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LIAISON COMMITTEE ON MEDICAL
EDUCATION

REPORT OF THE SURVEY OF
INDIANA UNIVERSITY
SCHOOL OF MEDICINE
INDIANAPOLIS, INDIANA

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20
22
31
32
33
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42
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By the
Liaison Committee on Medical Education
Representing the
AMERICAN MEDICAL ASSOCIATION
and the
ASSOCIATION OF AMERICAN MEDICAL COLLEGES

October 19 - 23, 1987

MEMORANDUM

TO: Liaison Committee on Medical Education
FROM: *Ad Hoc* Survey Team to the Indiana University
School of Medicine
SUBJECT: Final Recommendations
DATE: October 23, 1987

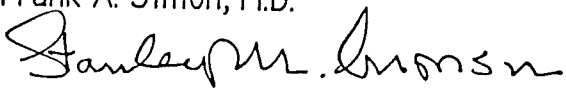
It is recommended that full accreditation be continued for the Indiana University School of Medicine for an entering class not to exceed 265 students, with a progress report to be submitted by January 31, 1991 to address the following issues:

1. Recruitment of replacements for retiring chairmen and key administrators.
2. A plan for faculty development in the Centers for Medical Education.
3. Development of a curriculum to teach public health and social medicine.
4. Plans for teaching ambulatory care.
5. Development of a unified practice plan.

George E. Thoma, Jr., M.D., Chairman

Robert S. Blacklow, M.D.

Frank A. Simon, M.D.



Stanley M. Aronson, M.D., Secretary

1. COMPOSITION OF SURVEY TEAM:

INDIANA UNIVERSITY SCHOOL OF MEDICINE

OCTOBER 19-23, 1987

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2. PRIOR SURVEYS:

a. 1971 Survey: "Recommended that the accreditation of the Indiana University School of Medicine be continued for the usual period..."

b. 1979 Survey:

1. The survey team expresses its thanks and appreciation to Dean Beering and his staff and to the faculty for their excellent presentations, their careful attention to the team's requests, and for their remarkable hospitality which has made the site visit easier and more pleasant than would have been the case otherwise.
2. The Indiana School of Medicine is a large, vigorous, and very impressive unit in a fine institution. There is no question in the minds of the team that Dean Beering has provided the vision and the capable leadership which have given the impetus for the school's development in the 1970's. The Dean's broad contacts, his many positions of responsibility, and his wide range of accomplishments make him the unquestioned leader and chief architect of medical education at all levels in Indiana today. In light of this, particularly in recognition of his broad responsibilities for several other organizational units in the University, it would seem desirable and fitting for the University to broaden his appointment.
3. Thanks also go to Deane Beering's staff, faculty, and students for their unflagging efforts to supply the data and other information requested by the team in its investigations. Their patience and candor were greatly appreciated and give evidence of the high morale which exists throughout the school.
4. In the opinion of the team, the great quantity of required staff work for the efficient operation of an educational institution so dispersed and so complex supports the Dean's need for additional help at an appropriate level for academic affairs, continuing medical education, graduate studies, and research.
5. An excellent faculty supports the direction of the school and its program. It has been noted, however, that in certain places there are weaknesses and unrests which deserve early attention. In particular, organizing a program of faculty development is to be commended; its vigorous implementation is encouraged.

6. With regard to the problems cited in the report of the last survey team, many have been corrected either partially or totally, while substantial progress has been made in others. These actions are commended; they should be continued.

7. The self study task force report provides evidence of much careful consideration of the school's programs and points the way to useful modifications. It has made the task of this team immeasurably easier.

8. The concept of providing medical education through centers located throughout the state has been implemented boldly, shrewdly, and effectively. All of the centers for medical education were visited and in most instances they appear to be operating satisfactorily. There is a considerable degree of variation in some respects but the student responses to the centers is uniformly favorable. Leadership by the directors has been spirited, and the faculty displays considerable degree of independence in curriculum development. Recently, medical center department chairmen have had annual workshops for the exchange of ideas and examination of materials, as well as the development of course objectives, goals, and content. This coordinating effort should be encouraged in order to utilize better the splendid resources in the system.

Students from the various medical education centers achieve comparable scores on Parts I and II of the examinations of the National Board of Medical Examiners. This has been cited as the best objective evidence that the educational effort has been successful. Additionally, faculty in the clinical years indicate that they are unable to distinguish between students who had their first year at one of the centers and those who had their first year at Indianapolis. In the view of the team, the experiment in medical education which the centers represent merits continued support. The team strongly encourages the initiation of further longitudinal, objective studies of student performance and community impact, including, for example, measurements of cognitive versus non-cognitive talents, performance in residency training, differences in career choices, completion of specialty training, achievement of board certification, final location in practice, etc.

In general, observations of the team confirm the findings detailed in the self study task force report. Evansville, Lafayette (Purdue), and Muncie (Ball State) have made excellent starts while Fort Wayne

seems to have considerable potential. South Bend and Terre Haute are performingly creditably. Two campuses seem to present pressing problems which call for skill, tact, and resources in their resolution:

A. Bloomington presents two types of problems:

i. Academic: There is evidence of considerable unrest and discontent among the faculty members who perceive the loss of identity and scholarly status of their long-established programs of graduate studies in the basic sciences, and the combined M.D./Ph.D. degree program, as faculty are isolated and lose input into curriculum and school decision making; and

ii. Physical Plant: The handsome old stone building which houses the center has an interior which is dilapidated and literally falling to pieces in places, and which is simply not maintained to the standard observed on every other campus of this distinguished university. Even in the tiny lounge area, students must share space with dusty glass jars of preserved specimens.

B. Gary (Northwest Center) appears impoverished, isolated and deprived. Intellectual life there must be Spartan indeed, with crowding, an inadequate library, and an unfavorable geographic location. It will take more than a building twice as large as the present one to provide students assigned with an academic atmosphere approaching that existing at the other centers.

If the curriculum is to be extended through the second year in other Centers than Indianapolis and Bloomington, such extensions should be limited to additional Centers selected only after careful consideration is given to available resources, programs and personnel. The LCME should be advised of these plans before they are implemented.

9. Other aspects of the undergraduate medical education program seem substantial and satisfactory. Everyone seems to agree that the Introduction To Clinical Medicine in the second year is an outstanding example of interdisciplinary teaching.

10. Graduate education is of three types: (a) the combined M.D./Ph.D. program at Bloomington for which that faculty would like more

support, (b) residency training which has been organized splendidly and financed by the Indiana Medical Education Board under the chairmanship of the Dean, and (c) graduate education programs for the entire state.

11. Continuing medical education: The extensive, state-wide TV network housed at the Medical Center in Indianapolis is remarkable for its performance and capability. Encouragement should be given to its further, more effective, extension into the undergraduate curriculum. Lack of assessment of physician needs in continuing medical education programming is evident. The actual use of TV network outlets should be monitored..

12. As mentioned previously, except for Bloomington, physical facilities are generally first class. It is the opinion of the team that early construction of the library and educational resources building in Indianapolis will enhance both the campus and curriculum. Several departments, such as orthopedic surgery, have what would appear to be appropriate plans for remodeling to permit more effective outpatient teaching and/or patient care. It is the opinion of the survey team that the animal quarters will need to be upgraded in order to be accredited by the American Association for Accreditation of Laboratory Animal Care.

13. Indianapolis and environs appear rich in clinical resources and the team ventures the opinion that these should be used more extensively for student clerkship, etc.

14. The Departments of Medicine, Pediatrics, Obstetrics - Gynecology, Psychiatry, and Medical Genetics made great contributions to the schools effort.

15. The team is Impressed by the sound financial base provided by the legislature, supplemented by private philanthropy.

16. Research activity has shown Impressive Increases since the last survey; it should be continued and expanded.

17. The team feels that the school's information storage and data retrieval systems are of great benefit to the Institution's programs and are effectively utilized.

18. The foresight shown in developing plans and suitable alternatives vis-a-vis the Indiana University Master Plan is to be commended.

19. Almost all the students in the centers for medical education were interviewed, as well as a considerable number of students based at the Medical Center in Indianapolis. They voiced a number of concerns, even as they evidenced loyalty to, and enthusiasm for, the system, and particularly for the small group teaching contacts in the centers: (a) student counseling seemed scanty and at times less than optimal; (b) students desired a better flow of more dependable school and course information and resource materials; (c) students in Gary did not believe any student health resources were available; (d) some students reported having found that procedures for getting financial aid were bureaucratic and frustrating; (e) in several centers lounge and locker areas were inadequate or lacking altogether; (f) students were concerned and even incensed about the faculty's failure to make "required" comments on their evaluations; and (g) they asked for some exposure to materials and discussion on social and economic issues in medicine today, medical ethics, etc., to lighten the heavy load of highly technical information provided by the curriculum.

20. A number of miscellaneous items warrant brief identification in order that they may receive consideration and development in the future.

A. In view of the recent agreement concerning Medical Center hospital privileges, it is hoped that there will be an early resolution of problems in family medicine.

B. Faculty salaries should be competitive in order to facilitate recruiting and retaining faculty.

C. Experience elsewhere has shown the importance of an equitable faculty practice plan(s) under the supervision of the Dean and with adequate accountability.

D. It is hoped that the school will take advantage of the fine staff and facilities of the Department of Radiation Oncology.

E. In the opinion of the survey team, too heavy reliance has been placed on the NBME examinations. The progressive improvement in student performance on these exams is gratifying; however, the

school should be encouraged to seek innovative and imaginative additional evaluation procedures.

3. THE SETTING OF THE SCHOOL :

The principal component of the statewide system of undergraduate medical education of Indiana University is situated in metropolitan Indianapolis, the state capital and an urban community of about 800,000 population. The Medical Center campus is a part of *Indiana University-Purdue University at Indianapolis* campus (IUPUI), and occupies 85 acres within the bend of the White River (see map.) The medical campus structures include Fesler Hall (housing the medical school administrative structure as well as some research laboratories), the Medical Research and Library (under construction), Medical Science Building, Medical Research Facility, Emerson Hall, Psychiatric Research Building, Radiation Therapy Building, Riley Hospital for Children, and the University Hospital. In addition, the campus includes the Schools of Dentistry and Nursing.

Undergraduate medical education in the basic science years is also offered in eight geographically dispersed Centers for Medical Education located in Terre Haute (Indiana State University), Lafayette (Purdue University), Bloomington (Indiana University), South Bend (Notre Dame University), Muncie (Ball State University), Evansville (University of Evansville), Ft. Wayne and Gary (Indiana University Northwest Campus).

4. The Parent University:

The parent institution is Indiana University a land-grant college located principally in Bloomington, Indiana with additional campuses in many other cities within the state of Indiana. The University offers a comprehensive range of graduate degree programs in the liberal arts and sciences including all of the disciplines within biomedical sciences. Indiana University School of Medicine is the only medical school in the state with a current medical student enrollment of 1,069.

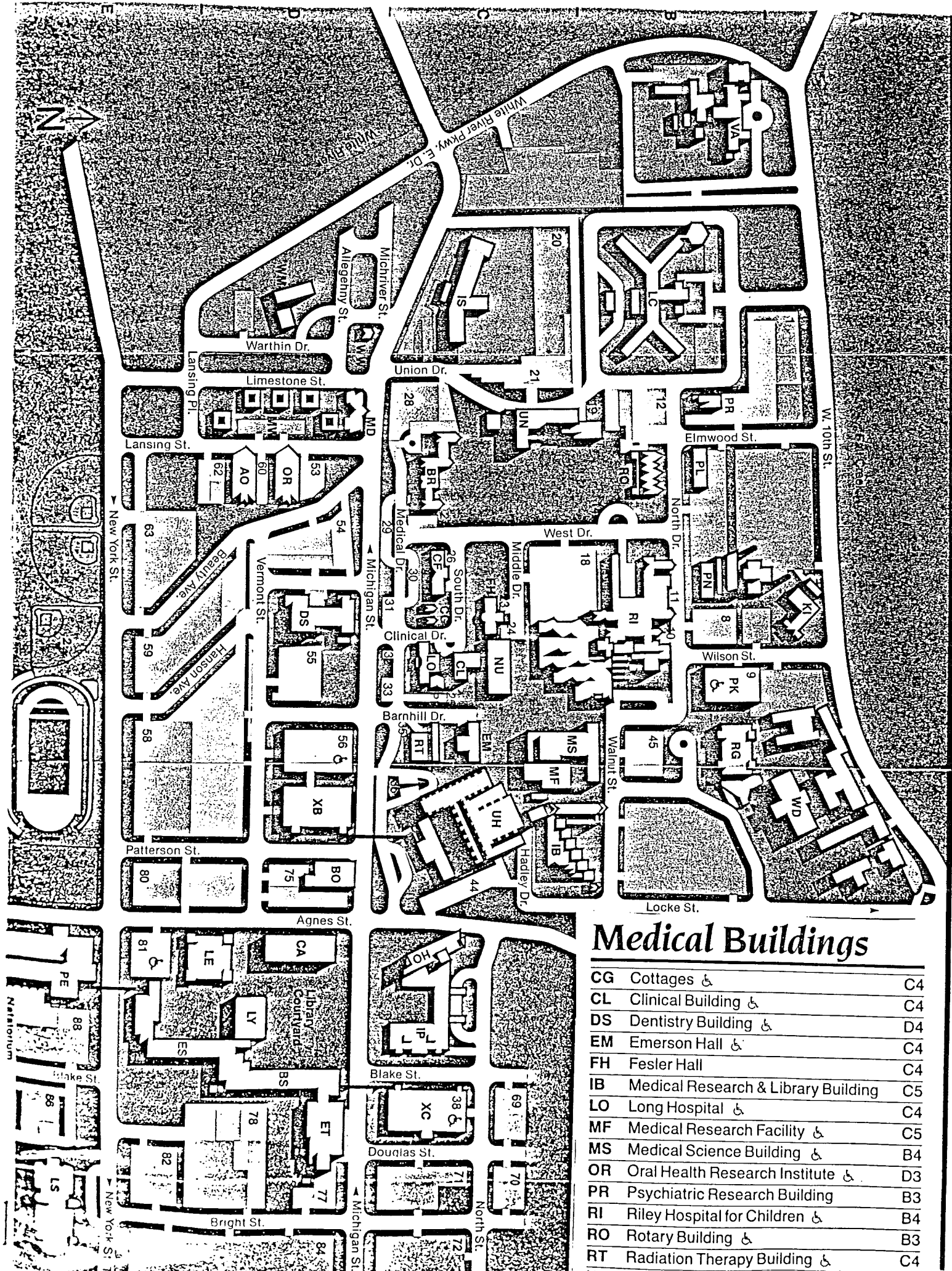
There are, currently, 9 members of the Board of Trustees of the University, one of whom is a physician. There is no separate governing Board for the medical school, nor is there a separate subcommittee of the Board devoted exclusively to the medical school.

5. History of the College of Medicine:

The Indiana University School of Medicine was established in Bloomington in 1903, one of the first American medical schools to require for admission two or more years of undergraduate education. The first M.D. degrees were conferred in 1907. In 1908 all of the medical schools of Indiana were amalgamated into one under the jurisdiction of Indiana University. By 1912, three of the four medical school years were taught in Indianapolis and in 1958 the entire four year sequence was transferred to Indianapolis.

In the following year, 1959, an experimental medical science program was begun in Bloomington to exploit the excellent basic sciences faculty on the main University campus. This program was the basis for the present combined programs such as the M.D./Ph.D. offering.

In 1965 a statewide plan for medical education was adopted, employing regional facilities in cities other than Indianapolis and Bloomington. In the subsequent years this Indiana Plan has evolved and matured such that the first and second year of medical education is now provided in structured centers established in Terre Haute, Lafayette, Gary, South Bend, Muncie, and Evansville. A one year program is presently offered in Ft. Wayne.



Medical Buildings

CG	Cottages &	C4
CL	Clinical Building &	C4
DS	Dentistry Building &	D4
EM	Emerson Hall &	C4
FH	Fesler Hall	C4
IB	Medical Research & Library Building	C5
LO	Long Hospital &	C4
MF	Medical Research Facility &	C5
MS	Medical Science Building &	B4
OR	Oral Health Research Institute &	D3
PR	Psychiatric Research Building	B3
RI	Riley Hospital for Children &	B4
RO	Rotary Building &	B3
RT	Radiation Therapy Building &	C4

I. OBJECTIVES

The *Goals and Objectives* of the School of Medicine were rewritten in 1983 but were reaffirmed by the executive committee of the faculty in May, 1987. A summary of this document is below. The Site Team members feel that these objectives are both appropriate and adequately met.

It is resolved that the realization of the following stated goals shall constitute the primary motivation of the administration, faculty, and staff of the School:

1. The School will, as its first and overriding responsibility, provide for its students a learning environment in which the basic and clinical sciences are closely integrated, in which they may acquire a sound and comprehensive basic education in medicine, and in which they may develop skills, attitudes, abilities and concepts which will establish lifelong habits of integrity, scholarship, excellence, and dedication to patient care.
2. The School, through its faculty, will convey established concepts and skills as well as constantly pursue the quest for new knowledge and its applications. To this end it must maintain vigorous programs of both individual and institutional research.
3. The School will continue to support and to strengthen a broad range of programs leading to graduate degrees in the basic Medical Sciences.
4. The School, through the Division of Allied Health Sciences, will continue to provide quality education for allied health professionals.
5. The School, using its component and affiliated hospitals and its research facilities, will continue to foster quality graduate medical education. It will sponsor and monitor its various approved and/or accredited programs in graduate medical education.
6. The School, through its faculty, will actively support and participate in the development, implementation and coordination of quality continuing medical education.
7. The School will continue to serve as an important source of patient care and will strive for improvements in all areas of medical practice.

II. GOVERNANCE AND ADMINISTRATION

The composition of the governing Board of Trustees is noted above. There is no separate subcommittee assigned specifically to the medical school.

A. Dean: Dr. Walter Daly was appointed as Dean in 1983. He was born in Indiana and received both his undergraduate and medical education at Indiana University. Following residency training in internal medicine and graduate fellowships in cardiopulmonary medicine, he joined the faculty of the medical school. In the succeeding 15 years he rose progressively to become the John Hickam Professor of Medicine and Director of the University Cardiovascular Research Center. In 1970 he was chosen to chair the Department of Internal Medicine, a post that he has held until his promotion to the deanship of his school of medicine.

B. University Organization: The two accompanying organizational charts portray the lines of authority and responsibility between the Dean and the academic departments, the Medical Center hospitals, the cooperating but independent hospitals, the medical school Institutes and Research Centers, and the Centers of Medical Education located in Terre Haute, Lafayette, Bloomington, Gary, South Bend, Evansville, Muncie and Ft. Wayne.

The Dean represents the highest University authority in all the component units of undergraduate, graduate and continuing medical education. All of the Centers, departments and hospitals report to him and there is no Vice President for Medical (or Clinical) Affairs. Dr. Daly reports to Vice President Bepko (who is in charge of the Indiana University-Purdue University Indianapolis campus) and to Thomas Ehrlich, the newly selected President of the University. Dean Daly's relationships with both appear to be cordial and characterized by mutual respect.

C. ORGANIZATION OF THE DEAN'S OFFICE

The Dean's professional staff consists, first, of Dr. G.T. Lukemeyer, a person of immense administrative experience both at the Medical Center, the medical profession within the State of Indiana and in national affairs concerned with medical education. Dr. Lukemeyer has served in the Dean's office for almost two decades and now holds the position of

Executive Associate Dean. His responsibilities are varied and include medical direction of the University Hospital, medical student admissions and management of the residency training programs. Dr. J. Carter is Associate Dean for Curricular and Student Affairs, supervising financial, counselling and minority affairs. There are additional associate and assistant deans for allied health sciences, research, clinical affairs, graduate studies, and administration. Further associate and assistant deans are assigned to some of the Medical center hospitals (e.g., Wishard Hospital) and to each of the eight dispersed Centers for Medical Education. While the numbers of senior administrators appear impressive, there are nevertheless areas where more help is needed, particularly in the area of student affairs and student counselling.

D. DEPARTMENTAL CHAIRPERSONS AND ADMINISTRATIVE COMMITTEES

There are seven departments in the basic medical sciences and 15 clinical science departments. Each is chaired by a member of the faculty.

There are 16 permanent (standing) committees of the medical school faculty, all reporting to the Dean, except for the Admissions Committee (reporting to the Assoc. Exec. Dean) and the Faculty Steering Committee (reporting to the Faculty).

The Steering Committee consists of the elected officials of the Faculty, the immediate-past officials, the officials-elect, a representative from each of the standing committees, a representative of the IUPUI Executive Committee and the Dean.

The Faculty elects four members to each of the standing committees on an annual basis.

The Executive Committee, on the other hand, consists of the chairs of the clinical and basic sciences departments, certain members of the dean's office and is chaired by the dean.

The committee system seems to be functioning well and no concerns or dissatisfactions were expressed by chairs, senior or junior members of the faculty. There are students represented on many of the committees. The students from the Indianapolis campus seemed to feel that their representation was authentic and effective. Many of the students from the more peripheral campuses stated, however, that they had no voice in medical school affairs; they acknowledged, though, that

this was the result of their inability to attend committee meetings in Indianapolis (since these meetings frequently were in conflict with their academic responsibilities.)

E. GEOGRAPHICALLY SEPARATED CAMPUSES

The medical school of the Indiana University maintains eight geographically separated basic medical sciences campuses providing an essentially equivalent education to that offered on the main (Indianapolis) campus. Seven of these campuses offer the full curricular sequence of the first and second medical school years (Terre Haute, Lafayette, Gary, South Bend, Muncie, Bloomington and Evansville.) The eighth center, Ft. Wayne, currently offers only the first year of medical education.

While the "...mission and goals of the various centers are consistent with those of the overall School ...", there are nevertheless substantial differences in the number of teaching hours provided per subject (see accompanying chart), the faculty-student ratios, the general academic environments, and the extent to which graduate programs in the basic medical sciences are offered.

Each of the Centers is directed by an Assistant Dean (in the case of Bloomington, an Associate Dean), reporting to Dean W. Daly on all academic matters, and to the local educational authority for logistic support. Most of the eight Centers are embedded within established institutions of higher learning, many with long experience in basic biologic research.

While there is some inevitable diversity in educational content among the Centers, the admissions process is centrally managed by one Admissions Committee with no conscious regard to balance or distribution of the selectees. When a student is admitted he/she is given the choice of campus. This seems to work out well, but, since the assignments are not random, certain of the decentralized campuses are assigned the last few students to be admitted - often students with more marginal academic capability; and as a result there are some measurable differences in grades (e.g., National Boards) noted. A summary of these differences is appended. In the judgment of the site visitors these differences reflect the commonly observed variation in

any large group of students and do not signify any deficits in the teaching offered at any one Center.

There are differences in the physical plants of these Centers, as well as the qualities of the available libraries.

The site visitors interviewed four of the Center directors in Indianapolis (representing Bloomington, Muncie, Ft. Wayne and Evansville) and visited and toured four Centers (Terre Haute, Lafayette, Gary and South Bend.)

a. Bloomington : According to the Self-Study as well as the views of its director, the Bloomington physical facilities remain substandard. In particular, the space for faculty research is inadequate. We are told, however, that some renovation is currently underway and plans are being made for further modernization.

Currently, there are 25 first year students and 30 second year students at this site, with a supporting faculty of 21 fulltime instructors, supported by a number of "volunteer" faculty from the main University campus. The number of contact hours per semester is considerably less at Bloomington, because "...we believe that there are other ways of educating a medical student than merely by lecturing to him." Many of these medical students are expressly enrolled in combined degree programs and the educational environment, hence, has more of a graduate school atmosphere. By conventional external criteria, certainly, the Bloomington students do about as well as any of the other Indiana University medical campuses.

b. Muncie: This two year program currently educates 32 medical students. The physical facilities are good and are situated on the campus of Ball State University, adjacent to Ball Memorial Hospital. Teaching, research and administrative space is deemed adequate. In the judgment of both students and administrators, the library is not adequate.

The medical school has recruited some of the Ball State faculty to teach the basic sciences and has assigned yet others to provide the needed faculty complement.

c. Ft. Wayne : The Center in this location is confined to one floor of a sciences facility on the Indiana/Purdue campus, occupying about 15,000 sq.ft.. This is the last of the eight Centers to be established and currently admits only first year students (presently, 16 students.) Plans

for second year training have not been initiated since this will require legislative sanction. The Assistant Dean estimates that the startup costs for a second year program in Ft. Wayne will amount to about \$300,000, with maintenance costs of about \$250,000 per year. The educational advantages to a two-year program include: increase in the critical mass of biomedical faculty, the value of second year students tutoring the first year students, and the exploitation of local clinicians for volunteer bedside teaching.

The students, in the past, have expressed concern about the teaching in Human Behavior. Apparently this problem has been resolved. Yet another concern has been the limited amount of sponsored research undertaken by the faculty (for size and number of grants, see accompanying summary sheets of each Center.)

d .Evansville : This two-year program has been in operation since 1972, with a current faculty of eight fulltime , seven parttime and 75 volunteer instructors. The students are taught on two geographically separated campuses - the University of Evansville and the University of South Indiana. The introductory course in medicine is given at yet another site, the local hospital. The medical library, in everyones judgment, is inadequate and without electronic communication with the main University medical library.

When asked about trends, the Assistant Dean expressed the view that the lower-third students (academically) were less prepared than in prior years. The National Board grades achieved by the Evansville students, on average, are about the same as the other Centers.

e. Gary: This Center has been rebuilt since the last LCME visit in 1977 and is now a well-equipped spacious structure providing about 27,000 net sq.ft. The director of the Center has been quite successful in recruiting faculty , all of whom are currently engaged in funded research activities. In addition to the funds derived from the University, there is a local city hotel tax expressly assigned to medical education. The Center offers an extensive program in Continuing Medical Education for the local professional community and even makes genetics screening programs available to local groups. The Center, through these activities , has developed superb community support for its educational mission.

The students, all of whom were interviewed, expressed considerable satisfaction with their choice of Gary as the site for their education (despite the fact that Gary was not their first choice originally.) The

students in this site are more heterogenous, frequently older and with more diversified backgrounds. In this site (as well as the three other sites where students were personally interviewed) there was much satisfaction with the small-class atmosphere of the Center, and the caring environment which this generates. The only major objection raised by the Gary students was the requirement that they pay a student health fee despite the absence of any student health facility in Gary.

f. South Bend: The program in this site is conducted in older structures which are adequate for the present but provide no space for research or educational expansion. As with many of the Centers, the local faculty represents a creative amalgamation of instructors funded from various sources including Notre Dame, Indiana University and the South Bend Medical Foundation. The faculty expressed some concern, however, that their development was not well-coordinated between the two participating universities. The local faculty felt, further, that the Center needed more "aggressive leadership. and more advocacy for their teaching needs."

The students at this site were pleased with the faculty and the "caring environment". They thought that the local library was inadequate and that the Center did not "encourage an independency of learning." They expressed considerable pleasure with the volunteer clinical faculty.

g. Terre Haute: This Center has been established in a separate building on the campus of Indiana State University. The classrooms, student amenities, research facilities and administrative space are quite satisfactory. The student morale is high and the mutually supportive atmosphere seen at the other Centers is very evident here. Student housing, while not a problem is nevertheless physically removed from the campus and each student requires an automobile. The library is excellent and provides the full range of sophisticated librarial services.

h. Lafayette : This Center is situated in the basement of the School of Veterinary Medicine of Purdue University. The space has been used imaginatively and very effectively. employed and while some of the teaching laboratories are necessarily conducted in other buildings, the Center Director has nevertheless created a cohesive, congenial, relaxed yet scholarly environment for his 30 students. In general, the students are quite pleased with their experiences in Lafayette. The faculty, on the other hand, voiced some concerns about the undergraduate preparation of some of their students, particularly in physics and basic chemistry.

IV. EDUCATIONAL PROGRAM FOR THE M.D. DEGREE

Duration : The total number of weeks required to complete studies for the M.D. degree at Indiana University, excluding vacations and holidays is 150, distributed over four years (respectively, 33,33,48 and 36 week sequences.)

Design and Management: See accompanying charts and tables.

Content; Review of Subjects Required for Accreditation:

1. Required Basic Science Courses: The first year curriculum consists of six basic sciences courses (gross anatomy,histology,biochemistry, physiology,microbiology,and neurobiology) in addition to discrete courses in emergency medicine and human behavior.

The course in human gross anatomy is a conventionally structured effort centered largely around 110 prosection hours,supplemented by 44 hours of formal lecture and 22 hours of small group sessions which include topographic and cross-sectional radiologic anatomy.

The histology course is also a laboratory-based effort with students assigned to 66 hours of microscope studies and 33 hours of lectures.

The course in biochemistry consists of 154 hours, a little over one-third devoted to laboratory exercises and the remainder in lecture and conferences. The lecture content is heavily oriented to those aspects of biochemistry immediately relevant to the practice of medicine. One of unusual aspects of the course is the requirement that students submit a term paper exploring in depth some facet of biochemistry. As an alternative the students may elect instead to provide three 20-minute talks on the biochemical features of certain clinical cases.

The physiology course consists of 165 contact hours, with a heavy component of required laboratory experience. The course objectives include the integration of mathematics and physics into the understanding of normal and abnormal physiologic function. A number of clinicians participate in the teaching, providing some of the rudiments of basic pathophysiology.

The microbiology course is also of 165 hours duration with 50 hours of laboratory exercises. The Department has established three prime objectives for their teaching effort: an understanding of the biologic basis of the immune system in health and disease; a comprehensive survey of the pathogenic microorganisms and parasites which afflict humans; the diagnostic features, epidemiology and therapy of infectious disease.

There are 107 contact hours assigned to medical neurobiology with 20 laboratory exercise hours. The course teaches the elements of neuroanatomy, neurohistology and neuroembryology. In addition, it covers fundamental aspects of neurotransmitter physiology as well as the neurophysiology of the vertebrate sensory systems. Some neuroendocrinology and simple clinical correlations are offered.

The first year courses in human behavior and emergency medicine are confined to lecture sessions providing 33 and 22 hours respectively.

There are five required courses in the second year curriculum, four in the basic sciences (pharmacology, general pathology, systemic pathology and medical genetics) and the introduction to clinical medicine, an immense and carefully integrated course which occupies fully 60% of the second medical school year.

The course in medical genetics is relatively brief, consisting of 33 hours of lectures and conferences supervised by an outstanding faculty.

The course in pharmacology and toxicology is assigned 126 contact hours, 30 of which are laboratory sessions. A substantial faculty effort is invested in the carefully planned and executed laboratory exercises with faculty working closely with small groups of students.

There are 101 hours assigned to general pathology in the first semester of the second year, 58 of these hours in the laboratory. The course confines itself to an understanding of the cellular and subcellular processes basic to disease. Some concepts of pathogenesis and clinicopathologic correlation are introduced.

The course in systemic pathology, 108 hours in length, strives to detail the pathogenesis and clinicopathologic features of the major diseases in each organ system. The course is offered in parallel with the course in introductory medicine such that the pathology and clinical

aspects lectures on each day compliment each other. In addition to lectures, the course also requires 80 laboratory hours.

The introduction to medicine course, ably supervised by Professor R.Powell, occupies over half of the second year curriculum. The course faculty is interdisciplinary , derived from virtually all of the clinical departments. The initial purposes of the course consist of technics in data collection and physical examination. The faculty emphasize problem-solving and specifically the interpretation of clinical,radiologic and laboratory information. The students are taught means by which problem lists and management plans may be assembled. The third goal of the course is to provide the student with an increased fund of medical knowledge. Lectures on the social components of medical practice are also included.

2. Required Clinical Clerkships:

Seven successfully completed clerkships are required for the M.D. degree at Indiana University:

12 weeks	Medicine	12 weeks
Surgery,		8 weeks
Obstetrics/Gynecology		6 weeks
Psychiatry		4 weeks
Neuro-Sensory		4 weeks
Pediatrics		8 weeks
Surg Specialties (Ortho,Urol,Anesthes.)		6 weeks

The medicine clerkship is variously offered in the University ,Wishard and VA hospitals; the neurology clerkships in these as well as the Riley Childrens Hospital; the obsterics/gynecology clerkships are also taught at two Indianapolis hospitals not located at the Medical Center (St.Vincent's and Methodist); pediatric clerkships are conducted in the Wishard and Riley Hospitals; psychiatry clerkships are given in the University, VA Wishard and Larue Carter Hospitals; finally, the surgical and surgical specialty clerkships are conducted in the University,Wishard,VA, St.Vincent's and Methodist Hospitals.

3. Electives : Virtually all elective activity is confined to the fourth year where the medical school provides each student, "...with the opportunity to select a minimum of nine months of elective courses in areas of his/her interest." The goals of this senior elective program, as established by the Education and Curriculum Committee, include: to increase each student's sense of self-responsibility in medical education; to enable each student to observe the practice of medicine in its various forms, "and to be exposed to opportunities for careers in medicine in the state of Indiana."

Each senior student is provided with a complete listing of elective opportunities, each of which have been reviewed and approved by the appropriate faculty committee. With the assistance of his/her advisor, each student submits a list of preferred electives in the February prior to the senior year. A standard grading system (similar to the fourth year clerkship evaluation form) is employed and each student must pass a minimum of nine electives in order to graduate.

Special electives are defined as those educational exercises not listed in the electives roster. A student may design his own elective(s) including some time away from the state, but such plans must be approved in advance. During the past few years, about 19% of seniors took one elective in an out-of-state location, and about 17% of students enrolled in two or more such electives.

Guest students from other medical schools may enroll for Indiana University clinical electives, space permitting, but such students "...must be from a LCME accredited school." The school, however, makes some exceptions to this rule, but only after review of the elective applicant's undergraduate transcript, medical school record and letters of recommendation. In the last two academic years, nine such students have taken electives, all from West German or English schools of medicine.

A limited number of electives may be taken during the basic sciences years (e.g., family medicine, emergency medicine and care of the elderly.)

4. Commentary on Educational Program:

The curricular design at Indiana University School of Medicine is a carefully constructed, classical sequence of courses which has varied little in the past decade since the preceding LCME site visit. In the basic sciences years, the course content is comprehensive and governed by periodic committee scrutiny. These courses are also supplemented by authentic laboratory sessions which are well-planned and designed to illustrate the didactic material as well as involve each student in the mechanics of scientific bench activity.

In the judgment of the interviewed students, as well as the site team, concepts of quantitation in medicine are poorly conveyed to the students: biostatistics, for example, is given inadequate numbers of teaching hours and not taught in a cohesive bloc of time. It is difficult to identify sufficient numbers of exercises in fundamental or clinical epidemiology within the first two years of medical school. A subcommittee of the Educational and Curriculum Committee is currently addressing these problems.

The students also express concern over the relative lack of education in such social issues as alcoholism, death and dying and the many ethical disputes associated with the practice of medicine. Little formal attention seems to be invested in the economic facets of medical practice.

The first two medical school years are so filled with required classes that there is little likelihood or opportunity for the Indiana University medical student to take electives or embark upon any program of independent research.

In a school which identifies the need for family physicians to practice in the state of Indiana, the Department of Family Medicine is inadequately supported, while concepts of tertiary care medicine dominate the four-year education program. Indeed, the number of Indiana graduates electing family medicine, as judged by the residency selections of the last few years, is slightly lower than the national mean for this professional choice.

see 90 is 16+90 & has been that or higher - National average about 1390 -

Not correct

The existence of nine separate campuses offers many advantages; certainly the students benefit immensely from a system which offers small classes conducted in a congenial and professional atmosphere. The site visitors could find no educational shortcomings in any of the visited

Centers. But the distances from the Indianapolis campus diminish the effective control that the chairs of the basic science departments may exert upon their peripherally located faculty. And while there are symbolic visits by these chairs, perhaps at yearly intervals, and periodic retreats to determine course content, the line responsibility for effectiveness of teaching rests with the Center faculty. At this time, only the Introduction to Medicine course gives a statewide examination. When this means of determining effectiveness of teaching was proposed to the Center faculty, there was considerable objection raised.

Yet another problem generated by a decentralized system is found in the variable degree to which faculty development is undertaken and individual faculty research encouraged. It appears that Center faculty promotion is initiated by the Center Director rather than by the appropriate chairs.

Evaluation of Student Achievement; Due Process:

The composition of the Education and Curriculum Committee is sufficiently broad to contain representation from all segments of the faculty. The site visitors could find no evidence that the curriculum is neglected by the medical school faculty. The courses are annually reviewed by the participating students as well as by the concerned faculty. The site visitors were provided with a number of illustrations of instructors being replaced following student concerns about their teaching effectiveness.

The interviewed students believe that , "...their voices are heard " in matters of teaching quality.

The medical school has a published due process procedure available to students who may wish to contest grade, promotion or graduation decisions. The procedures appear to be clearly outlined and fair. There are no current instances of student concern over an administrative decision. The Dean has access to University Counsel specifically assigned to the Medical Center. There are, presently, no suits involving the medical school in its relation to its students.

External Output Indicators: Indiana University medical students on all nine campuses are required to sit for the National Board Examinations, parts I and II. The site visitors were provided with the average scores per campus, per subject, for the past six years. The total grades on each campus were close to the national mean. Summaries are found below as well as in the accompanying sheets:

AVERAGE SCORES BY CAMPUS, NBME, PART I

<u>SITE</u>	<u>AV.No.STUDENTS</u>	<u>AVERAGE GRADE (7 SUBJECTS)</u>
Bloomington	29	519.5
Evansville	10	498.7
Fort Wayne	7	516.5
Indianapolis	185	514.7
Lafayette	11	490.7 (514.0 in last few yrs.)
Muncie	10	473.7 (504.0 in last few yrs.)
Gary	11	523.0
South Bend	11	508.2
Terre Haute	9	467.5

When the latest National Board of Medical Examiners test (Part I) results were analyzed, the 262 Indiana University students produced an arithmetic mean score of 511 (national average score = 500), with 12% scoring below 400 (national average = 15% .)

A similar performance is recorded for Part II of the National Board tests. The 275 Indiana University students achieved an arithmetic mean of 505 (national average score = 494.) About 16% of the Indiana students scored lower than 400 (national average = 18%.)

The comparative evaluation of the National Board test Part III, for candidates sitting for the examination in 1986, indicated that the Indiana students performed, on average, quite well. Their average score was 535 while the national mean was 498.

An analysis of FLEX performance, prepared by the Indiana Medical Licensing Board in January, 1987 showed that the Indiana M.D. graduates consistently performed at or above the arithmetic mean score obtained by all United States medical graduates.

In summary, the external indicators of student academic achievement show results at or above the national means during the decade since the last LCME site visit.

Letters of Recommendation: The medical school packet in behalf of each Indiana University graduate is a detailed and meticulously assembled dossier which includes: A covering letter explaining the contents of the packet and a brief explanation of the grading system employed; an individual letter of recommendation, typically about three pages in length, providing a narrative description of the candidate including his/her undergraduate performance; National Board of Medical Examiners results with percentile rank within the class; and finally, a copy of the University Academic Record of the candidate listing each course, the grades conferred and the percent distribution of grades for each course in which the student was enrolled.

This system of recommendation is under the active supervision of the Associate Dean for Student and Curricular Affairs, and, in the view of the site visitors, is admirably and efficiently accomplished.

Since the present site visit took place early in the semester, none of the senior students interviewed were able to express judgment as to the efficacy of their recommendation system. They seemed pleased, however, with what they have thus far seen.

Student Records: The accumulated records for each student are centrally maintained and include all documents pertaining to admission as well as matriculation. The student has full access to these records and may express objection to any item. The confidentiality of the student records seem to be fully maintained, although copies of the academic record are forwarded to the offices of each student's advisor. This, potentially, may result in some breach of confidentiality but no instance of lapse came to the attention of the site visitors. The interviewed students expressed satisfaction with the records system and showed no anxiety about confidentiality.

The personal medical and psychiatric counselling records for the matriculating medical students are kept apart from the academic data and are not subject to faculty or administration scrutiny.

Academic Counselling and Career Guidance: Both the upper class students and the medical school administration acknowledge that further manpower is needed to provide the full range of academic counselling required by the medical students. While each student does have an assigned faculty advisor and the Associate Dean for Students maintains an open door policy, the school (and particularly its Indianapolis campus) is so large that many students cannot (or are reluctant) to seek out advice. There are rosters of clinicians in each specialty prepared to advise but they customarily do not seek out the student. As a result, some of the seniors feel that their career decisions are rooted in inadequate information. They fully acknowledge their own responsibility in this.

5. Commentary on Counselling and Career Guidance:

The guidance and counselling system is ably supervised by Dean Carter but there is clear need for further administrative help, particularly on the Medical Center campus. This does not appear to be a problem in the decentralized campuses where the student body is typically small, cohesive and surrounded by solicitous faculty - both fulltime and voluntary.

The site visitors reviewed the NRMP (residency matching) results for the recently graduated class. The results seem gratifying since 249 students (95%) of the 261 participating matched with one of their choices; furthermore, 167 (67.1%) matched with their first choice and 91.6% of the class of 1987 matched with one of their first three selections. Somewhat over half of the finally selected institutions were within Indiana. About 30% were in adjacent midwestern states and only 15% of the students will undertake their residency training in southern, eastern or far-western institutions. This speaks well for the professional attractiveness of the Indiana hospital system, but it may also reflect some measure of student reluctance to compete for the residency training positions in some of the larger academic medical centers of the United States. Certainly the academic performance of the Indiana medical student makes him/her competitive for such posts. The advisors, of course, may not be suggesting such alternatives.

V. MEDICAL STUDENTS:

The Admissions Committee is ably chaired by Dr. George Lukemeyer who has fulfilled this responsibility for the past 31 years. He is aided by two fulltime staff persons, a Director of Admissions and an Assistant Director who also holds responsibility for minority affairs on the medical campus. In addition to Dr. Lukemeyer, there are 31 faculty members on the Committee representing most of the clinical and basic sciences departments. There is representation from the voluntary faculty as well as one of the geographically removed medical campuses. There is also student participation chosen by the Medical Student Council after detailed interview. The importance of the Committee is attested to by the presence of four department chairs.

In 1982 the school admitted 305 medical students. Since then the size of the class - by school decision - has progressively declined to its present enrollment of 265 students. A total of 319 acceptances (selected from amongst 1,041 completed applications) were required before the current freshman class reached its full number of 265 students.

The number of applicants has been declining in the last four years, particularly white males. The academic quality of the candidates, however, seems to be unchanged when measured by the average GPA (stable at 3.65 level.) The number of out-of-state applicants, and the number of out-of-state acceptances has diminished in recent years. (There is a tuition differential: in-state about \$4,00; out-of-state about \$10,500.) Furthermore, the academic (i.e., GPA and MCAT) requirements for nonresidents is greater than for Indiana applicants.

A subcommittee of the Committee (Executive and Review Committee) screens all applications and offers interviews to the more promising applicants. As many as 200 applicants are invited for a tour of the facilities and an interview - all on a single day. Each interview lasts about 45 minutes.

The Admissions Committee distributes questionnaires to interviewees to determine why those who were accepted to Indiana may have selected another medical school. The questionnaire also invites views on the interviewing process and general commentary on the student's perceptions.

Stated requirements for admission include: an academic year of biology, general chemistry, organic chemistry and physics. While there are no other expressly stated requirements, the Bulletin states that the successful applicant will have included a significant number of courses in the humanities and social sciences. Applicants "...are expected to be competent in speaking and writing the English language."

In the present first year class, 264 of the 265 students presented at least a baccalaureate degree upon matriculation. Eight of the students, in addition, presented graduate degrees.

The majority of this class attended colleges within Indiana (notably, Indiana University, Purdue, Wabash, De Pauw, Ball State and Notre Dame.) Only 10 of this class (3.7%) attended undergraduate college out of Indiana.

The school undertakes recruitment programs to encourage applications from minority and educationally disadvantaged students.

The medical school rules permit advanced standing transfer although no applicants for transfer during academic year 1986 - 87 were enrolled.

In the current first year class, 49% of the students presented undergraduate GPA levels at or above 3.6. Only two students of this class of 265 had GPA's below 3.1. The mean GPA scores for the remaining three medical school classes is also about 3.6. The MCAT mean scores average 9.3 (first year class), 9.4 (second year class), 9.3 (third year class), and 9.2 (fourth year class.) Thus, by these criteria there are no discernible academic differences between the last four entering cohorts.

The number of women in each of the last five classes has varied between 31 and 34%.

About 2% of these last five classes have been Black and about 1% of Hispanic origin. While the number of Black and Hispanic residents of Indiana is small (except perhaps in the northwest corner of the state), the efforts by the medical school to recruit students of ethnically disadvantaged background have been, at best, modest.

The medical school catalog is a comprehensive, well-edited and attractive document which lists faculty, students, course descriptions, admissions requirements and a history of the institution.

Special Programs: There is no Fifth Pathway program in operation. There are visiting students taking selected clinical rotations. These students have all been screened, and will receive their M.D. degree from their parent institutions (medical schools either in West Germany or England.)

Financial Aid Programs: Financial counselling and aid are supervised by the Office for Student and Curricular Affairs. Of the current enrollment of 1,118 medical students (including those in the geographically-dispersed Centers), 795 (71.1%) are receiving some form of financial aid from one source or another. The fraction of students needing aid appears to be about the same in each of the four present classes.

The school estimates that the total expenses per unmarried student (including expenses for medical education) is presently about \$12,160. It is somewhat more than this average for those in the third and fourth years. The average amount requested is currently in the vicinity of \$6,700 and the cumulative amount distributed this past academic year has been \$2,920,483.

In the recently graduated class of 280 students, 61 (21.8%) declared no indebtedness; about 25% of the class owed less than \$20,000; about 31% owed between \$20,000 and \$30,000; and the remaining 22% of the class owed between \$30,000 and \$80,000. The medical school estimates that the average educational indebtedness of its current graduating medical students is about \$24,047.

Amenities for the Medical Students: There are adequate numbers of private lockers for the Indianapolis-based medical students, however, these are situated in drab quarters. The student lounge is unattractive, shared by the building maintenance personnel, and ill-suited for medical student needs.

When students seek lunch, they either use the neighboring hospital cafeterias (where they are welcomed) or have brown bag lunch in the various classrooms.

Student amenities in the dispersed medical campuses are quite adequate although not outstanding. The students express only mild concern about these facilities.

There is excellent access to a variety of athletic facilities on all of the nine campuses but few of the students state that they take advantage of these.

Personal Counselling: Psychiatric counselling may be obtained through a number of channels. Dean Carter will refer students to a psychiatrist as will the Student Health Service. A policy of confidentiality is observed and the patient:physician relationship is not breached. When students in various levels of matriculation were interviewed there was some confusion voiced about this policy; many of the first and second year students were unaware of this source of assistance while others expressed skepticism about whether confidentiality was indeed observed. No student could document an instance where this confidence was broken.

Student Health Services: The students describe the service as efficient and friendly. Outpatient care is provided without cost, but inpatient care must be covered by the student's health insurance policy (not all students carry such policies.)

The students assigned to the Northwest (Gary) medical campus point to the fact that they are required to pay a student health fee each year, while the Gary campus provides no student health service.

*These figures are from
the update given
as part of your visit*

120,572,601

VI (A) FINANCES: RESOURCES FOR THE EDUCATIONAL PROGRAM

36% *budget is* As a state institution, Indiana University School of Medicine derives about 79% of its income from legislatively determined sources (which, in the state of Indiana, are biennially established.) The current expenditures are estimated to be about \$114,190,820, a 2.8% rise over the previous yearly budget. In the last four years, total income has risen by 35.7% While funds from all sources have increased during this four-year interval, the funds from externally derived research and teaching grants have increased the most (i.e., 44.4%). 8.6% 60.2

The school anticipates no deficit for the current fiscal year.

(Many other purposes) The school possesses an endowment fund amounting to \$41,614,100. Most of these funds (79.8%) are held by Indiana University Foundation. The corpus of this endowment (used principally to support thirteen endowed chairs at the medical school) has been steadily increasing.

Unexpended general funds and gifts have provided the school
Gifts from graduates and community sources have provided the school with fiscal reserves amounting to about \$6,770,000. *in addition to "endowment funds."*

The University Hospital fiscal affairs are managed by the Medical Center administration. The excess expenditures over revenues during the past two years is explained by a recent change in the path by which professional fees for pathology and radiology are channeled. These fees are now collected directly by the Departmental professional practice organizations and are subsequently transferred into University accounts. The school states that "....for the foreseeable future it is expected that current revenues will continue to cover current expenditures. No deficits are anticipated."

Commentary :

The revenues sources for the medical school seem quite secure for the foreseeable future and the finances are professionally and effectively managed. A number of concerns, none of them major, are noted by the site visitors:

1. A biennial budget may produce a lag factor in response to special, unanticipated, needs.

2. Indirect Cost Recovery (ICR) from externally funded grants is treated by the University as one income source and is not returned to the grant recipient. Medical school success in obtaining large grants, accordingly, incurs increased operating costs which are not covered by the grant (e.g., increased telephone expenses) but must be derived from funds already allocated for other purposes.

3. The budget allocations for the eight Centers for Medical Education are determined on an *ad hoc* basis. There is no apparent formula for these determinations.

4. Approximately three million dollars are given to the University each year by practicing physicians. The medical school does not have a uniform means of monitoring such bequests.

5. There is no medical school-wide arrangement for handling practice plan funds, nor is there a school policy permitting a certain fraction of these funds to revert to the dean's office for discretionary expenses such as startup laboratory costs for newly recruited faculty. The state budget does not provide for discretionary funding.

? meaning ?

VI (B) GENERAL FACILITIES; RESOURCES FOR EDUCATIONAL PROGRAM

1938 Most of the buildings making up the Medical Center in Indianapolis are decades old, some dating to before World War II. The administration building, for example, is a converted state Department of Health structure built in 1928. These venerable buildings have been made functional but only marginally so. The clinical facilities (University Hospital and Riley Hospital for Children) are recently constructed or in the process of construction. The other major clinical resource of the medical school, Wishard Memorial Hospital, was built in 1914. *chief hospital building = 1968*

A new center for clinical research which will also house the medical school library is in an advanced state of construction. This new building will alleviate much of the need for laboratory and office space for clinical faculty and will additionally answer the need for a more spacious medical center library.

The site visitors were also told of plans for the construction of an ambulatory care center on the Medical Center grounds.

The Bloomington Center buildings are said to be *1930s -* ancient and in disrepair. The buildings in Terre Haute, Lafayette, Gary and South Bend were inspected by the site visitors and found to be adequate.

The school auditoriums in the Medical Center are cheerless, badly illuminated and inadequately ventilated. The small classrooms and student laboratories and prosection rooms are clean, spacious and otherwise adequate. There is adequate seating in all teaching facilities to handle the current-size class.

The classrooms and student laboratories in the Centers visited by the site team were deemed adequate.

Recent additions in 1975 & 78. The 1914 building is no longer used for patient care

VI (C) FACULTY: RESOURCES FOR THE EDUCATIONAL PROGRAM

1. Bylaws: The Faculty Constitution of the School of Medicine is a brief document first adopted in 1970 and periodically amended. The latest revision was undertaken in March, 1987. This document describes the standing committees and their composition and functions; the logistics of faculty elections; representation to the University Councils; elected officers; and means by which the constitution may be amended.

The University also publishes its bylaws which specify particularly such activities as faculty promotions (and their criteria).

These documents are clearly written and widely distributed. In discussions with random members of the faculty, both in Indianapolis and in some of the other Centers, no concerns or dissatisfactions were voiced.

2. General: New faculty for the Indianapolis campus are recruited by departments, observing a general formula of wide advertising and ultimate selection made by a search committee chosen by the departmental chair. (When a chair is to be recruited, the Dean will form an interdepartmental search committee.) In the case of vacancies in the peripheral Centers, the local Director initiates the search, aided by a local search committee. The department chair in Indianapolis frequently makes recommendations or indicates possible sources for candidates and reserves veto control over the ultimate choice.

There is a standing Committee on Faculty Promotions and Tenure which reviews the records of each candidate for tenure, noting particularly the annual peer-review of each member of the faculty by senior members of his/her department. A more comprehensive review is undertaken at the end of the third year of the tenure probationary period. The Committee discusses perceived deficiencies with both the candidate and his/her chair. Those junior members of the faculty interviewed by the site visitors seemed confident that the system was both equitable and functional.

The faculty rules appear to apply to both the clinical and basic sciences faculty. In this sense the Medical Center has a single faculty. The faculty assigned to the peripheral Centers are more involved in the daily tasks of medical student education and counselling - and somewhat less, on average, with their personal investigative activities. They perceive themselves to be distinguishable from their Indianapolis colleagues, but do not believe themselves to be necessarily second-class or deprived. When asked whether they would wish to work in Indianapolis, most indicated a preference for their present location. (Indeed, many began in Indianapolis and then went, or were assigned to, the peripheral Center.)

Sabbatical leaves are determined by University policy.

The total fulltime faculty complement now numbers ^{623 235} ~~600~~, 228 of whom are in the basic medical sciences. This number is not as auspicious as it would seem since it includes personnel for the library (11), dietetics/nutrition (8), allied health (53) and misc. services such as illustration (3). For purposes of primary teaching, a more accurate number would be 173 (which is below the national mean medical student:basic science faculty ratio). The number of fulltime clinical faculty appears to be adequate. There are fulltime personnel in all of the major clinical disciplines except for public health/preventive medicine and physical medicine. A task force from the Curriculum Committee has recently studied the perceived deficits in rehabilitation (physical) medicine and is recommending that the school recruit authorities in this field, assigning them, initially at least, to one of the clinical departments as a discrete division.

I deficit due to ratios

The Self Study states that ".... salaries paid through the University are lagging behind salaries paid at other medical schools..." The Study acknowledges the possibly faulty basis for these comparisons but recommends that basic science faculty salaries are in true need of raises.

Fringe benefits amount to about 26.85% of school-provided salary, and include TIAA/CREF retirement annuity, life insurance, health/hospitalization insurance, travel insurance, disability insurance and educational benefits for faculty children.

VI (D) LIBRARY: RESOURCES FOR THE EDUCATIONAL PROGRAM

The Medical Center library is housed in a building completed in 1958, with no additional space provided since then. While a new library offering a threefold increase in space is under active construction, the current facility is inadequate. The present library is crowded and ill-suited for student study; there seems to be virtually no temperature control and the stacks are inordinately hot. There is no sound-deadening incorporated into the ceilings and slight sounds carry easily, disturbing the students. The total number of seats within the library (190) do not appear to be sufficient.

The interviewed students were not pleased with the physical aspects of the library, although they praised the librarian, and her staff, as people who earnestly try to help. The library has a direct connection with MEDLARS as well as the regional library network, and every Indiana medical student is instructed in the use of electronic equipment for literature search and librarial data retrieval.

The interviewed faculty find the library to be more than adequate, but they acknowledge that they would not wish to conduct any of their studies within its confines.

The number of new acquisitions and the number of scientific journals subscribed to (see accompanying data) appear sufficient both in numbers and diversity.

Commentary: The site visitors reviewed the plans for the new library and saw the building under advanced construction. The new facility will be spacious, well-illuminated, and gracious in design. Of concern is the fact that the budget provides for no additional funds to manage this expanded facility. Furthermore, the limited budget for periodicals may force the library to suspend certain subscriptions as the yearly subscription costs inevitably rise. The librarian properly recognizes that MEDLARS availability is no substitute for the serendipity generated by browsing through the stacks of texts and journals.

The library facilities in the Centers located in Evansville, Ft. Wayne, South Bend and Terre Haute are either marginal or frankly deficient. (Telefacsimile services are not currently available in some of these Centers.)

orders placed long ago - of the three that need this equipment - two are in place & the other is on the way.
36

VI (E) CLINICAL TEACHING FACILITIES: RESOURCES FOR THE EDUCATIONAL PROGRAM

Four of the major inpatient teaching facilities for the education of the Indiana University medical students are situated within walking distance of the medical school. These include the University Hospital (382 beds), the Riley Hospital for Children (201 beds, many in a newly constructed wing), Wishard Memorial Hospital (a County-owned but University-managed facility of 557 beds), and the Larue D. Carter Hospital (a psychiatric facility providing 151 beds for longterm stay.) Three other hospitals are regularly used for required clinical clerkships: the Roudebush Veterans Administration Hospital (a Dean's Committee hospital with 465 beds), and two independently managed institutions: Methodist Hospital and St. Vincent's Hospital, collectively providing 1,670 beds.

Of the 1,613 required clinical clerkships completed each year by the Indiana University medical students, therefore, 68.2% are undertaken within walking distance of the medical school and almost 87% in hospitals staffed by University resident physicians. The vast majority of the clinical electives are similarly completed in the Medical Center hospitals.

Data concerning percent occupancy, average length of stay, per diem cost and operating budget are found in the accompanying summary sheets.

The site visitors met with the administrators of the hospitals identified above. The Medical Center hospitals as well as the Veterans Administration facility are staffed by fulltime University faculty all of whom report to their respective clinical chairs (each of whom are simultaneously chiefs of their respective services.) The only clerkships taking place in the two community hospitals (surgery and obstetrics/gynecology) are supervised by the hospital-salaried clinical directors, with immediate supervision of clerks rendered by the independent house-staff.

The hospital administrators voiced no concern about the conduct of undergraduate medical education in their respective institutions or over any research activity taking place. All of the hospitals have firm affiliation agreements with the University and the administrators intend to continue these pacts indefinitely.

The bed census of the Medical Center hospitals has been diminishing in recent years (currently averaging about 75%). Since much of the practice of medicine is increasingly conducted in an ambulatory setting, the University is about to select an architect to design a large outpatient facility on the Medical Center grounds to provide a diversity of ambulatory services and to strength the third and fourth year education of their medical students.

The present inpatient facilities seem adequate for the immediate teaching needs of the Indiana University medical students. The medical school has begun plans to insure that these needs are fulfilled should the bed occupancy diminish further.

The medical school, in principle, accepts advanced standing transfer students, but has not done so during the last few years.

XX

VII. GRADUATE EDUCATION IN THE SCIENCES BASIC TO MEDICINE

The medical school faculty ".....considers the graduate training program to be of great importance for (a) recruitment and retention of outstanding basic scientists and research clinicians;(b)meeting one of the basic objectives of the school, i.e., 'to advance knowledge through research' ; and (c) promoting development of interdisciplinary programs and research initiatives among basic and clinical scientists." These graduate education programs based both in Indianapolis and Bloomington currently number 160 enrolled degree-program students as well as 46 post-doctoral fellows. The established programs include every major basic science discipline. The largest of these are the programs in biochemistry, pharmacology, microbiology and the medical sciences. In addition, on the Bloomington campus, there is a combined degree program offering M.D. and Ph.D. degrees.

During the latest academic year, the University conferred 33 graduate degrees in the basic medical sciences.

Graduate students are regularly assigned teaching tasks in human anatomy, histology and neurobiology. Senior level graduate students also assist in the laboratory component of microbiology and pharmacology. In physiology, each graduate student teaches jointly with one member of the physiology faculty.

Funding for these teaching assistantships has been uninterrupted. The medical school is confident that this form of funding will continue indefinitely.

The data base lists the employment of the recent graduates; virtually all have joined faculties or have taken positions in research institutes. The M.D./Ph.D graduates, on the other hand, tend to enter residency training programs, rather than pursue their Ph.D. interests.

VIII GRADUATE MEDICAL EDUCATION

The Indiana University School of Medicine maintains fully accredited residency training programs in all major clinical disciplines and subspecialties except for Physical Medicine and Rehabilitation. Direct management of these programs is exercised by each department chair, while the funding and administrative supervision of these training programs stems from the dean's office.

The present complement of fellows and resident physicians numbers 555, as of January 1, 1987. Of the 489 resident physicians, 4 are U.S. citizens who are graduates of foreign medical schools (0.8%); there are an additional 11 residents who are not citizens of the U.S. and who are graduates of foreign schools (2.2%). Ten of the 66 clinical fellows are graduates of foreign medical schools (17.9%). The bulk of FMG residents are in psychiatry, anesthesiology and obstetrics; most of the FMG fellows are in medical subspecialties. The school maintains an ongoing review of its graduate medical education programs - their quality, the number of trainees and whether the dwindling inpatient population may soon affect the training capacity of these programs. According to the school, "....it is possible that with the reduction in inpatient census that there will be modest reductions in the number of house staff in some of the programs."

The residency training programs at the Medical Center are all under the jurisdiction of the medical school. Two of the Indianapolis community hospitals (St. Vincent's and Methodist) both maintain independent residency training programs, two of which (surgery and obstetrics/gynecology) participate actively in the clinical clerkship education of the Indiana University medical students.

Based on stated school policy as well as interviews with third and fourth year medical students, it is evident that these resident physicians are told that medical student education is one of their major responsibilities.

IX CONTINUING MEDICAL EDUCATION

Continuing Medical Education is effectively managed by Dr. George T. Lukemeyer, who is the Executive Associate Dean of the School. As the only medical school in the state of Indiana, the Office of Postgraduate Medical Education carries a substantial responsibility, and during the past academic year \$1,435,491 were budgeted for this function. In the past year, for example, 47 courses, workshops, and seminars were conducted in Indianapolis as well as throughout the state, involving 528 speakers and 3,347 registered physicians in attendance.

The Office also supports a Visiting Professor program providing speakers for continuing education efforts throughout the state. During the past year, 96 faculty from 15 departments taught in 16 scattered State of Indiana hospitals.

The Office works closely with community health agencies, private sector groups (e.g., American Cancer Society), and professional organizations (e.g., American Academy of Pediatrics) assisting, coordinating and cosponsoring various educational efforts.

The Office maintains a Home Study Program for the busy practicing physician, works actively with the statewide Medical Television Network, and distributes numerous educational packages such as videotapes.

Commentary: The site visitors are impressed with the impressive, aggressive and imaginative efforts in continuing medical education undertaken by this medical school.

X. RESEARCH

The medical school maintains a moderate but enlarging research program accounting for about 30% of the current operating budget. From externally-derived funds , there are 374 principal investigators with awards totalling \$23,592,502. in direct costs. From institutionally-funded grants, there are 20 principal investigators awarded \$253,935. These research grants are unevenly distributed among the faculty, some departments receiving but modest external support [see descriptions of individual departments , XI (A). and XI (B).]

Two standing research centers (Regenstrief Institute and Krannert Institute of Cardiology) are part of the medical school structure. The Regenstrief , a component of the Department, undertakes health services research. The Krannert Insitute is also part of the Department of Medicine and is funded partly by a private trust as well as by federal research grants.

The faculty, and particularly the clinical faculty, state that a lack of laboratory space is a deterrent to further investigative activities. By 1990 , as the result of the new clinical research building as well as renovation of existing space , in excess of ~~76,000~~ net sq.ft. will become available.

117,000

XI (A). BASIC SCIENCE DEPARTMENTS

1. Anatomy: This department, consisting of ten fulltime faculty and chaired for the past 14 years by Professor Charles Blevins, carries a heavy teaching load. In addition to the customary medical student instruction, the department also teaches human anatomy to the University dental students, and allied health students, while simultaneously supervising ten graduate students. The department has two additional faculty for the teaching of neuroanatomy.

In recent years, the amount of sponsored research has increased from \$136,500. per year to \$281,500. per year.

While the medical students have consistently performed well in the National Board tests in anatomy, they nevertheless express dissatisfaction with the course, indicating, "...frustration at a perceived lack of laboratory support and a lack of rapport with the course instructors." On the other hand, student evaluations of the histology and neurobiology courses are good.

There appears to be merit to the stated need for more teaching faculty in anatomy.

2. Biochemistry: This department consists of 13 fulltime faculty and is chaired by Professor David Gibson. This is a strong, mature department, with most of its faculty in tenured positions. External grant support has been consistently over one million dollars per year. The faculty publish substantial numbers of papers in professional journals, mostly in refereed publications.

The limitation of faculty laboratory research space, cited in prior reports, has now been alleviated by acquisition of about 3,000 net sq.ft. from the dental school. This new space, however, needs renovation.

This department "...places teaching at a high priority." The course leader in biochemistry, Dr. Robert Harris, has been selected by the medical students for ten consecutive years to be the recipient of their annual teaching award. The required course in biochemistry is

substantially more than a series of lectures. There is a considerable laboratory component, with numerous student presentations. A term paper is also required.

The department maintains a stable and well-managed graduate program, currently with 21 doctoral candidates enrolled. About 5 - 7 new students per year are accepted.

The chairman of this department is scheduled to retire next year. A search committee has narrowed its deliberations to two candidates, one from the Indiana campus and one from a Pennsylvania medical school.

When asked to identify problems, members of this department cite the need for higher basic science faculty salaries, recognizing that this is a school-wide problem. In terms of their own course, they state that there is need for expanded teaching in molecular biology.

3. Medical Genetics: There are few medical schools in the United States that can boast of a discrete department of medical genetics. This outstanding department has a faculty complement of 12 and has been chaired for the past 21 years by Dr. Joe C. Christian. The department teaches a 33 hour required course in basic genetics both on the Indianapolis and Lafayette campuses, while supervising approximately similar courses on the other geographically-removed medical campuses.

The students think highly of this department and its teaching efforts.

The department carries numerous responsibilities, from basic research (with grants currently totalling about \$516,000. annually) to statewide genetic screening (e.g., PKU testing, amniocentesis, etc.), to physicians seeking postdoctoral clinical training. The department also maintains its long tradition of training academicians in medical genetics with 20 current graduate students and six postdoctoral fellows (with interests ranging from genetic counselling to basic molecular research). The department has trained over 100 Ph.D's.

4. Microbiology and Immunology: This department, chaired by Professor D. Bauer since 1981, has 12 fulltime faculty. Their teaching responsibilities include 463 dental, nursing and allied health students taking required courses in microbiology. The department also supervises 35 graduate students in their research.

The medical students are quite pleased with the serious and comprehensive nature of their microbiology/immunology course. They consistently do well in the National Board questions dealing with these disciplines.

The limited amount of faculty research space (about 8,900 sq.ft.) may be impeding further research work according to the chair. The external research funding is currently about \$520,000. Present research interests within the department include : cellular and molecular mechanisms in the pathogenesis of infectious processes; the biology of cellular immunity; and gene expression in immune response. The department collaborates extensively with other departments (and other medical schools) in interdisciplinary research.

5. Pathology: This is the largest of the basic science departments with a faculty numbering 36 fulltime persons.(with current search committees seeking three additional faculty) The department has been chaired by Dr. Carleton D. Nordschow for the past 18 years. Administratively, there are two associate chairs with responsibility for education and research. This department also carries extensive service responsibilities (and 70% of its income is derived from these sources.)

The medical students state that teaching in pathology is satisfactory, although the teaching faculty in this department believe that they need more second-year teaching time particularly in systemic pathology. The department also provides teaching for dental and allied health students as well as for 21 graduate students.

Research funding in recent years has been about \$450,000. Just prior to the site visit, the department was awarded three new grants, collectively accruing an additional \$1,000,000 per year.

The department's service income includes \$2,400,000. annually from the hospitals and about \$3,000,000 per year from third party sources. Contemplated new positions in the department include: a pediatric surgical pathologist, a transplant surgical pathologist and an Immunopathologist. (The department identifies surgical pathology as its weakness.)

The department also supervises an accredited residency training program, which has been reduced to eleven resident physicians.

The departmental control over the teaching of pathology at the geographically dispersed Centers includes: a review of the curricular content each year and provision of teaching materials when needed; a review of faculty appointments and promotions; an annual meeting, in Indianapolis, of the dispersed pathology faculty. The department believes that their central authority has been enhanced with the new dean.

The department appears to be a strong one, and well-respected by the basic science and clinical faculty - as well as by the medical students.

6. Pharmacology and Toxicology: This active, balanced and productive department consists of 12 fulltime faculty chaired by Professor Henry R. Besch for the past ten years.

The students are deeply pleased with the teaching program offered by this department. In the laboratory sessions, for example, one faculty member and two graduate assistants are assigned to each group of 12-16 students. The only complaint jointly expressed by faculty and students is the compression of this course into eleven weeks.

The department also provides some elective courses in the medical school and teaches both allied health and dental students.

The research activity in this department presently generates \$554,334 externally-derived income per year with specific investigative interests in cellular pharmacology, pharmacokinetics and cancer chemotherapy.

The department identifies the following problems: poor salaries for the basic sciences faculty; a lack of suitable control by the Indianapolis-based chairs over the teaching activities of the dispersed faculty (in the Centers), although the pharmacology chair expressed full confidence in the teaching abilities of these faculty; and poor recruitment of minorities both for faculty and student body.

7. Physiology: This department, with 14 fulltime faculty chaired by Professor Rodney Rhoades, teaches medical, dental and allied health students as well as 14 graduate students. It is a mature, confident and well-respected department with extensive research programs.

The students think highly of their teaching experiences in physiology and (except for a very rare student who decries the use of animals in fundamental research) are enthusiastic about the laboratory sessions.

which include both computer simulations as well as wet laboratories. They do well in the National Board questions dealing with physiology.

Each of the fulltime faculty is a principal investigator for at least one research project. The total sum awarded to the department, this year, is \$1,225,589, the highest funding per basic sciences faculty member in the school.

The department identifies the following problems: There is a need to renovate both teaching and research space for the basic science departments. More startup funds for newly recruited faculty must be generated; a better formula for the sharing of the indirect cost component of grants should be developed.

XI (B). CLINICAL DEPARTMENTS

The following clinical departments, all bearing major teaching responsibilities are described in this section: family medicine, internal medicine, neurosciences, obstetrics and gynecology, orthopaedic surgery, pediatrics, psychiatry, surgery and urology.

In addition to interviews with the chairs of these clinical departments, members of the site visit team also accompanied third year medical students on their inpatient activities in medicine, surgery, obstetrics/gynecology, pediatrics and psychiatry. These clerkships were found to be well-organized and supervised by house staff and attending physicians in all instances. While there was some variation between services in kind and number, all provided well-structured conferences, lectures and grand rounds as well as frequent instructional sessions conducted by resident and attending physicians in less formal settings. The students were uniformly satisfied with their service experiences.

1. Family Medicine: This department is chaired by Dr. Alan Fischer and has a faculty of six fulltime persons. The department was begun in 1974 with a stated mission that did not at that time include a major role in family medicine research, service obligations or a large residency training program.

The only formal, *required* student-contact now takes place in the history and physical examination segments of the second year course the [Introduction to Medicine.] The department also offers electives in all years of undergraduate medical education.

The site visitors interviewed the Director of Undergraduate Education for the department, Dr. Deborah Allen. She states that it is her intent to establish (1) a strong research base, (2) better clinical role models to attract students, (3) more curriculum time in the teaching of medical students, particularly at a clerkship level, and (4) a better educational program for the resident physicians in family medicine. Her plans, still in the formative phases, will inevitably require a search for patients beyond the Medical Center.

The residency training program sponsored by the department currently has no graduates from Indiana University in its roster. Four out of five of the first year positions are unfilled.

The department has no admitting privileges to any of the special care units at the Medical Center and has no so-called family practice hospital.

The department receives no current external grant support, and the only research presently undertaken are some drug studies for some pharmaceutical companies.

The site visitors agree with the institutional self-study which states that "...the school consider setting up part of the training program in family medicine in an affiliate or satellite hospital off campus. In this environment, the residents could acquire primary care responsibility without competing for patients with internal medicine and pediatric house staff. Some family medicine faculty believe they should have a more formally established role in ambulatory health care at the I.U. Medical Center."

Certainly the medical school should now reexplore its commitment to the undergraduate and graduate education aspects of family medicine; redetermine realistic objectives of an academically-based department of family medicine; and then reassess the extent to which such a department - and its redefined objectives - should be supported.

2. Internal Medicine: This is the largest single department in the medical school with a fulltime faculty roster of 103, supplemented by 13 parttime and 188 voluntary faculty. The department, since 1984, has been chaired by Dr. August Watanabe. His predecessor was Dr. Walter Daly, the current dean of the school.

The department supervises teaching exercises in three of the four medical school years. In the second year it supervises the interdisciplinary introduction to medicine course and provides most of the faculty for this effort. During the fourth academic year, the department supervises more elective students than any other department.

The research activities of the department are equally impressive. Grants and endowments for training, teaching or research total more than

eleven million dollars during the past year. An additional six million dollars is generated through the practice of medicine.

The department maintains a sought-after residency training program ,currently with 97 resident physicians and 49 fellows.

The faculty of this department have made material contributions to the scientific literature of the profession and their participation in professional activities beyond the borders of Indiana are impressive.

The site visitors asked about the supervision of the introductory course in medicine (second year) within the geographically dispersed campuses. The department has established a coordinating committee with membership from all nine campuses to supervise these various teaching efforts. A uniform, system-wide final examination provides this committee with some data regarding uniform standards of teaching. Furthermore, the National Board results are carefully scrutinized using the site of basic science training as the independent variable. Thirdly, the performance of these students in their medicine clerkships is compared with their site of early medical education. No substantive differences have as yet emerged to suggest that any one campus consistently provides poorer (or better) basic sciences education

In the judgment of the site visitors this is a strong and productive department.

3. Neurosciences: This clinical department has 17 fulltime faculty assisted by 5 parttime , and 37 voluntary faculty. It is chaired for the past 17 years by a well-recognized neurologist, Dr.Mark Dyken.

The department provides neurologic services to all of the medical center hospitals (University,Riley,Wishard) as well as the Veterans Administration hospital, a total coverage of 1,015 beds. In order to fulfill these service responsibilities, the department is widely spread and in need of a facility with centralized offices,research laboratories and clinical electrophysiology resources. With the imminent completion of the clinical research pavillion, the faculty may become more consolidated and the situation may ease.

The research interests of the department faculty center about epilepsy and the pathophysiology of cerebrovascular insufficiency. Research grants for the current year total about \$270,000.

The department also supervises a fully accredited residency training program. Most of the practicing neurologists in Indiana, the chairman points out, are members of this department. In his judgment, there is a distinct shortage of neurologists in the state.

4. Obstetrics and Gynecology: The fulltime faculty number 20, 17 of whom are clinical and three Ph.D's who are predominantly in research. The department has been chaired for the past five years by Dr. Clarence Ehrlich. His efforts are aided by an additional 26 voluntary clinical faculty.

The department provides 15 hours of reproductive physiology in the Introduction to Medicine course (second year.) In the physical diagnosis component of this course, the department manages the segment on gynecologic diagnosis, employing paid, surrogate patients. The department also offers a well-supervised six week clinical clerkship, with most of the medical students assigned to Wishard Memorial and University Hospitals. A smaller number of students fulfill this clerkship at St. Vincent's or Methodist hospitals. These clerkship experiences, on or off the Medical Center campus, are said to be closely monitored. The students express considerable satisfaction with this clerkship, many declaring that it is best in their third year clerkship sequence. There appear to be adequate numbers of normal deliveries for the educational needs of a medical student class of 265.

The department supervises a fully accredited residency training program admitting six new resident physicians each year. These residents play a major role in medical student education.

The reasearch activity in this department is adequate. Nineteen scientific papers were published last year and research grants. last year, totalled \$517,321. The amount of research space is limited. About 4,000 sq.ft are identified. With the new clinical research building, this situation may improve. Dr. Ehrlich also believes that the faculty should be expanded so as to permit the department to engage more fully in research.

During the past year, 103 fourth year students enrolled in obstetrics/gynecology electives.

5. Orthopaedic Surgery: This department, chaired by Dr. G. Paul DeRosa, has 6 fulltime, 4 parttime and 44 voluntary faculty.

During the second medical school year, the department teaches the examination of the musculoskeletal system, occupying ten consecutive afternoons of didactic instruction.

The department supervises a fully accredited residency training program (present complement, 25 resident physicians) and is responsible for 118 teaching beds on the Medical Center campus.

A modest and diverse research effort is conducted by the department, some of it in collaboration with research engineers at Purdue. The faculty in this department are overwhelmed by their clinical responsibilities and can invest little time in basic research. There is an obvious need for further faculty.

6. Pediatrics : Dr. Morris Green has chaired this department for the past 21 years, aided by a fulltime faculty now numbering 44 and with a voluntary clinical staff of 98.

The third year clinical clerkship in pediatrics (confined to the Riley and Wishard hospitals on the Medical Center campus) is uniformly praised by the students. As a small measure of the popularity of this clerkship, the Indiana University medical students enrolled in 203 fourth year electives in pediatrics, during the past year. These electives, incidentally, are based in numerous communities, small and large, throughout Indiana.

The department is engaged in medical student teaching in all of the four academic years. The third year clinical clerkship, in addition to its customary inpatient experience also mandates four weeks of ambulatory care training.

The department maintains a fully accredited residency training program, and specialty fellowships, now numbering 57 physicians.

The research activities in this large department are varied and considerable. Training, teaching and research grants, last year, were in excess of \$4,600,000. Dr. Green stated that space, both office and laboratory, is inadequate for his department. The lack of additional office space has been a deterrent to further faculty recruitment. New pediatric research laboratories are currently under construction.

Dr. Green has submitted his resignation as chair, and a search committee was activated some months ago. Dr. Green may stay on at the

Medical Center, pursuing his interests in ambulatory pediatrics. When he was asked to identify problems, he noted the pressing need for a unified, campus-wide practice plan advocated and supported by the clinical faculty. Such a plan might provide the school with more financial income to be invested in supporting further basic sciences faculty.

7. Psychiatry: There are 38 fulltime faculty members in this department, chaired by Dr. Hugh Hendrie. The three major functions of the department - clinical affairs, research and education - are each supervised by a faculty coordinator. The death of the educational coordinator, with as yet no replacement, has created a problem for the department. Certainly the students perceive this as a problem, identifying psychiatry as the least satisfactory of their clinical clerkships.

The teaching of behavioral science (in the second year curriculum) at the eight dispersed Centers seems not to be effectively coordinated from Indianapolis. In a number of these Centers (see above) the behavioral science course is the locus of student complaint.

The faculty in psychiatry is spread out, stationed in many institutions, and accepts many and diverse patient care responsibilities.

The research activity of the faculty generates about \$700,000 in research grants and other sponsored projects. The principal investigative activities in the department include: genetic studies of mental illness, neurophysiologic and pharmacologic studies of schizophrenia and affective disorders, studies on alcoholism (with Prof. T.K. Li), and studies in psychogeriatrics.

The department supervises a fully accredited residency training program, with 40 resident physicians, a significant number of whom are foreign medical school graduates.

This department bears immense service responsibilities which may deter it from fulfilling its parallel tasks in education and research with an equal degree of effectiveness. The undergraduate teaching of psychiatry, both didactic and clinical, both in Indianapolis and the dispersed Centers, deserves substantially more attention.

8. Surgery: This is a clinically active department, with 29 fulltime faculty in addition to seven stationed at the Veterans Administration facility. The chairman has submitted a faculty staffing plan which calls

for 13 additional fulltime faculty within the next few years. The office and research laboratory space available to the current faculty is quite limited but this inadequacy may be relieved when the new clinical research building is completed. A new surgical research suite has been recently opened.

The chair of the department Dr. Jay Grosfeld has been in this post less than two years. He has had a distinguished career in pediatric surgery before assuming this administrative role.

The students are satisfied with the classroom and bedside teaching of this department.

The research efforts of the department are principally in cardiovascular prostheses and transplants; pediatric enteric physiology; transplantation activation antigens; congenital anomalies of head and neck; and research in endothelial grafts. Active grants total about \$267,000.

The residency training program is excellently managed.

This appears to be a strong, effective department with an unambiguous, realistic, long-range plan.

9. Urology: This department is composed of six fulltime and 12 voluntary faculty.

Teaching in urology is conducted in all four years of medical education. In the third year, students are required to complete a two-week clinical rotation on the urologic service. Clinically-oriented fourth year electives are also offered.

The department maintains a coveted six-year residency training program.

Research efforts, supported almost exclusively through funds generated through the practice of medicine, take place largely at Methodist Hospital.

SUMMARY OF SURVEYORS' OBSERVATIONS AND RECOMMENDATIONS

The site visitors are deeply grateful for the generous hospitality, candor and superb data base which Dean Daly, the administrative staff, the faculty, medical students and hospital administration provided to us during our accreditation survey of Indiana University Medical School on October 19-23, 1987. We have been privileged to inspect a fine and well-managed institution.

We note the following strengths:

1. The Indiana University School of Medicine has consistently educated and graduated excellent practitioners of medicine throughout this century. Despite the fact that it is one of the largest medical schools in the United States with nine geographically dispersed campuses, it has fulfilled its responsibility to educate competent physicians.
2. After many years of dedicated and distinguished service to the university as a faculty member and chairman of Medicine, Dr. Walter Daly assumed the deanship in 1983 and in the subsequent four years has gained the respect and admiration of the faculty and students. He manages the affairs of the nine medical center sites in a quiet and dignified manner.
3. The eight outstate centers have matured, developed faculty and many have developed creditable research programs with substantial peer-reviewed external financial support.
4. Since the last accreditation visit impressive and well-designed new facilities have been built or are under construction to serve the education and research programs of the school as well as to serve the community in an admirable way. Currently under planning or construction are an ambulatory care center, a clinical research and library facility and a vivarium.
5. Since the last visit a number of highly qualified new chairmen have been recruited.
6. Both faculty and students are loyal and committed.

Weaknesses:

1. There is substantial variation in the extent to which chairmen exert their authority over the activities in the Centers.
2. Despite the fact that there are essentially the same number of entering students at each Center except Bloomington, there are substantial differences in staffing, teaching loads, contact hours and allocated funds.
3. Faculty development in the Centers is a concern.
4. The only significant ambulatory care experience for the students is in pediatrics.
5. There are no coordinated programs for teaching public health.
6. There are no structured programs in medical ethics or related social issues.
7. There is inadequate teaching of biostatistics and clinical epidemiology.
8. The Department of Family Medicine is inadequate.
9. The lack of compulsory health care insurance coverage places the students at undue risk.
10. The Student Health Care Service fee is mandatory even at those sites where there is no Student Health Service.
11. Given the quality of the student body their residency expectations are unduly modest.
12. The library facilities are inadequate. It is recognized that a new library is under construction, but it is not clear that sufficient budget will be provided, to staff this new facility at the appropriate level or, for new acquisitions.
13. Two of the large classrooms in the medical sciences building are poorly lighted and have inadequate temperature and ventilation controls.

14. The student lounge which is shared with maintenance personnel is inadequate.

15. There is no institution-wide plan regarding practice income and its allocation among faculty, departments and the school.

16. The funding for graduate student stipends in the Biomedical Sciences and the MD-PhD program is insufficient.