comparative Resources Data on Medical Schools Established 1950-60 with All Medical Schools: Status in 1964-65

Resource factors	ALL SCHOOLS U.S. (87) (1962-63, 1963-64)	Six New Schools						
		Average	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
1. Medical students/faculty.....	2.2 1/	1.5	.9	1.3	1.9	1.4	2.8	2.4
2. Total students/faculty.....	4.2 2/	2.8	2.1	2.6	3.0	3.2	4.0	4.1
3. Research dollars/faculty.....	$20,267 3/	$22,140	$29,557	$13,690	$22,222	$18,605	$21,698	$14,031
4. Research training dollars/faculty.....	$5,612 3/	$7,252	$8,374	$11,905	$4,444	$5,116	$5,660	$4,898
5. Residents and interns/clinical faculty...	1.9 4/	1.3	1.3	.9	1.0	2.0	1.5	1.1

1/ JAMA, (Education Number) Vol. 190: Table 4, page 602, (63-64 data).
2/ JAMA, (Education Number) Vol. 190: Table 4, page 602, and Table 3, Appendix I; (63-64 data).
3/ JAMA, (Education Number) Vol. 190: Table 4, page 602 (63-64 data); and Table 23, page 616 (62-63 data).
4/ JAMA, (Education Number) Vol. 190: Table 4, page 602, and Table 3, Appendix I. (63-64 data).

SOURCE: National Institutes of Health

Resources Analysis Branch
Office of Program Planning, NIH
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Faculty

Total full-time faculty in all six schools rose from 265 at the time first medical student classes were admitted to 595 in the year first classes were graduated -- an average increment of 55 per school, a net increase of 14 new faculty members per year. Individual school increases during this four-year period ranged from a low of 8 at West Virginia (which reflects only a two-year increase in an established 2-year school converting to a 4-year program) to a high of 94 at Kentucky.

Between admission and graduation of the first class, the number of faculty more than doubled. Faculty in the basic sciences increased by two-thirds, an increment of 103 for the six new schools. The clinical faculty gained 234 members, more than a 200 percent increase. During this same period, however, the total number of students increased nearly 300 (287) percent; the medical student/faculty ratio rose from 1.4 to 2.3 and the total student/faculty ratio increased from 2.3 to 3.9.

By 1965 total faculty had risen to 1,128, an additional increase of 533 or an average of 89 per school, ranging from a low of 98 to a high of 406. The greatest increase during this period occurred at Albert Einstein College of Medicine (252). Other increases ranged from a low of 1 at Kentucky to a high of 118 at Miami. 3/

3/ The year 1964-65 is not a common developmental point in time. It reflects varying periods of elapsed time since graduation of first classes, ranging from one (1) year at Kentucky to nine (9) years at Miami.

Growth of Research and Research Training Responsibilities and Resources

During the interval between admission and graduation of the first class, research dollars per faculty member expanded from $4 thousand to nearly $11.4 thousand and research training dollars per faculty member jumped from an average of roughly $600 to $4.2 thousand -- percentage increases of more than 180 percent and 600 percent respectively. And research space per faculty member declined by 632 net square feet, dropping from more than 1,200 net square feet to roughly 600 net square feet -- a 50 percent reduction.

Between graduation of the first class and 1965, research and research training dollars per faculty member doubled, rising to $22 thousand for research and $7.3 thousand for research training. Research space dipped to an average of 562 net square feet per faculty member, ranging from a high of 663 net square feet at West Virginia to 399 net square feet at Florida.

Students

Total enrollment of medical students increased from 358 in the first classes of all six schools to 1,395 at graduation of first classes. Size of initial first-year classes ranged from 26 at Miami to 80 at Seton Hall. Excluding West Virginia,[4/] the average was 50 per school at the time these initial classes were enrolled. At graduation of first classes, the average enrollment of medical students per school had risen to 233. It should be noted, however, that medical students, as a proportion of total students,

4/ Total medical student enrollment figures for the year first classes were admitted is inflated by the West Virginia figure (109), which reflects numbers of students in the first, second and third years.

declined from 65 percent to 55 percent in the interval between admission and graduation of the first class.

Medical student enrollments reached a total of 1,695 in 1964-65 ranging from 220 at Florida to 372 at Einstein, and averaging 283 for each of the six schools.

Total enrollments in other student categories -- Graduate Students, Interns and Residents, and Postdoctoral Research Fellows and Trainees -- rose from 250 at the time the first medical student classes were admitted, to 982 at graduation of first classes -- an increase of 235 percent. 5/ The 250 figure for the first point in time reflects enrollment of 201 Interns and Residents at Einstein which initiated such training programs in the year preceding admission of the first medical students.

By 1964-65 enrollments in these other student categories rose to 1,491, or 47% of total student enrollments in all schools, and an average of 248 per school. The 1,700 medical students represented slightly more than one-half (53 percent) of the 3,200 students, including almost 1,000 Interns and Residents and approximately 500 students receiving advanced training in graduate and postdoctoral fields. From graduation of first medical student classes to 1964-65, total enrollments of graduate students and postdoctoral research fellows and trainees increased from 245 to 509. a rise of more than 100%.

5/ These enrollment figures do not take into account other teaching responsibilities of medical school faculty, including instruction of technical students, students from other university schools or departments, and continuing education programs.

Student/Faculty Ratios

(1) Medical Students Only

Ratios of medical students per faculty member in the year first classes were admitted ranged from .7/1 at Einstein to a high of 3.8/1 at Seton Hall, with a six school average of 1.4/1. In the year first classes were graduated the average ratio had risen to 2.3 medical students per faculty member; but by 1964-65 it had dropped again to 1.5/1. The individual 1964-65 ratios ranged from a low of .9/1 at Einstein to a high of 2.8/1 at Seton Hall.

(2) Total Students -- All Categories

When total students -- including Interns and Residents, Graduate Students, and Postdoctoral Research Fellows and Trainees -- are used as the basis for computations the average ratio for all schools was 2.3 students per faculty member in the year first medical student classes wer admitted; 3.9/1 in the year first classes were graduated, and 2.8/1 in 1964-65. Ratios of total students per faculty member at the individual schools ranged in 1964-65 from a low of 2.1/1, again at Einstein, to highs of 4.0/1 at Seton Hall and 4.1/1 at West Virginia.

Number of Beds

The number of beds indicated in the Summary Tables for each of the six schools does not reflect the bed capacity of affiliated hospitals except where such hospitals are used as the primary clinical teaching facility. For example, the figures for Einstein include beds in the Jacobi and Van Etten Hospitals of the Bronx Municipal Center (the School's primary teaching facility) but exclude the affiliated Montefiore Hospital.

The schools with the largest numbers of teaching beds are those located in metropolitan areas -- Einstein, Miami and Seton Hall -- all of which use affiliated City or County hospitals as their primary teaching facilities. At Seton Hall the actual capacity of the Jersey City Medical Center is roughly twice the number of beds shown but the Center is under-utilized and the Dean estimates the effective operational capacity at about 600 beds.

Research Space

Available research space at the time first classes were admitted ranged from 14,460 net square feet at Seton Hall to 73,000 at Kentucky and 140,000 at Einstein; and totalled 328,460 for all six schools. By 1964-65 this total approximately doubled with the largest increases occurring at Einstein and Miami. Virtually the entire increase in total research space occurred in the past four-five years, after graduation of first classes at all schools except Kentucky and West Virginia.

Comparison with National Statistics

In general, significant ratios for the six new schools were better than the composite for all schools in 1964-65:

Ratios	All Schools	Six New Schools
1. Medical students/faculty	2.2	1.5
2. Total students/faculty	4.2	2.8
3. Research dollars/faculty	$20,267	$22,140
4. Research training dollars/faculty	$5,612	$7,252
5. Residents and interns/clinical faculty	1.9	1.3

The six school ratio exceeds the national average for research dollars per faculty member by 10 percent, for research training dollars by more than 25 percent, and for the three teaching ratios by 50 percent. Among the six new schools, however, these ratios vary widely. See Appendix C for tables providing detailed information for the six new schools showing: (1) Timing of development; (2) Number and distribution of students by type; (3) Number and distribution of faculty and other professional staff; (4) Ratios of students per faculty member; (5) Comparison of current ratios and 1970 projections (prepared by each of the Deans); (6) Research space; (7) Research space per faculty member; (8) Trends in support for research and research training; and (9) Ratios of research and research training support at common developmental points, in 1964-65 and projections for 1970.

Short-Run Projections to 1970

Short-run projections of program development appear in Appendix Tables 1 to 9. With the exception of facilities estimates, these projections reflected each Dean's estimate or intention rather than objectives or conclusions reached through specific planning efforts. Of particular significance, however, are the anticipated changes in student enrollments. *The Deans estimated that graduate students, postdoctoral research fellows and trainees, and interns and residents would account for 80% of total projected increases for all categories of students.* Without exception, all schools projected greater proportionate increases for these student categories than for regular medical student enrollments. Should these

projections be realized, interns and residents will rise from 30 percent to 34 percent of the total and the number of graduate students and post-doctoral fellows from 17 percent to 20 percent at these six new schools between 1965 and 1970; the proportion of medical students will decline from 53 percent to 47 percent of the total.

Summary

These summary statistics illustrate clearly (1) the to-be-expected phasing in acquisition of basic science and clinical faculty, (2) the changing mix in student composition between undergraduate medical students and all other students from roughly 2:1 to 1:1 in the brief interval between admission and graduation of first class, (3) the crucial relationship between support for research and research training and the staffing of new schools, and (4) the continuing rise in staffing requirements to permit the development of well-rounded and integrated programs of medical education, graduate education in the sciences, and postgraduate training of interns and residents.

III. MAJOR FACTORS INFLUENCING FACULTY STAFFING PATTERNS AND PROGRAM DEVELOPMENT.

A. Appointment of Dean

The amount of lead time between appointment of the Dean and admission of first medical student class directly influences the timing and directions of early program development and the extent to which facilities and program planning are effectively coordinated.

Of the six schools studied, Kentucky (4 years) and Florida (3 years) allowed the longest lead-time periods. At both of these schools, planning and construction of the Medical Science buildings and the Teaching Hospitals were dovetailed in time with the beginning of instruction in first-year classes and third-year classes respectively. These were also the only two schools to initiate graduate degree and postdoctoral research training programs within the year the first medical student classes were admitted. In contrast, such programs were not initiated at Seton Hall (1 year lead time) and Miami (no lead time) until 3-6 years after admission of the first classes. Seton Hall continues to function in limited medical sciences facilities shared with and owned by Jersey City; at Miami, the basic sciences faculty is still housed in inadequate, interim and scattered facilities, pending completion of the Medical Sciences Building in 1968.

B. Magnitude of Clinical Service Responsibilities

The heaviest clinical service loads, largest clinical training programs for interns and residents, and greatest emphasis upon full-time clinical staffing were found in the metropolitan area schools which use city or county hospitals as their primary teaching hospitals.

Both Einstein and Miami have assumed heavy professional care responsibilities under their City and County agreements, and the load is reflected in staffing patterns and clinical training programs. At both schools the numbers of interns and residents virtually equal total medical student enrollment (349 at Einstein; 299 at Miami), and the ratio of full-time clinical staff to basic sciences staff approximates 2.5 to 1.

Schools located away from metropolitan areas (Kentucky, West Virginia and Florida) are presently functioning with fewer hospital beds, substantially lighter clinical training loads, and fewer full-time clinical faculty members. In at least one instance (West Virginia) this represents a conscious decision to restrict the clinical service load to what is essential for clinical training of the regular medical student class, but location is also a factor. At both Kentucky and West Virginia the full bed capacity of the teaching hospitals has not yet been activated; nevertheless, Kentucky reports insufficient beds in certain clinical specialty areas.

Clinical service loads and training programs at the non-metropolitan schools -- notably Kentucky and Florida -- are expected to expand very substantially in the future. A new Veterans Administration hospital is already under construction at Florida and a similar VA facility is planned for Kentucky. Future plans at both institutions reflect also the very definite expectation that clinical training, research and service programs will experience significant additional growth under the impetus of new and pending Federal programs.

C. *Facilities for Research*

The two schools reflecting the most rapid early growth of research and of faculty and other professional staff were Einstein and Kentucky. Both began their Medical Student classes with completed Medical Sciences facilities and with the largest initial complements of research space both in total (Einstein 140,000 n.s.f.; Kentucky, 73,000 n.s.f.) and in relation to size of initial faculty (Einstein, 1,750 n.s.f. per faculty; Kentucky 1,825 n.s.f. per faculty.

Irrespective of current or projected levels, the early development of research activity and staffing (total professional staff as well as Basic Sciences faculty) was slowest in the schools with the smallest amounts of research space available at the time the first medical student classes were admitted.

D. *Availability of Federal Funds for Research and Research Training*

All of the six schools studied indicated that growth of research and research training and the relative proportion of faculty workload devoted to these activities were largely a function of the availability of Federal funds, predominantly from NIH sources. This seems confirmed by reports from the Deans that staffing in schools established during the early or mid-Fifties (when NIH extramural programs were at very modest levels) was confined largely to needs for the teaching programs in the period between admission and graduation of first medical student classes, but that research load has been increasingly reflected in the large number of professional staff recruited thereafter. For example, total professional

staff at Seton Hall rose only to 67 between 1956 and 1960 but leaped to 127 by 1964-65. At Florida the comparable figures were 82 in 1960 and 190 in 1964-65; and at Einstein 181 in 1959 and 502 in 1964-65.

IV. SOURCES OF SUPPORT FOR FACULTY SALARIES

A. State Appropriations

Without exception the state-supported schools -- Kentucky, West Virginia and Florida -- reported institutional policies under which the basic support of faculty salaries is sought through state appropriations. Even in these publicly supported schools, however, professional practice plans and Federal (NIH) programs are increasingly important sources.

B. Professional Practice Plans

Kentucky, Florida, Miami and West Virginia all have instituted either "strict full-time" or "geographic full-time" plans with income ceilings. Earnings under the strict full-time plans -- and excess earnings under the ceiling plans --go to central or departmental pools for operating support, principally for the support of faculty salaries in clinical departments. At Kentucky these funds are used exclusively for faculty salaries and presently constitute about one-fourth of the total faculty salaries budget.

Seton Hall and Einstein are now developing similar professional practice plans for future application.

C. *Federal (NIH) Grants and Contracts*

The magnitude of Federal support for faculty salaries is related directly to the volume of research and research training activity, and this source was found to be of significant and growing proportions in all six schools. Its relative importance, however, appears to be greatest in the "private" schools.

Of 406 full-time faculty at Einstein, 107 were paid entirely from Federal funds in 1964-65, 66 received Federal salary support ranging from 50-99 percent of total salary, and an additional 104 received such support but at levels constituting less than 50% of total compensation. At Miami -- total full-time faculty 215 -- the comparable numbers and proportions of Federal salary support were 94 (100%) 24 (50-99%) and 47 (1%-49%). Federal funds accounted for approximately 40 percent of faculty salaries at Seton Hall in 1964-65, 25-30 percent at Kentucky and Florida, and about 15 percent at West Virginia.

V. FACULTY RECRUITMENT

A. *Sources of Supply and Qualifications Sought.*

All six schools indicated the predominant source of recruitment to be the training programs or faculties of other medical schools, with substantial numbers of basic science faculty coming from University departments or schools other than Medicine. Output from the schools' own advanced training programs has not yet reached significant proportions,

and other sources -- industry, government, professional practice -- have contributed some, but not many, faculty members. In some of the schools, however, as much as 10%-15% of the staff appears to have been recruited from foreign sources, primarily in such areas as pathology, anatomy and some of the surgical sub-specialties.

With the continuing growth of research and research training and the development of new specialized programs, increasing emphasis in recruitment is apparently being placed upon research competence and research training, including combinations of experience and training needed for specialized programs; e.g., neurological sciences, behavioral sciences (Kentucky) or developmental biology and molecular biology (Einstein).

Lists of recent faculty acquisitions at several of the schools confirm this increasing emphasis upon research qualifications. Almost all of the new appointees have held research traineeships or fellowships, in most cases, apparently, with NIH support.

B. Factors Impeding or Facilitating Recruitment

The factors most frequently mentioned as assets or positive aids in faculty recruitment were (a) availability of adequate facilities, funds and other resources for faculty research; (b) opportunity to participate in planning and development of new programs; and (c) presence at the recruiting school of top-flight scientists conducting or developing dynamic and exciting programs.

Salary was mentioned only in a negative sense; at some of the schools recruitment of Basic Science faculty is hampered by low salary scales. The relatively remote location of the Kentucky, West Virginia and Florida schools appears also to affect recruitment efforts and faculty turnover.

VI. FACULTY SHORTAGE AREAS

With the single exception of Florida, all schools mentioned Anatomy (Gross Anatomy) and Pathology as areas in which trained manpower is in short supply. Shortages in Anatomy were attributed to the emphasis, in fellowship and training grant programs, upon specialty areas of Anatomy, and the relatively greater attractiveness of these specialty areas in comparison with Gross Anatomy. Shortages in Pathology were attributed in large part to the financial attractions of private practice. Several of the Deans felt that these "shortages" probably will not be overcome by changes in training programs and that recruitment from foreign sources will continue to be needed.

Various Deans mentioned other "shortage" areas -- Opthalmology, Psychiatry, Anesthesiology, Biochemistry, Pharmacology, Genetics -- but discussion indicated that in most cases these were related to recruitment difficulties attributable to factors other than a manpower shortage.

VII. FINDINGS AND CONCLUSIONS

As applied to further study of staffing and research training requirements of new medical schools, and to the planning of NIH programs to anticipate and help meet these needs, the following findings and conclusions seem particularly relevant:

1. Full-time staffing requirements in clinical departments, and the need for NIH funds to support professional salaries, research and training in clinical specialties will continue to be greatest for new schools established in large metropolitan areas. However, the probable effects of Medicare and the Heart-Cancer-Stroke program will be to disperse the clinical load and lessen the concentration of indigent and "marginal" patients in large city or county hospitals.

   These programs, coupled with the VA policy of constructing new hospital facilities in close physical relationship to Medical Schools, should tend to distribute clinical service loads -- and clinical research, training and staffing needs -- more evenly among urban and non-urban centered medical schools. They should also bring a significant increase in the magnitude of total medical school centered clinical services, and thus raise both the aggregate and the average medical school needs for clinical staffing and support of advanced clinical training and research programs.

2. The growth rate for both research activity and full-time medical school staffing in the first few years after admission of medical student classes, and the capability

for early initiation of training programs for graduate students and postdoctoral research trainees, will depend upon the amount of faculty research space available for use prior to or at the beginning of instructional programs for regular medical students.

Needed and realistically planned initial complements of research space at new medical schools should be related to anticipated levels of staffing and program development four to six years after admission of the first medical student classes. NIH should, therefore, consider the use of special, liberalized, space criteria as applied to research construction applications for new medical schools.

3. The availability of Federal (NIH) funds for the support of research and research training will be the key factor in (a) determining the relative emphasis put upon these activities by new medical schools, both in staffing and in program development; and (b) stimulating the initiation and development of new programs of training and research in specialized areas.

4. The magnitude of Federal (NIH) support for faculty salaries is related directly to the volume of research and research training activity. The relative importance of this source

is likely to be greatest in new medical schools established under "private" auspices but it will continue to constitute a significant and growing source for the publicly supported schools as well.

5. The experience of medical schools established in the Fifties illustrates the relative growth of staffing requirements for new schools and the critical role of demand from these new schools for Federal Funds in facilitating faculty recruitment, and providing support for training, construction, or faculty salaries. The magnitude and mix of staffing requirements are likely to be different, however, for the new schools of the Sixties and Seventies, reflecting the growing involvement of medical schools in meeting an ever-widening variety of health needs.

Most of the six schools studied were established in the mid-Fifties, before the advent of NIH or other Federal facilities grant programs, and before the dramatic increases that have occurred recently in the scope and diversity of Federal financial assistance for medical education and research. In consequence, their developmental patterns do not reflect the full impact of Federal programs. In contrast, the newly authorized medical schools will be planned and developed within the new context of broadened Federal financial participation and may be expected to seek the maximum Federal assistance for all operating programs and for construction of all facilities.

VIII. NEXT STEPS

Although helpful in identifying critical factors influencing program development and staffing, the study of medical schools established in the Fifties has served primarily to highlight the need for further investigation and to emphasize the desirability of proceeding now to Phase II of the original study proposal -- a study of plans and expectations for the 13 new schools now being developed (see attached copy of study proposal).

The striking changes that have occurred in medical education are reflected not only in recent growth and diversification of Federal programs, but also in the proposals of the President's Commission on Heart-Cancer-Stroke and the recommendations and underlying philosophy of the Coggeshall Report.[6/] The proposed second phase study will provide a timely opportunity to examine the extent to which these changes are being reflected in the initial planning of new medical schools, and to estimate the full measure of their potential impact in the development of medical school programs and staffing patterns. Specifically, the study should focus upon:

(1) The full extent to which Federal funds are being sought or will be sought for construction of research, teaching or hospital facilities at the medical center;

6/ *Planning for Medical Progress Through Education;* AAMC, April 1965.

(2) Plans for construction of VA hospitals or other affiliated clinical facilities within the medical center complex and the anticipated impact of such facilities upon staffing, training and research programs;

(3) Plans or expectations with regard to Federal support for research, research training, faculty salaries or any other operating programs.

(4) The extent to which plans reflect specialized regional or community needs, or are based upon expectations with respect to development of specialized regional facilities under existing or newly authorized (Heart-Cancer-Stroke) Federal programs.

(5) The extent to which the environmental setting and plans for program development give expression to the Coggeshall Report recommendations as they pertain to:

    (a) the concept of "physician education" as a continuum extending from pre-medical education through the M.D. curriculum, Internship and Residency training, research training and continuing education.

(b) the essential unity and interdependence of the teaching and research functions.

(c) the interrelationships among all health-oriented disciplines and the need to broaden and strengthen the interdisciplinary relationships of medical education within the total University setting.

(6) Plans for utilization of voluntary clinical faculty, and development of relationships with and services to professional practitioners in the community.

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UNITED STATES GOVERNMENT

Memorandum

APPENDIX A

TO : James A. Shannon, M.D.
Director, NIH

Through: Mr. Joseph S. Murtaugh, Chief
Office of Program Planning, OD

DATE: May 20, 1965

FROM : Chief, Resources Analysis Branch, OPP

SUBJECT: Proposed Study of Biomedical Staffing Requirements in Institutions of Higher Education.

For some time, we have been concerned with obtaining better information about biomedical staffing requirements in institutions of higher education, with priority emphasis upon new medical schools. On May 17, 1965, Dr. Sherman, Dr. Ganz and I met with Dr. Powers and Dr. Maloney to determine AAMC interest in undertaking such a study. Consideration was also given to asking Dr. Steinfeld, University of Southern California, to carry out such a survey. Neither of these possibilities has materialized. In the interim, the need for better information for manpower planning and the development of training programs has only become more acute.

Attached is an outline for a proposed study of this critical problem area. The study would be conducted in four phases using NIH staff. The first phase (pp. 3-4-6) would be conducted by staff of this office in collaboration with AD/EP staff with a target date of June 30, 1965. Target dates and proposed study procedures for each phase have been developed in consultation with Dr. Sherman and are set forth in the study outline attached hereto.

We can begin at once with the first phase. Assuming comparable collaborative arrangements for all four phases, it is estimated that one senior staff member of this office would be devoting half time to the study, June 1-October 30, 1965.

Herbert H. Rosenberg

Attachment

PROPOSED STUDY OF BIOMEDICAL STAFFING REQUIREMENTS (1965-75) IN INSTITUTIONS OF HIGHER EDUCATION

I. Background Statement

Virtually all recent growth projections or estimates of future health professional manpower requirements have emphasized the need for expansion of M.D. and Ph.D. output at levels requiring major expansion of existing medical schools plus establishment of at least 20 new schools by 1975. Plans for expansion of existing schools appear to be moving forward rapidly under the stimulus of the HPEA program, and 13 of the new medical schools have already been established with tentative plans to admit first-year classes by 1968.

Plans are also being developed and implemented for new and expanded graduate centers or university centers offering graduate programs in biological and related sciences.

By 1975 graduate enrollments and Ph.D. output in the Biosciences are expected to increase more than 100% above 1965 levels. Thus, NIH training programs must be geared to (1) contribute to the staffing needs of new medical schools, (2) enlarge opportunities for research and research training careers for a predictable doubling of graduate students and marked expansion of medical students, and (3) catalyze the development of centers of excellence and facilitate new approaches to graduate education in the biomedical sciences. At the same time, the establishment and initial development of such a large number of new medical schools concentrated within the next decade provides both NIH and the new schools with an unparalleled opportunity for imaginative innovations.

II. Purpose of Study

The central purpose of the proposed study would be to assess the magnitude and nature of biomedical staffing requirements for new and expanded institutions of higher education in the next 10 years--the immediate and principal focus being upon new and expanded medical schools--and to produce information both meaningful and relevant for planning NIH training programs. It is expected that such information would include:

(1) Quantitative estimates of staffing by rank and by department; medical students enrollments; faculty teaching responsibilities for other health professional personnel; numbers of graduate students; interns and residents and postdoctoral trainees; and volume of research activity.

(2) Institutional plans or expectations with regard to:

(a) Timing of staff acquisitions and development of training programs at the undergraduate professional, graduate, postdoctoral, and continuing education.

(b) Relative emphasis upon educational programs at the various levels, and upon research, clinical service, and community programs.

(c) Sources from which new faculty will be drawn, and the types and amount of previous research training (including sources and types of support) during training and experience expected of them.

(d) Plans for development of medical centers, medical complexes, specialized programs; e.g., toxicology-pharmacology, aging, dental research institutes, biomedical engineering, and mental retardation.

(e) Facilities and specialized resources for teaching, clinical service and research, including utilization of affiliated hospitals and research institutes.

(f) Sources of financial support for total operating costs and faculty salaries, including extent of dependence upon NIH training programs for support of research training.

(3) Critical factors in recruitment of faculty and development of research and research training programs, such as location, facilities, assured continuity in faculty salary support.

III. Phasing of Proposed Study

A. Initial Phase: Follow-up study of six medical schools established in the 1950's.

In 1961 a study was made by the Resources Analysis Branch, OPP, of five medical schools (Albert Einstein, Miami, Kentucky, West Virginia and Florida) established in the 1950's. The study included a comparison of institutional expectations versus experience in regard to faculty staffing, numbers and types of students, volume of research and research training activity, and the directions or institutional emphasis in development of medical school education, research and service programs. Information was also sought concerning the sources and prior training of faculty, and the critical factors affecting faculty recruitment.

The first phase of the proposed study would involve a restudy of these institutions; focusing upon the same quantitative and other data sought in the previous study and comparing current status with the 1961 findings. However, the study would be expanded to include Seton Hall, and the scope would be broadened somewhat to include assessment of:

(a) Changes in faculty staffing patterns

(b) The impact of NIH training programs

(1) Magnitude and distribution by field

(2) Contribution to development of new faculty

(c) The effects of any special factors such as changes in administration, institutional control or financial support, or the provision of new facilities and special resources.

(d) The relevance of recent experience for the staffing of new schools.

B. Second Phase: Study of the 13 already authorized new medical schools.

(1) Institutional plans and expectations with respect to facilities, sources of financial support, staffing, distribution of student enrollments, research and research training activity, program direction and emphasis.

(2) Type of institutional control.

(3) Effect of environmental and other special factors on staffing requirements and directions of program growth.

(4) Plans with respect to schedule or timing of program development; faculty recruitment; admission of first-year class; development of research and research training programs; initiation and development of graduate education programs, clinical service programs and training of interns and residents.

C. Third Phase: Plans for expansion of existing medical schools.

The AAMC estimates that about one-half of the needed expansion of medical education opportunities by 1975 will have to occur in already existing schools of medicine. This phase of the study would examine institutional plans for such expansion in terms of the quantitative and other factors already mentioned, with particular emphasis upon:

(1) impact upon staffing, and research training requirements;

(2) sources from which new staff will be drawn;

(3) changes in emphasis or direction of program growth;

(4) impact of any changes in environmental factors, institutional control (i.e., change from private to public control), or other special factors.

This phase will also include identification of foreign medical schools training large numbers of U. S. students and trends in the numbers of students in training.

D. Fourth Phase: New and Expanded Graduate Schools and University Centers offering graduate programs in biological and related sciences.

Necessarily more limited in scope than study phases which focus upon Medical Schools, but graduate schools and other University departments outside the health professions area account for about 25% of NIH extramural funds.

Emphasis would be upon:

(1) added requirements for biomedical staff;

(2) scope and emphasis in development of graduate programs in biological and related fields;

(3) probable sources of new faculty and types of training and experience required.

IV. Study Procedure

Data already available at NIH or obtainable through informational sources maintained by AMA and AAMC will be utilized to the maximum extent possible.

(1) Phase 1. Comparative data, augmented by correspondence or telephone communication, will be developed and analyzed by staff of RAB, OPP. Basic data should be supplemented by site visits utilizing staff of AD/EP and RAB-OPP. Estimated completion date - June 30, 1965.

(2) Phase 2. Will require site visits at least to all institutions whose plans for new medical schools are well advanced or already being implemented. Visitation would be preceded by a systematic review and analysis of all available information on plans for the new schools, and pilot testing of a structured interview guide. Estimated completion date: September 30, 1965.

(3) Phase 3. It is expected that much of the required information, including identification of existing schools for which major expansion is planned, will be available from (a) applications submitted by the schools for facilities grants under the HRF

and HPEA programs; (b) other NIH and AMA-AAMC sources; and (c) published institutional or state plans for expansion of higher education (where commitments to such expansion have been made). Estimated completion date: October 30, 1965.

Analysis of such data would be supplemented by discussions with Deans involved, at Bethesda, at AAMC annual meeting or, in selected instances, site visits.

(4) Phase 4. This phase of the study would focus primarily on approved state, institutional, or cooperative plans for new and expanded institutions, and on specific proposals or related institutional information obtained through the NSF Science Development program and the Higher Education Facilities program administered by the Office of Education. It will require the assistance and cooperation of NSF and OE staff. Estimated completion date: October 30, 1965.

RAB-OPP-OD
May 19, 1965
RSD:arb

APPENDIX B

School Visit Reports

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TO: Memorandum for the Record Date: August 10, 1965

FROM: Richard S. Dingle

SUBJECT: Site Visit to the University of Kentucky School of Medicine, Lexington, Kentucky, July 28, 1965.

Dr. Aaron Ganz and I visited the University of Kentucky Medical School on the afternoon of July 27 and the morning of July 28. Our time there was spent primarily with Vice-President and Dean William R. Willard and his assistant, a Mr. Delabar.

Kentucky presents a rather classic example of a medical school which, at least in these early development years, managed to dovetail the completion of its basic facilities with the development of its regular medical student program, and to keep the emphasis in the early years upon staffing to meet training load factors associated with the basic M.D. curriculum.

Timing in Acquisition of Faculty and Development of Medical School Programs

As applied to the University of Kentucky, Dean Willard agreed that our selection of the first two points in time (year first medical students class admitted and year first class graduated) was appropriate, but he emphasized also the significance of the year in which instruction of the third year class is begun; this because of the need for articulation of clinical staffing with initiation of hospital and clinical teaching programs. The basic science facilities in Kentucky were completed in 1960 to coincide with initiation of first year classes; the teaching hospital was completed in 1962 to coincide with the initiation of clinical teaching programs for the third year class; and the acquisition of basic sciences and clinical faculty was also related closely to these points in time.

Graduate degree programs were first initiated in the Departments of Anatomy and Biochemistry, during the year 1960-61. Willard pointed out that most schools would find it difficult to initiate such graduate programs prior to initiation of first year medical student classes because of the time required to plan, develop and obtain formal approval of such programs within the structure of a graduate division or graduate school. The first research training programs for postdoctoral research fellows or trainees were also initiated in the basic sciences departments (Biochemistry primarily) in 1960-61.

Clinical programs for the training of residents were first initiated in 1962 in the Departments of Pediatrics, Surgery, Medicine and Psychiatry.

In the basic science departments, the training load has been the prime factor in the acquisition of faculty. The same can be said for the clinical departments; although the staffing of these departments has been influenced in some degree by professional care and the growth of clinical service responsibilities, such responsibilities have developed thus far in close relationship to the clinical training programs for medical students, interns, and residents. Until now research has not been one of the prime factors in faculty recruitment, but it is a factor of growing importance as the volume of research activity increases, and Willard pointed out that "We are now somewhat ahead of our earlier staffing projections which were related exclusively to the projected training load."

Staffing at Kentucky has, on the whole, coincided roughly with the formal establishment of medical school departments, although in some cases the formal establishment of departments (particularly in medical or surgical subspecialties) often follows the acquisition of key faculty.

Recruitment Sources and Faculty Staffing Patterns

Of the total faculty hired prior to 1964 Dr. Willard estimates that "75 percent to 80 percent" came from other medical schools. The percentage in clinical departments alone is judged to be even higher, with basic sciences faculty split about 50-50 between other medical schools and University schools and departments other than Medicine. The Federal Government provided two or three (retired PHS and NIH) staff members, and a very small number came from private practice. Evidently none were recruited from research organizations or industry, and Dr. Willard stated that very few were obtained from foreign sources (The Kentucky catalogue indicates, however, that as many as 10 to 15 percent of the faculty received their highest degrees from foreign institutions).

Willard feels that the pattern of new faculty appointments since 1964 does not reflect any significant trends or changes in regard to recruitment sources or in the relative amounts of experience or training (this to be checked against the list of new acquisitions which we obtained). He did note, however, an increase in research activity, and there have been a number of recent acquisitions at senior levels with "strong research backgrounds." As to distribution of faculty workload -- between teaching, research, service or other activities--there has been an increase in the relative amount of research carried on and the proportion of the individual faculty member's time devoted to it.

Since graduate programs were only begun in 1960-61, and residency training programs were initiated two years later, these programs have not yet developed as staff recruitment sources.

Professional Practice Policies

The professional practice policy in effect at Kentucky is essentially a "strict full-time" plan under which the clinical faculty is permitted (apparently even encouraged) to engage in practice without formal limitations but with all professional practice income being pooled and budgeted back for faculty salaries. Evidently the funds are used exclusively for faculty salaries and are budgeted through a central fund; that is, none of it is used for other operating support purposes and none of it goes into "departmental" funds. As might be expected, the chairman of the Department of Surgery is somewhat less than enamored with this arrangement because in his view the surgery faculty is being discriminated against.

Currently, professional practice income accounts for roughly $500,000 of the faculty salary budget (total budget $2,270,000), and Willard expects that it may double or triple by 1970.

Staffing Problems--Shortages and Obstacles to Recruitment

With regard to faculty shortage areas, Willard mentioned Anatomy (Gross Anatomy), Ophthalmology, Otolaryngology, and Psychiatry. He feels that Kentucky's salary scale is sufficiently competitive and that, thus far, facilities have presented no obstacle to recruitment. In some specialty areas, more beds are needed and child psychiatry was cited as an example. Kentucky is now beginning to encounter some problems of space--notably research space--as existing space is taken up by the growth of research programs. Space limitations do not, however, appear to constitute a serious problem at this juncture, and it should be noted that Kentucky's clinical programs evidently have not yet reached the proportions required to activate the full bed capacity of the teaching hospital.

Other problems Willard is apparently now facing are (1) a considerable pressure from the faculty of certain clinical subspecialties (Ophthalmology and Otolaryngology particularly) for full departmental status in the medical school, based on the argument that it is both appropriate and necessary to resolve recruitment problems; and (2) an intra-university jurisdictional squabble over Microbiology, which is not now a medical school department.

Space and Facilities

Facilities available and in use at Kentucky are essentially unchanged since completion of the medical science building and teaching hospital. A 10-bed general clinical research center is located in the teaching hospital, and a small animal facility (about 5,000 n.s.f.) is now under construction with the help of a health research facilities grant. Willard verified the approximate accuracy of our space figures for the Medical Sciences building (180,000 n.s.f., including about 73,000 for research) but emphasized that this did not include the school of dentistry which is housed in a separate wing. He also mentioned that the medical school basic science faculty has a small amount of additional research space in the dental school wing.

Plans for Future (to 1970)

Dean Willard gave us copies of recently prepared academic and physical development plans for Kentucky, both of which contained two sets of projected figures (Phase I and Phase II) for students, staff and facilities. The Phase I projections--which contemplate full utilization of existing facilities, plus some additional construction--were used by Dr. Willard as the basis for his 1970 expectations.

A new university Biology building is now being planned for construction and this building will provide some added space for medical school departments. Willard also hopes to obtain a mental retardation grant and some six to eight million dollars of university or state money which can be used as non-Federal matching funds for additional medical center construction (but the specific structures for which these funds would be used have not yet been planned). He hopes also to obtain a new Veterans Administration hospital of about 370 beds, built contiguous to the medical center and providing beds primarily for medicine, surgery and psychiatry.

Assumptions underlying growth projections to 1970 are:

(a) that not much additional state money can be expected for operating support. Therefore, Kentucky expects the biggest potential for growth to be in the grants and contract field. It is probable also that Kentucky will emphasize or encourage additional private practice by the clinical faculty. This activity, which now provides $500,000 annually for faculty salaries, is expected by Willard to double or triple by 1970.

(b) Continuation, without significant change, of previous experience with regard to faculty recruitment sources; with the exception that some of the new faculty will begin to come out of Kentucky's own graduate education and research training programs.

(c) That funds for the construction of new or expanded physical facilities will be split about evenly between teaching and research facilities, and will be derived from Federal facilities grants matched by state funds.

(d) That existing programs will not change significantly in nature but there will be continued growth. New departments of cell biology and neurology have recently been established and there is now some discussion of the development of bioengineering programs and strengthening of what Willard called "programs in neuro-sensory areas." Plans for a medical computer center are moving, and Willard thinks there is need to get something going on the Appalachia program. There is also very active interest at Kentucky in the potentials related to the heart-cancer-stroke program.

Additional Observations

At Kentucky, the very significant increase in research is indicated not only by the rapid rise in the dollar volume of research and research training support, but also by the growth of graduate and postdoctoral enrollments and the increase in "other professional staff", most of whom are research personnel. Since the school opened in 1960, the numbers in this latter staff category have risen from 9 to 66.

Although Dean Willard did not so indicate, location seems to be a significant factor in the recruitment or retention of faculty. In the past year or two, Kentucky apparently has lost a number of faculty, some of whom departed not to better jobs but to return to prior positions in other medical schools.

Richard S. Dingle

RSD:arb

TO: Memorandum for the Record Date: August 9, 1965

FROM: Richard S. Dingle

SUBJECT: Site Visit to the University of West Virginia Medical School, July 30, 1965

Dr. Aaron Ganz and I met with Dean Clark Sleeth of the West Virginia School of Medicine at Morgantown on Friday, July 30.

Timing in Development of Programs and Facilities, and Acquisition of Staff

The basic sciences or medical sciences portion of the new West Virginia University Medical Center plant was completed in 1957, and the University Hospital and Clinics portion was completed in 1960 to coincide with admission of the first third year class. The medical sciences facility contains approximately 555,000 g.s.f. of space, including space for dentistry, nursing and pharmacy. The teaching hospital contains 563,000 g.s.f., of which not more than about 5,000 n.s.f. is research space. This does not take into account the 10-bed general clinical research center which is located in the hospital.

Since West Virginia was a two-year medical school for many years before the four-year program was initiated, the basic science departments were staffed and had established graduate degree programs well before the third-year class was admitted. However, there were no programs for postdoctoral research fellows and trainees until 1962 when a small number of such postdoctoral students were taken in clinical areas such as medicine and surgery. Residency training programs were first initiated in 1961, also in the Departments of Medicine and Surgery.

Faculty staffing has coincided very closely in time with formal establishment of medical school departments and has been based predominantly upon training load factors associated with the regular M.D. curriculum and the graduate degree programs in the basic sciences departments. Even the clinical departments have been staffed almost entirely in relation to clinical teaching requirements for regular medical students. In consequence, the number of interns and residents has remained small and the full bed capacity of the teaching hospital has still to be activated.

Staffing Patterns and Recruitment Sources

Of the faculty hired prior to 1964, close to three-fourths is estimated to have come from other medical schools with a substantial share of the remainder coming from other university schools and departments. As was the case at Kentucky, the basic sciences appointees were split between other medical schools and other university departments, with most of the clinical staff appointments coming from other medical schools. According to the Dean, very few came from advanced training programs at West Virginia and a small number -- in clinical departments -- came from foreign countries. The West Virginia catalogs, however, indicate that at least ten to fifteen percent of the full time faculty at West Virginia were recruited from foreign institutions, primarily in clinical departments such as Pathology, Ophthalmology, and Anatomy.

Dean Sleeth estimated that most of the products of advanced training programs at West Virginia went to other higher education institutions, with fewer than one-fourth remaining at West Virginia.

The Dean estimates that recent faculty appointments have not varied significantly from earlier experience in regard to sources of recruitment, but there has been some broadening of the range of institutions at which advanced training has been received. Most new appointments have been at relatively junior levels, but new appointees in the junior ranks characteristically have more postdoctoral training than earlier appointees and are being hired predominantly at the assistant professor level with little use of the instructorship. Also, a larger proportion of their total workload has been devoted to teaching, in part, because until now the teaching responsibilities for students in the dental, pharmacy, nursing, and technical curricula have continued to expand.

Professional Practice Policy

West Virginia faculty is composed of two groups; one a "strict-full time" group, and the other "geographic full-time". For the strict full-time group, the policy appears to be essentially the same as that in effect at Kentucky; that is, practice is permitted without formal limitation but professional fee income is pooled and budgeted back for operating support of the medical school. For the geographic full-time group, practice is limited to university facilities, and supplemental earnings are limited to 25% of the individual's total compensation. Excess earnings beyond the 25% ceiling are handled the same as the earnings of the strict full-time group.

Faculty Shortages and Recruitment Problems

Anatomy, Pharmacology, Pathology and Radiology are listed by the Dean as faculty shortage areas. Apparently, it has been necessary to look to foreign sources for a significant number of new appointees in these areas, particularly in Pathology. The West Virginia salary scale presented a recruitment problem in past years, but is now becoming more competitive. Location also presents a problem, but one which is sometimes removed when prospective applicants come to Morgantown and see the excellent facilities and attractive physical environment. Dean Sleeth views the quality of the facilities and the newness of his programs as plus factors in recruitment.

Space and Facilities

There have been no significant additions to the basic physical plant. A small amount of research space in the teaching hospital has been provided with the help of a Health Research Facilities grant, and a General Clinical Research Unit of ten beds has been established in the Teaching Hospital.

Affiliated institutions are of limited value. The Monongahela General Hospital has been dropped as an affiliation; the Veterans Administration Hospital at Clarksburg, and the State TB Hospital, are both 40 to 50 miles from the Medical Center; and the only other affiliated institution is a convalescent home which is used very little. Nevertheless, the existing clinical facilities at the Medical Center are not fully utilized and in the Dean's view are adequate to handle most of the projected growth in clinical teaching programs for regular medical students, interns and residents.

Information available to us prior to the West Virginia visit indicated a total of about 38,000 n.s.f. of research space at West Virginia for the Medical School, excluding animal quarters of about 27,000 n.s.f. for the Medical Center. Dean Sleeth stated that the figures should be closer to 80,000 n.s.f. in the Basic Sciences building alone. Dean Sleeth hopes that by 1970 the animal facilities will be approximately doubled in size and an animal farm will be added; also, existing plans for the next five years contemplate construction of additional space for both the basic sciences departments and the clinical departments, totalling about 75,000 n.s.f., of which two-thirds will be research laboratory space.

Future Plans

Future plans at West Virginia contemplate modest increases in medical student enrollments, about a one-third increase in graduate and postdoctoral enrollments, and a doubling of both clinical and basic sciences faculty by 1970. The number of interns and residents will continue to be limited in relationship to the clinical teaching programs associated with the basic medical student curriculum.

Heretofore, program emphasis has been predominantly upon teaching, particularly in the clinical departments, but Dean Sleeth hopes to expand and strengthen existing or newly established programs of research and research training in cardiovascular diseases, neurological sciences, and physical medicine and rehabilitation. West Virginia is also planning to develop interdisciplinary research programs oriented to community health needs, and the Dean states that the heart-cancer-stroke center concept of regionalization has been an underlying goal at Morgantown from the beginning.

It is felt that these new or expanded programs will be given great impetus by Medicare and the Heart-Cancer-Stroke program will have a very significant impact on staffing requirements and clinical service loads as well as upon the levels of support needed for research and research training. The impact will be primarily one of magnitude, however, since most of the specialized programs the Dean mentioned (including cardiovascular research and neurological sciences) have already been established but on a modest scale.

Assumptions underlying 1970 projections are:

(a) That future increases in operating support will have to come primarily from Federal or other outside sources. State support for West Virginia Medical School comes from the so-called "pop-tax", but is based on a formula which relates the amount of such support to the state population.

(b) That previous experience and patterns in regard to recruitment of faculty will continue without significant change.

(c) That sources of funds for construction of new or expanded facilities will be split between the West Virginia "pop-tax" and Federal matching money.

Additional Observations

The dollar volume of research and research training support at West Virginia has doubled since 1960-61 and is expected to double again by 1970. Presently, all graduate students studying for the Ph.D. degree are receiving some form of research training support, and about three-fourths of the Master's Degree candidates also receive support. Approximately 25 to 30 medical students receive summer research fellowships each year, with the support derived primarily from the NIH General Research Support Grant. The third and fourth year medical student curriculum is a 24-month continuum which includes three months of vacation and three months of elective investigative activity; thus the Dean estimates that within the 24-month period each medical student will receive at least three months experience in research training or clinical investigative activity, and some of them receive as much as six to nine months.

Richard S. Dingle

RSD:arb

TO: Memorandum for the Record Date: August 9, 1965

FROM: Richard S. Dingle

SUBJECT: Site Visit to Albert Einstein College of Medicine, August 4, 1965.

Dr. Aaron Ganz and I visited Einstein on August 4, and spent most of the day with Dean Marcus Kogel.

Not unexpectedly, we found the Einstein program, resources, and plans most impressive. Historically, the selection of a dean for this school and the affiliation agreement worked out by Yeshiva University with the City of New York for the Bronx Municipal Hospital Center were perhaps the key factors in providing almost "instant resources" for clinical services, training and research programs and for the very rapid development of a large and distinguished faculty heavily supported with research funds.

Plans for the Bronx Municipal Hospital Center were undoubtedly in process even before the decision by Yeshiva University to establish the Einstein School of Medicine. In 1953 Dr. Marcus Kogel, Commissioner of Hospitals for the City of New York, was recruited as Dean for the new school, and an agreement was subsequently worked out with the City which gave Einstein not only complete professional control in the Jacobi and Van Etten Hospitals (containing more than 1200 beds), but also, control of the physical planning for these new structures. Thus, Einstein was able to program some 50,000 n.s.f. of faculty research space in the hospitals and control the plans for housing of clinical teaching programs. Although these hospitals are municipal facilities, the academic and professional control exercised by Einstein is apparently almost as effective as if they were university owned.

The Jacobi and Van Etten Hospitals were completed in 1954, one year ahead of completion of the Medical Sciences building (180,000 n.s.f. total, of which about 93,000 is health-related research space). Thus, Einstein was enabled to initiate its program in 1955-56 with complete basic science facilities, with new major clinical facilities and with available research space totalling approximately 140,000 n.s.f.

Initial availability of these excellent facilities, coupled with apparently generous private support and institutional policies which have permitted and encouraged aggressive early recruitment of distinguished faculty members provided an early environment that was probably the envy of every person who had ever been the first dean of a new publicly supported medical school and who probably had less public money to work with in the early years than Kogel had.

Timing in Development of Programs and Acquisition of Faculty

At the Einstein School of Medicine, residency training programs in clinical specialties were actually initiated ahead of admission of the first class of medical students. This was directly related, in time, to completion of the Jacobi and Van Etten Hospitals and to the assumption of clinical responsibilities by Einstein under the affiliation agreement with the City of New York.

Graduate degree programs in basic science departments were initiated in 1957 and programs for postdoctoral research fellows and trainees were also begun in 1957.

Again, because of professional care responsibilities assumed under the contract with the City, early staffing in clinical departments was based in considerable measure upon these professional care responsibilities but this changed rapidly with the growth of residency training programs and activation of third and fourth year medical school classes. In the basic science departments training load has been a key factor particularly at the beginning. Even in the initial years, however, research has played a part, and as research, research training and specialized programs continue to develop, staff recruitment is increasingly related to the needs of these growing programs.

Staff recruitment has corresponded roughly with the formal establishment of medical school departments and other organizational units. The Einstein policy apparently permits considerable flexibility, however, and Kogel states that much of the hiring of key faculty is based upon the "availability of exciting or promising individuals."

Staffing Patterns and Faculty Recruitment

Of the faculty hired prior to 1964, the Dean estimates that a considerable number (as many as one-third of the staff in a few departments such as Anesthesiology, Pathology and Rehabilitation Medicine) have come from the training programs developed at Einstein. Other medical schools have contributed very heavily, particularly in the clinical departments, and the basic sciences faculty have been recruited primarily from other medical schools and other university departments or schools. Several of the key faculty have come from the National Institutes of Health, and a small number--notably in Pathology and Anatomy -- have been brought in from foreign countries.

Recent acquisitions to the staff reflect very much the same pattern in regard to recruitment sources. Because so much of the initial staffing was composed of key faculty members at senior levels, appointments in recent years have been more heavily at the junior levels; but at these junior levels Einstein is requiring stronger qualifications and the emphasis is increasingly upon research competence and potential. As to distribution of faculty workload, there has been a continuation of policies under which clinical faculty are expected to assume responsibilities for teaching, service, and research, and basic sciences faculty divide their responsibilities between teaching and research. In practice, however, the average faculty member spends only a small part of his time in teaching--perhaps no more than 15 or 20 percent.

Professional Practice Policy

Einstein appears to have no formal policy or specific limitations upon the private practice of clinical faculty members at this time; but beginning in January 1966, a "geographic full-time" policy will be put into effect with a time limitation of eight hours a week. There is presently under construction a 375 bed "Einstein College Hospital", which will be opened in January and which will be used not as a teaching hospital but as a private practice pavilion for Einstein faculty. Einstein faculty will conduct their practice in this pavilion, will pay rental for use of the facilities, and will be subject to a ceiling on total earnings with excess income flowing into a school of medicine pool.

Staffing Problems or Shortage Areas

Einstein is in the fortunate position of having very few obstacles to recruitment or other staffing problems. The Dean preferred to talk about the plus factors, mentioning in particular the excellence of resources and the presence of exciting research groups and top quality scientists who serve to enhance the attractiveness of the institution as a potential employer.

Significantly, Kogel also mentioned Anatomy and Pathology as the areas of the most critical manpower shortages. He also mentioned Radiology, Anesthesiology and Obstetrics, but Anatomy and Pathology appear to present the greatest problems.

Facilities

These have already been discussed in part. It should be noted, however, that the new Ullman Research Center--a twelve-story research facility containing about 115,000 n.s.f has now been completed with the help of a Health Research Facilities grant. According to Dean Kogel, it is already filled by the rapidly growing research activities, many of which have been using rented space or other interim housing arrangements pending completion of the building. The plaque in the lobby of this new building says that it contains "Institutes" for Biophysics and Cell Biology, Biomedical Research, Blood Research, Molecular Biology, Genetics, Cancer Research and Animal Studies. Some of these appear to be regular teaching departments instead of Institutes in the usual sense.

Specialized facilities include a general clinical research center in the Van Etten Hospital, a general clinical research center-Acute in the Jacobi Hospital, a neurological clinical research center also in the Jacobi Hospital, a neurological sciences institute, a computer center, a human heredity center, a rehabilitation center and a few others.

The Montefiore Hospital (680 beds) has apparently been used as the center of Einstein activities focused on continuing education for physicians but Kogel says, "We are now trying to capture research space at Montefiore."

New Programs or Departments

Recently established departments include Cell Biology, Molecular Biology, Genetics, Biophysics (now being set up) and Developmental Biology. Most of these new programs appear to be housed in the Ullman Research Center.

Future Plans and Facilities

Einstein has recently received a large NIH award for construction of a 71,000 n.s.f. Mental Retardation Center and development of a new program in Maternal and Child Health. The Edenwald School for Disturbed Children and the Lincoln Hospital (City owned) will be key facilities in this program. A contract has been negotiated with the City of New York for construction of a completely new Lincoln Hospital building of 400 beds to replace the existing facility. The new agreement is such that Einstein will assume complete clinical responsibility for the hospital, and it will include substantial research space and complete teaching services.

Also being planned is a large new wing on the existing Medical Sciences building (about 80,000 n.s.f.). The new wing will house classroom expansion, academic administrative offices, the computer center and audio-visual program, and other activities. It is related to Einstein plans for expansion of M.D. classes to the level of 120 per class.

In addition to the large Mental Retardation and Maternal Child Health program now being planned, Einstein plans further "sharpening" and expansion of some of its newly established programs as well as existing specialized activities. There is active interest and planning for the heart-cancer-stroke program and Einstein expects to be designated a center for neurological diseases, stroke, and perhaps other. These new and expanding programs are expected to have a very heavy impact upon research load and upon the magnitude of clinical service loads. The existing clinical service load is already quite heavy, and the Lincoln Hospital contract is expected to add significantly to it, but Kogel says, "We are organizing and staffing to meet the load."

Assumptions underlying future plans and projections are:

(a) That support for research and research training will continue to be drawn primarily from Federal sources.

(b) That faculty salaries will continue to be funded primarily from sources other than the Government (this is doubtful).

(c) That faculty recruitment needs or problems will be solved in part through Einstein's own training programs, but that foreign sources will continue to be needed for such areas as Anatomy and Pathology.

(d) That funds for new and expanded physical facilities will be available through Government grants (H.P.E.A. grant for the classroom addition) with matching funds from private gifts and grants.

Medical Student and Graduate Student Research Training Support

According to Dean Kogel, all graduate degree students at Einstein are receiving support for their research training--predominantly from NIH. There has been a steady increase in research training for medical students and at least one-half of them are involved in some form of research during their M.D. program. Currently, some 70-90 medical students have summer research fellowships. Some of them are supported by New York City funds but most are supported through the NIH General Research Support grant or other NIH sources, and six Einstein students are on the NIH Medical Scientist Training Program.

Richard S. Dingle

RSD:arb

TO: Memorandum for the Record Date: August 10, 1965

FROM: Richard S. Dingle

SUBJECT: Site Visit to New Jersey College of Medicine and Dentistry (Seton Hall), August 5, 1965

Dr. Aaron Ganz and I visited the Seton Hall Medical School -- now the New Jersey College of Medicine and Dentistry -- on Thursday, August 5. We met with Dean James McCormack and an Associate Dean.

We learned from Dean McCormack that a decision has definitely been made to move the Medical School out of Jersey City to a yet undetermined new location. This decision will not be formally announced until after the gubernatorial election in November, but there is no attempt to keep it a secret and the search for an appropriate new site is already under way.

Because of this decision there are no plans for any additional construction at the present site; and because of the recency of conversion to a State supported school, plans for future program development in the new location have hardly begun. All student and staffing projections to 1970 are, of course, dependent upon funding and construction of facilities at the new location.

Developments at this school should be followed closely since the magnitude of its needs will undoubtedly approximate those of a completely new medical school.

Timing of Program Development and Acquisition of Faculty

Graduate Degree programs were first initiated in the Basic Sciences Departments (Anatomy, Physiology, Biochemistry, Pharmacology, and Microbiology) in 1961. The program began with two students in each of the five Departments and is now up to four students per department. The first graduate degrees were conferred in 1964-65.

Residency training programs began in 1958, coinciding with enrollment of the first third year class, and postdoctoral research fellows and trainees were first accepted in 1962-63.

In both clinical and basic sciences areas training load has been the prime factor determining the number and timing of staff appointments. Research has been a secondary factor thus far.

Foreign Students

There are no foreign students in the basic M.D. curriculum and only a very few among the graduate students and postdoctoral research trainees. However, a high percentage of interns and residents have been recruited from foreign sources. This is attributed by Dean McCormack to the increasing difficulty of attracting qualified graduates of U. S. schools to the Jersey City plant and the pattern is expected to change when the move is made to new facilities.

Dean McCormack pointed out that, although Clinical Department Chairmen in the Medical School also head the clinical services of the hospital, the school does not have effective professional control. It is the city and not the Medical School which controls the selection of Interns and Residents.

Recruitment Sources and Faculty Staffing Patterns

Faculty hired prior to 1964 came predominantly from other Medical Schools with a substantial number of basic sciences staff recruited from University departments or schools other than Medicine. A few in Pathology and Obstetrics came from the Military, and a significant number of the clinical faculty apparently came directly from professional practice. None were produced by advanced training programs at Seton Hall except a few on the clinical staff, but even here, Dr. McCormack reports, "our best students always go elsewhere."

There has been virtually no recruitment of additional faculty in the past year, even though a large number of positions are vacant. At this juncture, the Dean is concentrating his efforts upon retention of the more competent members of the existing staff and deferring vigorous recruitment efforts until plans for the new facilities and revitalized medical school programs are further advanced.

Professional Practice Policy

Seton Hall has not previously formulated any specific plans for private practice by the clinical faculty because the original affiliation agreement with Jersey City forbade such practice by salaried members of the staff. Looking toward the future, a professional practice policy is now being developed but it will have significance only within the expected new physical plant.

Staffing Problems, Shortages and Obstacles to Recruitment

McCormack mentioned Anatomy and Biochemistry as specific manpower shortage areas, but Seton Hall has shortages and staff recruitment problems across the board. Among the obvious problems are space limitations, lack of professional control in the hospital, a poor hospital reputation coupled with deteriorating clinical facilities, the transitional period through which the medical school is now passing, and the limited scope of the present programs.

Space and Facilities

Data available to us prior to the New Jersey visit indicated a total of about 22,000 net square feet of faculty research space at Seton Hall. McCormack says this understates the amount of space actually available and he is to send me corrected figures. Research space is, however, grossly inadequate.

In addition to the Jersey City Medical Center, Seton Hall has been using clinical facilities at the V.A. hospital in East Orange and St. Elizabeth's Hospital--primarily because of the inadequacy and deplorable condition of the Jersey City Center. About one-half the Center's beds are empty, the hospital cannot attract competent personnel, and the buildings are antiquated and inadequately maintained. Steel windows are rusted and inoperable, the hallways are consistently dirty, and the heating system -- at least in the Dean's office -- works but cannot be controlled effectively, requiring the use of window air-conditioners throughout the winter as the alternative to suffocation.

According to the Seton Hall Catalogue the Jersey City Center offers students "a rich and varied clinical experience." According to Dean McCormack, it is "a cesspool", and he can hardly wait to tell the city fathers what they can do with their dirty old pile of bricks.

Richard S. Dingle

RSD:arb

TO: Memorandum For the Record Date: August 23, 1965

FROM: Richard S. Dingle

SUBJECT: Site Visit to the University of Miami School of Medicine, August 11 and 12, 1965

Dr. Aaron Ganz and I visited the University of Miami School of Medicine on August 11 and 12. We talked with Associate Deans John Finnerty and John Robinson, and Dr. D. Bailey Calvin, Assistant Dean for Research. Dr. Nicholson, the Dean of the School, was out of town during the week of our visit; however, Dr. Finnerty has been at Miami since 1955 and is well acquainted with the development and future plans for this school.

Miami uses the Dade County Jackson Memorial Hospital (about 1400 beds including bassinets) and the adjacent Bascomb-Palmer Eye Institute as its primary clinical teaching facilities. The latter facility was built by the "Workers for the Blind" on a site leased from Dade County, and is operated and controlled by a medical school department of ophthalmology. The basic science departments are presently housed at the VA Hospital in Coral Gables (the old Miami-Biltmore Hotel).

Facilities and Space

The basic science facilities at the VA Hospital site in Coral Gables provide about 30,000 n.s.f. of space; added space approximating 18,000 n.s.f. is used by the Department of Pharmacology on the University of Miami's South Campus, and a medical research building constructed in 1959 with the help of a Health Research Facilities Grant provides about 54,000 n.s.f. research for basic science and clinical facilities. Another 2600 n.s.f. of research space is available in a small building (the Philbrick Building) across the street from the Medical Research Building. Recent additions include the National Children's Cardiac Hospital, a 50-bed specialized clinical and clinical research center, and the Papanicolau Cancer Institute. The latter is an affiliated facility which provides some additional research space; the Children's Cardiac Hospital has been taken over entirely by the University.

A new Medical Sciences Building containing 103,000 n.s.f. (50,000 n.s.f. for research) has been funded -- in part by an HRF grant -- and is scheduled for completion in 1968. A new VA Hospital is now under construction at the Jackson Memorial Hospital Center, and a large new wing

is to be constructed by Dade County on the Jackson Memorial Hospital as a replacement of existing facilities. The new wing will not add to the hospital's bed capacity. Additional facilities still in the preliminary planning stages include (a) a new clinical sciences building; (b) new animal facilities; (c) a medical library and auditorium; (d) a pharmacology and toxicology center, and (e) a mental retardation and child health center. The last two are still in the discussion stage, although proposals are now being developed.

Timing of Program Development and Acquisition of Faculty

At Miami graduate degree programs at the Master's degree level were initiated in basic science departments about 1955. Programs at the Ph.D level were first offered in 1958 in the Departments of Anatomy, Physiol , Biochemistry, and Pharmacology.

Residency training programs began in 1954, coinciding with enrollment of the first third-year class, and postdoctoral research trainees and fellows were first accepted in the Department of Medicine about 1956.

In the school's earliest years acquisition of faculty was based almost entirely upon training load factors. Research and research training were not significant factors until completion of the Medical Research Building in 1959, but they are growing in importance with the addition of research floors on the Bascomb-Palmer Institute, the recent acquisition of the Children's Cardiac Hospital and the new affiliation with the Papanicolau Cancer Institute.

The magnitude of clinical service responsibilities has been a factor of considerable importance in the recruitment of clinical staff. The Miami school has assumed a clinical service load at Jackson which is estimated to be about twice what is needed for the training programs. Hospital statistics reveal a very heavy in-patient and out-patient load, and Associate Dean Robinson mentioned that annual out-patient visits alone increased five-fold -- from 50,000 to more than 240,000 since the school was established in 1952.

Foreign Students

According to Dr. Finnerty, very few of the medical students or graduate students are from foreign countries; however, Cuba and some of the Latin American countries have contributed a considerable number of the interns and residents as well as a few postdoctoral research fellows and trainees. It is expected that these countries will continue to be the most heavily represented among the foreign students. Miami has also been conducting special continuing education or "refresher" programs for Cuban and Latin American physicians. Some 1,200 Cubans are currently enrolled in these programs.

Recruitment Sources and Faculty Staffing Patterns

Faculty hired prior to 1964 came primarily from other medical schools, with a significant number of basic sciences faculty recruited from university schools or departments other than medicine. Very few have come out of Miami's own advanced training program. Evidently, Dermatology and Ophthalmology are considered to be among the strongest of Miami's departments in research and advanced training, and these departments were mentioned not only as the source of the few Miami faculty members who are products of the institution's own programs, but also as the principal contributors to the faculties of other higher education institutions.

Evidently, a number of the clinical faculty have come from private practice and some have been recruited from foreign sources.

The pattern of staff recruitment in the last year or two has been influenced by "saturation" of the limited basic sciences facilities. Appointments in the basic sciences departments have thus been restricted or deferred and recruitment has been largely in the clinical departments.

Recent appointments have been largely at the junior faculty levels, but with increasing emphasis upon research training and competence. Because of the "availability of NIH funds for research and faculty salaries", research is increasing as a proportionate part of the average faculty member's workload, and the number of faculty members working in research exclusively is increasing.

Professional Practice Policy

Professional practice by Miami faculty members is subject to an income ceiling which limits professional income to an amount equal to base salary. The maximum total compensation is fixed, however, at $36,000. Practice is limited geographically to the medical center facilities, with overhead charges assessed, and income above the ceiling goes into departmental pools for operating support purposes.

Faculty Shortage Areas and Obstacles to Recruitment

Pathology and Anatomy were mentioned as the departmental areas in which shortages appear to exist. Psychiatry was also mentioned, but Drs. Finnerty and Robinson expressed the opinion that the difficulty in this area is attributable primarily to the income ceiling.

The principal obstacle to recruitment, particularly in the basic sciences, is the lack of adequate facilities. Completion of the new medical sciences building will do much to remove this obstacle. Recruitment of basic science faculty is also hampered by a relatively low salary scale, and the heavy clinical service loads have in some instances hampered the recruitment of faculty in clinical departments.

New Programs

Recently established new programs include "Nuclear Medicine and Radiobiology" within the Department of Radiology and a "Cell Physiology Program", funded originally in 1961 with NIH and NSF money.

Future Plans

In addition to programs already mentioned as being in the planning stages, Miami is considering the establishment of a new program in rehabilitation medicine. It is also expected that a proposal will be developed for a regional program or programs related to heart-cancer-stroke. Virtually all plans for expansion of students and staff, as well as for the development of new programs, are dependent upon the completion of additional facilities now under construction or planned.

Assumptions underlying enrollment and staffing projections are:

a. That financial support for research and research training, and increasingly for faculty salaries, will be derived from Federal sources but that state subsidy, tuition and university subsidy will provide the basic support for expanded teaching programs. Finnerty mentioned that the State of Florida has now increased its subsidy to the level of $4,500 per Florida student in the School of Medicine.

b. That funds for construction of new and expanded facilities will come from Federal sources (HRF and HPEA programs) with the non-Federal matching portions derived from gifts and foundation grants.

Medical Student Research Training

Until the last few years virtually none of the medical students received research training. Presently about 50-55 students receive such training, and a continuing increase in magnitude is anticipated. The principal source of support has been the NIH General Research Support Grants.

Richard S. Dingle

RSD:arb

TO: Memorandum for the Record Date: August 23, 1965

FROM: Richard S. Dingle

SUBJECT: Site Visit to the University of Florida Medical School, August 13, 1965.

Dr. Aaron Ganz and I visited the University of Florida Medical School at Gainesville on Friday, August 13. We met with Dean Emanuel Suter and members of his staff, and with Dr. Samuel Martin, Provost for the Health Sciences.

Facilities

Basic facilities for the University of Florida School of Medicine include the Medical Sciences Building (238,000 n.s.f., including 33,000 for research), completed in 1956, and the University Hospital and Clinics. The Hospital was completed in 1958 to coincide with the beginning of instruction for third-year medical student classes. Facilities added subsequently include a new medical research wing containing 27,000 n.s.f. of research space; and animal storage facility; a primate research facility, and a general clinical research center within the teaching hospital. Specialized facilities for rehabilitation have also been provided in the hospital.

Now under construction are a total body counting facility, and an animal research laboratory building; and the first phase of a "human development center", containing 42,000 n.s.f. of research space, is funded and under contract. All of these additional facilities have been aided by Health Research Facilities grants. A new VA Hospital of about 500 beds is also being constructed on a site adjacent to the medical center.

Plans for future construction include expansion of the primate facility to add some 18,000 n.s.f. research laboratory space. A new dental school is to be added to the Gainesville Medical Center, and present plans call for appropriation of state funds in the 1967-69 biennium for the construction of dental school facilities. These plans include an additional appropriation of funds to enlarge the medical school facilities. It is expected, however, that this expansion of the medical sciences building will not be completed until after 1970.

Timing and Development of Programs and Acquisitions of Faculty

Graduate degree programs were first initiated at Florida in the Departments of Biochemistry, Physiology, Anatomy and Microbiology in 1957. The first postdoctoral research fellow (one student) was accepted in microbiology, also in 1956-57. Residency training programs were initiated in 1958 upon completion of the teaching hospital and enrollment of the first third-year medical student class.

In both the basic science and the clinical departments training load has been the prime factor in recruitment of faculty, and staffing has coincided very closely with formal establishment of medical school departments. Research load is expected to increase in importance as new facilities are added, but until now it has not significantly influenced the numbers or timing of faculty appointments.

Recruitment Sources and Faculty Staffing Patterns

Other medical schools have been the predominant source for recruitment of faculty, particularly in the clinical departments. Although recruitment in the basic sciences has also been primarily from other medical schools, a substantial number of appointees have come from university schools and departments other than medicine. A small number of appointees has come from Florida's own advanced training programs, but output from these sources is just beginning; further, the dean expressed himself as opposed in principle to staff recruitment, by Florida, from its own training programs. Students completing advanced training at Florida therefore are encouraged to go elsewhere.

Dean Suter indicated that there have been no significant changes recently in staff recruitment patterns, except that there is an increasing emphasis upon research training and research competence.

Professional Practice Policy

The Florida plan is essentially a "strict full-time" plan, under which professional income goes primarily to departmental pools, with a portion flowing into a central pool used for "academic enrichment".

Staffing Problems--Shortages and Obstacles to Recruitment

Dr. Suter was the only one of the six deans visited who did not mention anatomy, pathology or both, as specific shortage areas. He referred only to a shortage of "geneticists", relating this shortage to the needs of various existing medical school departments.

A lack of adequate space in existing facilities was cited by Dr. Suter as the principal obstacle to recruitment at this time. Salary scale also constitutes a major problem, particularly for basic sciences faculty, and the location of the school at Gainesville has at times hampered recruitment. Dean Suter expects that the completion of new specialized facilities now under construction or planned, and initiation of the specialized programs they will house, will do much to overcome current recruitment problems attributable to limited facilities or scope of program.

Future Plans

Additional research space and specialized research facilities planned for the near future have already been discussed. Dean Suter also mentioned the possibility that Florida may develop a community health program, and discussions are being held with what Suter referred to as "the Jacksonville people" (Duvall County Hospital) aiming toward development of a proposal for a regional complex under the heart-cancer-stroke program.

The dean emphasized that his staff and students projections to 1970 are completely dependent upon completion of additional facilities already planned and funded. Also, any enlargement of enrollments in the basic medical student curriculum will have to wait for expansion of the medical sciences building which is to be funded at the time of the dental school appropriation, and probably will not occur until after 1970.

Assumptions underlying 1970 projections are:

a. That basic support for faculty salaries will continue to come from state appropriations, except for the portion of clinical faculty salaries which is derived from professional practice income.

b. That Florida will continue to depend heavily upon Federal sources--particularly NIH--for the support of research and research training activities, although an attempt is being made to obtain some continuing support through the state budget.

c. That construction funds will come largely from state appropriations and Federal matching grants.

Additional Observations

At present, about 25 or 30 medical students are receiving summer research fellowship support, primarily from NIH funds, with a few additional students receiving some research support from individual departments of the medical school. The total number is expected to at least double by 1970.

Richard S. Dingle

RSD:arb

APPENDIX C

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Table 1

Timing of Development: Six Medical Schools Established in Period 1952 - 1960

Medical school	Year Dean appointed	Year first class admitted	Year first class graduated	Elapsed time (in years)			Average yearly increase in number of faculty	
				From appointment of Dean to admission of first class	From admission of first class to 1964-65	From graduation of first class to 1964-65	From admission of first class to graduation of first class	From graduation of first class to 1964-65
Einstein.....	1953	1955-56	1958-59	2	9	6	25.0	37.5
Florida.....	1953	1956-57	1959-60	3	8	5	10.0	20.0
Kentucky.....	1956	1960-61	1963-64	4	4	1	23.5	1.0
Miami.....	1952	1952-53	1955-56	0	12	9	19.0	13.0
Seton Hall.....	1955	1956-57	1959-60	1	8	5	9.5	9.5
West Virginia.....	1959	1960-61 1/	1961-62	1	4	3	2.0	4.0

1/ Admission of first third year class in a school converting from 2 to 4 year program.

Resources Analysis Branch
Office of Program Planning, NIH
September 1965

Table 2

Number of Medical Students, Graduate Students, Postdoctoral Research Fellows and Trainees, and Interns and Residents: Six Medical Schools Established in Period 1952 - 1960

	Total all schools	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
I Year First Class Admitted							
Total students	608	257	51	55	26	80	139
Medical students	358	56	47	40	26	80	109 1/
Graduate students	34	-	3	9	-	-	22
Postdoctoral research fellows and trainees	7	-	1	6	-	-	-
Interns and residents	209	201	-	-	-	-	8
II Year first class graduated							
Total students	2,350	615	245	434	393	432	231
Medical students	1,395	332	177	229	198	299	160
Graduate students	115	18	11	29	16	-	41
Postdoctoral research fellows and trainees	140	20	9	92	19	-	-
Interns and residents	700	245	48	84	160	133	30
III 1964-65							
Total students	3,186	843	429	401	687	426	400
Medical students	1,695	372	220	262	301	301	239
Graduate students	260	27	47	32	58	10	86
Postdoctoral research fellows and trainees	249	95	58	28	29	27	12
Interns and residents	982	349	104	79	299	88	63

Table 2 continued

Number of Medical Students, Graduate Students, Postdoctoral Research Fellows and Trainees, and Interns and Residents: Six Medical Schools Established in Period 1952 - 1960

	Total all schools	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
IV 1970 Projection							
Total students.....	4,080	1,035	540	655	900	485	465
Medical students.....	1,875	400	240	295	350	330	260
Graduate students.....	390	65	60	55	90	20	100
Postdoctoral research fellows and trainees.....	415	150	55	85	60	35	30
Interns and residents.....	1,400	420	185	220	400	100	75

1/ Enrollment in first, second, and third year classes (a converted 2-year school).

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Table 3

Faculty and Other Professional Staff: Six Medical Schools Established in Period 1952 - 1960

	Total all schools	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
I Year first class admitted							
Total professional staff.....	286	91	26	49	21	21	78
Faculty, total.....	265	80	26	40	21	21	77
Basic sciences.....	155	29	25	28	12	19	42
Clinical departments.....	110	51	1	12	9	2	35
Other professional staff.....	21	11	-	9	-	-	1
II Year first class graduated							
Total professional staff.....	686	181	82	172	97	67	87
Faculty, total.....	595	154	66	134	97	59	85
Basic sciences.....	258	59	32	56	36	32	43
Clinical departments.....	337	95	34	78	61	27	42
Other professional staff.....	91	27	16	38	-	8	2
III 1964-65							
Total professional staff.....	1,331	502	190	201	215	122	101
Faculty, total.....	1,128	406	168	135	215	106	98
Basic sciences.....	383	128	49	57	64	46	39
Clinical departments.....	745	278	119	78	151	60	59
Other professional staff.....	203	96	22	66	-	16	3

Table 3 continued

Faculty and Other Professional Staff: Six Medical Schools Established in Period 1952 - 1960

	Total all schools	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
IV 1970 Projection							
Total professional staff.....	1,769	600	230	293	270	175	201
Faculty, total.....	1,507	480	200	211	270	150	196
Basic sciences.....	539	160	65	81	95	60	78
Clinical departments.....	968	320	135	130	175	90	118
Other professional staff.....	262	120	30	82	-	25	5

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Table 4

Ratios of Students per Faculty Member: Six Medical Schools Established in Period 1952 - 1960

Medical school	Students per faculty (medical students only)			Students per faculty (Total students)		
	Year first class admitted	Year first class graduated	1964-65	Year first class admitted	Year first class graduated	1964-65
Average, all schools.....	1.4	2.3	1.5	2.3	3.9	2.8
Einstein.....	.7	2.2	.9	3.2	4.0	2.1
Florida.....	1.8	2.7	1.3	1.9	3.9	2.6
Kentucky.....	1.0	1.7	1.9	1.4	3.2	3.0
Miami.....	1.2	2.0	1.4	1.2	4.1	3.2
Seton Hall.....	3.8	5.1	2.8	3.8	7.3	4.0
West Virginia.....	1.4	1.9	2.4	1.8	2.7	4.1

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Table 5

Ratios of Students per Faculty Member: Six Medical Schools Established in Period 1952 - 1960, Comparison of 1964-65 Ratios with Ratios Projected for 1970

Medical school	Students per faculty (Medical students only)		Students per faculty (Total students)	
	1964-65	1970 Projection	1964-65	1970 Projection
Average, all schools.....	1.5	1.2	2.8	2.7
Einstein.....	.9	.8	2.1	2.2
Florida.....	1.3	1.2	2.6	2.7
Kentucky.....	1.9	1.4	3.0	3.1
Miami.....	1.4	1.3	3.2	3.3
Seton Hall.....	2.8	2.2	4.0	3.2
West Virginia.....	2.4	1.3	4.1	2.9

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Table 6

Total Net Square Feet of Research Space: Six Medical Schools Established in Period 1952 - 1960

Medical school	First year class admitted	First year class graduated	1964-65	1970 projection	Net change year first class admitted to 1964-65	Projected net change 1964-65 to 1970
Total, all schools.....	328,460	361,000	634,000	831,000 1/	305,540	259,000 1/
Einstein.....	140,000	140,000	260,000	380,000	120,000	80,000
Florida.....	33,000	33,000	67,000	135,000	34,000	68,000
Kentucky.....	73,000	80,000	80,000	120,000	7,000	40,000
Miami.....	28,000	31,000	100,000	126,000	72,000	26,000
Seton Hall.....	14,460	27,000	62,000	--	47,540	--
West Virginia.....	40,000	50,000	65,000	110,000	25,000	45,000

1/ Totals for five schools, (excludes Seton Hall).

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Table 7

Net Square Feet of Research Space per Faculty Member: Six Medical Schools Established in Period 1952 - 1960

Medical school	First year class admitted	First year class graduated	1964-65	1970 projection	Net change year first class admitted to 1964-65	Projected net change 1964-65 to 1970
Average, all schools.....	1,239	607	562	612 1/	(-677)	50 1/
Einstein.....	1,750	909	640	708	(-1,140)	68
Florida.....	1,100	500	399	675	(-701)	276
Kentucky.....	1,825	597	593	569	(-1,232)	(-24)
Miami.....	1,333	319	465	467	(-1,014)	2
Seton Hall.....	688	551	585	--	(-103)	--
West Virginia.....	519	588	663	561	144	(-102)

1/ Average for five schools, (excludes Seton Hall).

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Table 8

Volume of Research and Research Training Support: Six Medical Schools Established in Period 1952 - 1960

(Thousands of dollars)

	Total all schools	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
I Year first class admitted							
Total research and research training	$1,227	$200	$ --	$341	$ --	$ --	$686
Research	1,070	200		287			583
Research training	157			54			103
II Year first class graduated							
Total research and research training	9,278	3,200	1,600	2,800	136	700	842
Research	6,756	2,000	1,200	2,300	136	450	670
Research training	2,522	1,200	400	500	--	250	172
III 1964-65							
Total research and research training	33,155	15,400	4,300	3,600	5,100	2,900	1,855
Research	24,975	12,000	2,300	3,000	4,000	2,300	1,375
Research training	8,180	3,400	2,000	600	1,100	600	480
IV 1970 Projection							
Total research and research training	60,400	30,000	6,500	6,200	10,500	3,700	3,500
Research	46,300	24,000	4,000	5,000	8,000	2,800	2,500
Research training	14,100	6,000	2,500	1,200	2,500	900	1,000

Table 8 continued

Volume of Research and Research Training Support: Six Medical Schools Established in Period 1952 - 1960

(Thousands of dollars)

	Total all schools	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
V Net change: year first class admitted to 1964-65							
Total research and research training	31,928	15,200	4,300	3,259	5,100	2,900	1,169
Research	23,905	11,800	2,300	2,713	4,000	2,300	792
Research training	8,023	3,400	2,000	546	1,100	600	377
VI Projected net change 1964-65 to 1970							
Total research and research training	27,245	14,600	2,200	2,600	5,400	800	1,645
Research	21,325	12,000	1,700	2,000	4,000	500	1,125
Research training	5,920	2,600	600	500	1,400	300	520

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Table 9

Ratios of Research and Research Training Support per Faculty Member: Six Medical Schools Established in Period 1952 - 1960

	Average all schools	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
I Year first class admitted							
Total research and research training	$6,228 1/	$2,500	$ --	$8,525	$ --	$ --	$8,909
Research	5,431	2,500		7,175			7,571
Research training	797	--		1,350			1,338
II Year first class graduated							
Total research and research training	15,594	20,779	24,243	20,895	1,402	11,864	9,906
Research	11,355	12,987	18,182	17,164	1,402	7,627	7,882
Research training	4,239	7,792	6,061	3,731	--	4,237	2,024
III 1964-65							
Total research and research training	29,393	37,931	25,595	26,666	23,721	27,358	18,929
Research	22,141	29,557	13,690	22,222	18,605	21,698	14,031
Research training	7,252	8,374	11,905	4,444	5,116	5,660	4,898
IV 1970 Projection							
Total research and research training	40,080	62,500	32,500	29,384	38,888	24,667	17,857
Research	30,723	50,000	20,000	23,697	29,629	18,667	12,755
Research training	9,357	12,500	12,500	5,687	9,259	6,000	5,102

Table 9 continued

Ratios of Research and Research Training Support per Faculty Member: Six Medical Schools Established in Period 1952 - 1960

	Average all schools	Einstein	Florida	Kentucky	Miami	Seton Hall	West Virginia
V Net change: year first class admitted to 1964-65							
Total research and research training.....	23,165	35,184	25,000	18,141	23,721	27,358	9,968
Research.....	16,710	26,810	13,095	15,047	18,605	21,698	6,408
Research training.....	6,455	8,374	11,905	3,094	5,116	5,660	3,560
VI Projected net change 1964-65 to 1970							
Total research and research training.....	10,687	24,816	7,500	2,718	15,167	-2,691	-1,020
Research.....	8,582	20,690	6,905	1,475	11,024	-3,031	-1,224
Research training.....	2,105	4,126	595	1,243	4,143	340	204

1/ Average for three schools only (Einstein, Kentucky, and West Virginia)

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