



ASSOCIATION OF AMERICAN MEDICAL COLLEGES

SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

November 29, 1973

TO: CAS Administrative Board
FROM: Connie Choate, Secretary to August G. Swanson, M.D.
SUBJECT: Next Meeting

The next meeting of the CAS Administrative Board
is:

Thursday, December 13, 1973
9:00 a.m. - 1:30 p.m.
1 Dupont Circle, Room 827 (8th Floor)
Washington, D.C.

Please note that the time of the meeting is different from past meetings. Due to a commitment that involves the Chairman, the meeting has been scheduled for 9:00 a.m. to 1:30 p.m.

Hotel reservations have been made for each of you at the Dupont Plaza Hotel. Please indicate on the attached form whether or not you will attend the meeting and need a hotel room for the night of the 12th. All hotel reservations are guaranteed for late arrival. A self-addressed envelope is enclosed for your convenience.

An agenda will be mailed out toward the end of next week.

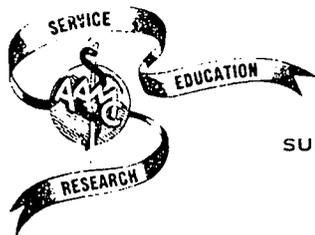
Thank you.

Attachments

Ronald W. Estabrook, Ph.D.
Jack W. Cole, M.D.
Carmine D. Clemente, Ph.D.
Robert M. Blizzard, M.D.
A. Jay Bollet, M.D.
David R. Challoner, M.D.

D. Kay Clawson, M.D.
Rolla B. Hill, Jr., M.D.
Leslie T. Webster, M.D.
Ernst Knobil, Ph.D.
Robert G. Petersdorf, M.D.

cc: Daniel C. Tosteson, M.D.
Sherman M. Mellinkoff, M.D.
AAMC Staff



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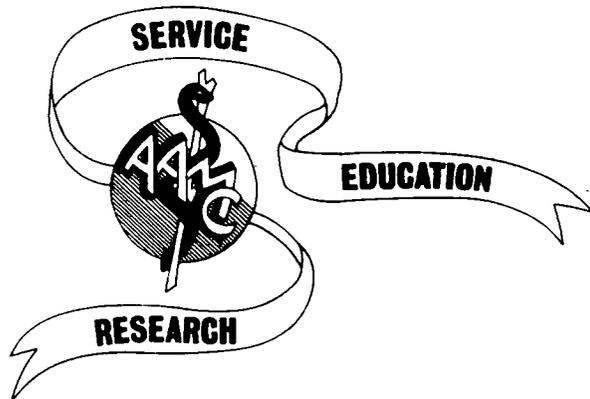
PLEASE FILL OUT AND RETURN TO CONNIE CHOATE AS SOON AS POSSIBLE

I will ___ will not ___ attend the CAS Administrative Board Meeting on December 13, 1973.

I do ___ do not ___ need a hotel room for the night of December 12.

Signed

Date



AGENDA FOR COUNCIL OF ACADEMIC SOCIETIES

ADMINISTRATIVE BOARD

Thursday, December 13, 1974

9:00 a.m. - 1:30 p.m.

1 Dupont Circle
Room 827 (8th Floor)
Washington, D.C.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

One Dupont Circle

Washington, D. C.



ASSOCIATION OF AMERICAN MEDICAL COLLEGES

SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

AGENDA

COUNCIL OF ACADEMIC SOCIETIES
ADMINISTRATIVE BOARD

Thursday, December 13, 1973
9:00 a.m. - 1:30 p.m.
1 Dupont Circle, Rm. 827 (8th Floor)
Washington, D.C.

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V. New Business

MINUTES
ADMINISTRATIVE BOARD
COUNCIL OF ACADEMIC SOCIETIES

September 13, 1973

AAMC Headquarters
Washington, D.C.

PRESENT: Board Members

Robert G. Petersdorf, Chairman (Presiding)
Robert M. Blizzard
David R. Challoner
**Sam L. Clark, Jr.
Ludwig Eichna
Ronald W. Estabrook
Robert E. Forster, II
Rolla B. Hill, Jr.
**Ernst Knobil
William B. Weil, Jr.

Staff

Michael F. Ball
Connie Choate
William G. Cooper
*John A. D. Cooper
*Charles Fentress
Mary H. Littlemeyer
August G. Swanson

Guest

*D. C. Tosteson

ABSENT: Board Member

Charles F. Gregory

I. Adoption of Minutes.

The minutes of the CAS Administrative Board meeting held
June 21, 1973 were adopted as circulated.

II. Chairman's Report.

Dr. Petersdorf reported on the Association's continuing efforts
in the area of federal liaison, particularly with regard to HR 1. During

*For part of meeting
**Ex Officio

lunch, the CAS Administrative Board, joined by the other AAMC Councils, heard a detailed discussion led by AAMC President, Dr. John A. D. Cooper, of HR 1 and other legislative developments, including the 1974 HEW Appropriations Bill. These, and other legislative matters are reported weekly in the President's Weekly Activities Report (WAR). WAR, which has always gone to the officers and official representatives of CAS Societies, is now available to the entire membership of the constituent societies.

Also, Dr. Petersdorf attended with a group representing the AAMC, academic health centers, and university nursing programs a conference held June 25-July 2 in London and Edinburgh. The conference, arranged through the cooperation of the Nuffield Provincial Hospitals Trust, was on the British national health service and its relationship to medical education. Of most immediate interest were the approach being used to relate house officers' training more closely to national needs, attempts to integrate general practice and hospital practice more effectively, regionalizing health care resources and facilities, the consequences of the Lord Rothchild Report recommending increased targeted research, and plans for expanding medical school class sizes.

Another major activity under AAMC aegis in which Dr. Petersdorf had participated and about which he was very enthusiastic was the AAMC Management Advancement Seminar.

III. Action Items.

1. Proposal for Establishment of Senior Membership in AAMC.

The CAS Administrative Board discussed at great length the pros and cons of the proposal that there be established in AAMC a category of membership entitled Senior Membership.

ACTION: The CAS Administrative Board disapproved the proposal for establishment of Senior Membership in AAMC as set forth in the Agenda on p. 7.

NOTE: By Memorandum #73-34 dated October 4, 1973 the Voting Members of the Assembly were informed that the Executive Council voted (September 14) to recommend to the Assembly a Bylaws change designed to incorporate a mechanism for the continued participation of individuals once active in the Association who no longer are members of any Council by modifying the existing category of Senior membership to be Distinguished Service Members who will be recommended to the Executive Council by either the Council of Deans, Council of Academic Societies, or Council of Teaching Hospitals.

2. Proposal for Modification of CAS Nominating Committee.

ACTION: The CAS Administrative Board unanimously approved the proposal for modification of the CAS Nominating Committee as set forth in the Agenda on p. 9.

3. Proposal for Increased Representation in AAMC Assembly.

On June 21, 1973 the CAS Administrative Board had voted unanimously to recommend to the Executive Council that CAS representation in the Assembly be increased to reflect one vote for each constituent society, not to exceed the representation of the Council of Deans. On September 13, 1973, this action was modified as follows:

ACTION: [That the above action be amended so that] a parity exist between representation of the CAS and the COTH both in the Assembly and in the Executive Council.

NOTE: By Memorandum #73-34 dated October 4, 1973 the Voting Members of the Assembly were informed that the Executive Council voted (September 14) to realign the voting representation in the AAMC Assembly by providing the Council of Academic Societies and the Council of Teaching Hospitals each with one-half the number of

votes provided the Council of Deans; and to expand the Executive Council to include one additional representative of the Council of Teaching Hospitals and one representative of the Distinguished Service Members.

4. Report of the Committee on Financing Medical Education.

At its last meeting the CAS Administrative Board had approved in principle the draft of the Report of the Committee on Financing Medical Education with several recommendations for modification. The report subsequently underwent substantive changes based on these and other recommendations. The report dated August, 1973 was put before the CAS Administrative Board for adoption.

ACTION: The CAS Administrative Board voted unanimously to approve the Report to the Executive Council (and the alternate models) by the Committee on Financing of Medical Education, dated August, 1973, with proposed modifications transmitted to staff.

5. New Application for Membership.

Action: The CAS Administrative Board tabled the application for membership of the Association for Academic Psychiatry pending the collection and analysis of additional information.

IV. Discussion Items.

1. Biomedical Research Manpower Working Conference.

Under joint sponsorship by AAMC and the University of Washington, an invitational Working Conference on Biomedical Research Manpower will be held at the Battelle Seattle Research Center, October 1-3. Over 70 representatives from the HEW, the NIH, the medical schools, research

specialties and other agencies, including foundations and the categorical volunteer health organizations will meet to discuss biomedical research manpower needs. Proceedings of the Conference will be published.

2. Fall Meetings.

Tentative programs of CAS meetings to be held in Washington, D.C., in conjunction with AAMC Annual Meeting were distributed. These included the CAS Business Meeting and the CAS General Session (November 4) and the special half-day CAS session on "Certain Ethical Aspects of Biomedical Research" (November 5).

Additionally, a breakfast meeting is planned for November 5 with presidents of the various chairmen's societies which are CAS members.

Finally, according to a previous Board action designed to increase CAS participation in activities of the AAMC and the CAS, individual members of societies meeting in conjunction with the AAMC Annual meeting will receive special invitations to attend the AAMC meeting if the organization so requests. Twelve CAS member societies are planning to hold their meetings with the AAMC's.

3. Goals for CAS in 1973-1974.

Dr. Estabrook met on September 12 with Drs. August Swanson, Michael Ball, and William Cooper to discuss goals for CAS in 1973-1974. Primary concerns to be addressed in the CAS Spring 1974 meeting are faculty tenure, governance, and the potential of unionization. It is expected that research and training grant issues will be continuing foci of activity. New areas of emphasis will include the role of the CAS in continuing education vis-a-vis the medical school faculty and the need for mandates from

the CAS constituency.

V. Other.

The CAS Administrative Board received for consideration the following resolution for increasing membership in the CAS Administrative Board as submitted by Dr. Estabrook:

Resolve that Section III, 1 of the CAS Bylaws be modified to read that "The Council of Academic Societies shall be governed by an Administrative Board which shall be composed of a Chairman, Chairman-Elect, Past-Chairman, a Secretary, and nine (9) other representatives of member academic societies. Three of said nine representatives shall serve for a term of three years or until his successor is elected and installed."

VI. Adjournment.

The meeting was adjourned at 4:00 p.m.

MHL:efl
10/10/73

III. Discussion Items:

2. CAS Fall 1974 Program

Times for the various CAS programs must be decided upon at this meeting.

Next year, in order to avoid overlap of member societies meetings and the CAS meetings, it is suggested that member societies meet on the day before the CAS Business Meeting.

A final program must be prepared by March of 1974. Consequently, at this meeting we must select program topics and begin solicitation of speakers.

3. Increase size or lengthen term of CAS Administrative Board membership

The following resolution was introduced by Dr. Estabrook at the September 13th Administrative Board meeting:

Resolve, that Section III, 1 of the CAS Rules and Regulations be modified to read that "The Council of Academic Societies shall be governed by an Administrative Board which shall be composed of a Chairman, Chairman-Elect, Past-Chairman, a Secretary, and nine (9) other representatives of member academic societies. Three of said nine representatives shall serve for a term of three years or until his successor is elected and installed."

The changes in structure and term of office in the Administrative Board suggested by this resolution will require Rules and Regulations changes. Rules and Regulations changes must be in the hands of CAS representatives 30 days before the meeting upon which they are to be voted. The next meeting will be in March, 1974.

4. CAS Plans for Distinguished Service Membership

The Distinguished Service Membership category was passed by the Assembly. COD and COTH have nominated people for this membership category. Since the CAS opposed this action, what does it wish to do? On the next page is a list of former CAS Administrative Board members. Listed below are the nominees of the COD and COTH.

COD Nominees for DSM

Carleton B. Chapman
Robert J. Glaser
John R. Hogness
Robert B. Howard
William N. Hubbard

Thomas H. Hunter
Robert Q. Marston
David E. Rogers
Charles C. Sprague
Robert S. Stone

COTH Nominees for DSM

Donald J. Caseley
John H. Knowles
Russell A. Nelson
Matthew F. McNulty
Albert W. Snoke

CAS ADMINISTRATIVE BOARD MEMBERS
AND TERMS OF OFFICE

Thomas Kinney	1967-1971
Jonathan Rhoads	1967-1972
Daniel Tosteson	1967-1970
Eben Alexander	1967
Harry Feldman	1967-1970
Sam Clark, Jr.	1967-1972
Patrick Fitzgerald	1967-1971
John Nurnberger	1967-1969
Ralph Wedgwood	1967-1969
James Warren	1968-1971
Charles Gregory	1969-1973
William Weil	1969-1973
William Longmire	1970
Louis Welt	1970-1972
Robert Forster	1971-1973
Ludwig Eichna	1971-1973
Ernst Knobil	1970-1972

October 16, 1973

Larry B. Silver, M.D.
Department of Psychiatry
Rutgers Medical School
University Heights
Piscataway, NJ 08854

Dear Dr. Silver:

On September 13, the Administrative Board of the Council of Academic Societies considered the application of the Association for Academic Psychiatry for membership in the CAS.

Members of the Board considered the application at length and also consulted individuals in the psychiatric community. It was their decision that the Association for Academic Psychiatry was rapidly evolving its goals and direction and that it would be more appropriate to allow more time for the Board to consider your pending application. Therefore, the Board tabled the application until its meeting on March 21, 1974.

Sincerely yours,

August G. Swanson, M.D.
Director of Academic Affairs

AGS:cc

cc: Robert G. Petersdorf, M.D.
Chairman, CAS

The CAS Administrative Board adopted the following procedure for admission of new societies to the CAS in April, 1971:

1. Inquiry from a society is received: Response. A copy of the AAMC Articles of Incorporation and Bylaws, pertinent CAS documents, and a summary letter emphasizing the goals and purposes of the CAS are sent to the society.

2. Society after reviewing the above documents requests membership. Response. Application form is sent and with this letter pointing out the need for clarification of the tax exempt status of the organization.

3. Society returns application and supporting documents.

4. AAMC staff prepares copies and distributes to Administrative Board.

5. Chairman appoints two representatives to conduct investigation and make recommendations.

6. Board (A) rejects application at this point,
(B) issues an invitation to the society, to send, at its expnse, a representative or representatives to the next Board meeting to present the case in person.

7. Board summarizes the society's relevance to CAS/AAMC and circularizes CAS Membership.

8. CAS Membership votes at next regular meeting.

UNIVERSITY of PENNSYLVANIA

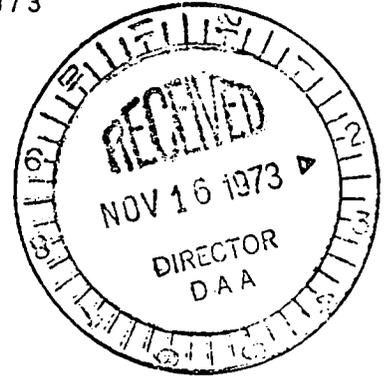
THE GRADUATE HOSPITAL

PHILADELPHIA 19146

*Mike
huddle*

Kingsley 6-4500
(Area Code 215)

12 Nov 1973



Dr. August G. Swanson
Director, Academic Affairs
Association of American Medical Colleges
One DuPont Circle, N. W.
Washington, D. C. 20036

Dear Gus:

We were pleased that the AAMC Assembly last week in Washington accepted the American Association for the Study of Liver Diseases (AASLD) as a new member in the Council of Academic Societies (CAS). At the same time, the decision to increase dues from \$100 per year to \$1000 for societies of the moderately small category came as a sharp disappointment. As you informed me briefly last week, there has been a great deal of discussion pro and con on this matter of dues increase, but unfortunately our society has not been aware of the substance of the discussions.

When speaking with Dr. Robert Petersdorf, the outgoing president of CAS, this past weekend, I asked how best to present the facts and arguments to our council and to our members, for I expect a great deal of resistance to the dues increase. They are going to want to know what benefits should be expected to justify investment of such a large proportion of the total income of the AASLD. Dr. Petersdorf suggested that you might be able to explain these decisions and actions clearly to our council, which is scheduled to meet next in Bethesda in early March, 1974. I should like to invite you to come and hope you will be able to be with us for discussion of this issue.

A few facts and comments may help clarify our position. The AASLD will be 25 years old in 1974. It is therefore a relatively young society, one which is just emerging from the status of a small scientific club into a moderate-sized national group of interested workers in the field of liver disease. Our growth rate in recent years has been about 10% per year, and we now number just over 400. The members include a predominant number of internists and gastroenterologists, with moderate numbers of surgeons and pathologists and a few electron microscopists, biochemists, immunologists, and assorted other interested persons. Our dues have been a modest \$10 per year, and we have no great accumulation in our treasury.

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While the AASLD recognizes its growing responsibilities and would like to participate in the national activities of the CAS, it must protest the most inequitable financial burden proposed for those smaller societies least able to bear it. We hope that there may very soon be a remedy for this, that you may be able to provide us with further information in the immediate future, and visit with our council in March.

Sincerely,



John R. Senior, M.D.
President, AASLD

JRS:amcd

CC: Dr. William Summerskill
Dr. Robert Petersdorf

9. Recommendations of Graduate Medical Education Committee on Physician Distribution

The AAMC Graduate Medical Education Committee met in Washington on November 12. A major consideration at this meeting was the role of education and training in influencing the distribution of physicians across the specialties. Five major points were agreed upon by the Committee:

1. There is a need to produce substantially more primary care physicians. Primary care is defined to include family practice, general medicine, and general pediatrics.

2. There is a need to produce fewer specialists and subspecialists.

3. Fifty (50) percent of the first-year residencies should be allocated to primary care training in ambulatory settings with responsibility for longitudinal care. This may be accomplished through:

a. The establishment of innovative and attractive primary care educational programs;

b. The elimination of poor quality residency programs in all categories through a more stringent accreditation process. Improving the accreditation process is a logical function of the LCGME.

c. The federal government, initially through a grant program to support initial development, and third-party payers, ultimately through providing for adequate reimbursement in the ambulatory care setting, can create and sustain a major shift toward more primary care training opportunities.

The increase in first-year primary care residencies to 50% of the places should be reached between 1975-1980. Annual monitoring of trends in distribution of first-year positions across the specialty spectrum should be carried out by the Association, and the disparities of trends versus needs should be called to the attention of the institutions.

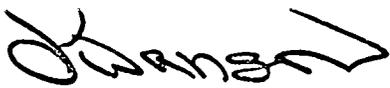
4. First-year residency positions should be limited to 110%-120% of the number of graduates produced by U.S. medical schools. It is assumed that the number of graduates of American medical schools will be adjusted to the demands of population growth and other factors which will influence physician manpower needs.

5. Further investigation of this complex issue can be approached in a variety of ways:

a. By an examination and analysis of data currently available from AMA, DMI, and SOSSUS studies;

b. By an examination and analysis of physician tasks in terms of the lowest common denominator of education necessary to perform the task; and

c. By an examination and analysis of existing models of health systems, such as the Kaiser-Permenente, H.I.P., and plans in Great Britain, Sweden, and Denmark.



Physician Manpower and Distribution

In the late 1950's, concern was expressed that an insufficient number of physicians would be available in the future to meet the health care requirements of the public. The physician-population ratio in 1959 was 149/100,000.* The total number of physicians was 235,000. Osteopaths numbered 14,100. Seven thousand four hundred medical students were graduated.

A Consultant Group appointed by the Surgeon General of the U.S. Public Health Service stated in a report that "the maintenance of the present ratio of physicians to population (was) a minimum essential to protect the health of the people of the U.S. To achieve this, the number of physicians graduated annually by schools of medicine and osteopathy must be increased from the present 7,400 a year to some 11,000 by 1975." At that time concern was also expressed about the increasing number of specialists, the decreasing number of general practitioners, and a decrease in the total number of physicians who served families as primary care physicians.

In 1967, a National Advisory Commission on Health Manpower recommended that "the production of physicians should be increased beyond presently planned levels by a substantial expansion in the capacity of existing medical schools and by continued development of new schools." The Commission, recognizing that the ultimate solution of the physician manpower problem resided in the institutions responsible for the education

* The ratio published originally in the Bane Report was 141/100,000. In 1963, a national conference on physician statistics revised the categories of physicians and population to be counted. Using the new agreement, the 1959, physician/population ratio became 149/100,000.

of physicians, recommended that "the formal education for all health professionals be conducted under the supervision of universities. This would include graduate training such as internships, residencies, and their equivalents."

The schools of medicine have responded to the challenge for additional physicians. (Table I) If the United States merely maintains the current output capability of U.S. medical schools, there will be 50% more physicians by 1985. If there are no significant changes in the output capacity of U.S. medical schools or in the influx of foreign trained physicians, the ratio of physicians to population may attain an appropriate balance and even exceed it. As a result we feel that physician supply and requirements will move toward a rough balance by 1985. There may be other factors such as the physicians' productivity, the methods of delivering health care, the demands for care and economic support of the health care system that will influence the attainment of this balance.

Although the geographic distribution of specialists is not resolved by increasing numbers of specialists it will be indirectly affected by alterations in specialty distribution.

There is general agreement by those who have studied the physician manpower problem and the health care delivery system that:

- 1) Physicians now practice predominantly as specialists. (Table II)
- 2) Most of the growth has occurred in surgical and technological specialties and in medical subspecialties.
- 3) The primary care specialties are ordinarily considered to be internal medicine, pediatrics, family practice, and general practice. While

there has been an increase in the total number of internists and pediatricians, there has been an overall decline in the total number of physicians engaged in the specialties which are generally considered to be the primary care specialties. (Table III)

- 4) The demands for health care services are increasing out of proportion to increments in the population.
- 5) The total number of physicians in this country provides a physician-population ratio that is higher than any other in the western world (Tables IV and V).
- 6) It is very likely that physicians' productivity will continue to increase although there will be some factors which influence this in a negative way.
- 7) Any analysis of projected health professional manpower needs must consider the increasing numbers of physician assistants and nurse practitioners.
- 8) Factors which determine specialty selection and geographic location are numerous but are generally related to professional prestige, the availability and location of specialty residencies, potential income, life style, and environmental and social conditions (Table VI).
- 9) Additional information concerning the distribution of effort of physicians in all specialties is needed for a thorough analysis of the needs and demands of the people for health care services, the distribution of physician manpower and the amount and type of primary care provided.

Certain generalizations can be drawn from information presently available.

- 1) A primary care physician is one who establishes a relationship with an individual or a family for which he provides continuing surveillance of their health needs, comprehensive care for the disorders which he is qualified to care for, and access to the health care delivery system for those disorders requiring the services of other specialists.
- 2) There is a need for individuals and families to have a continuing relationship with a primary care physician, a group of physicians, or an institution that provides primary care, if access to the delivery system is to be secure and acceptable to the people. (Tables VII and VIII)
- 3) Although many board certified specialists of all types provide varying degrees of primary care,* the bulk is rendered by general internists, general pediatricians, and family practitioners who represent about one-third of the certified specialists and one-third of the total number of physicians (Tables II and VII).
- 4) There is an unsatisfactory overall distribution of specialists that has created an excess of some and a deficit of those specifically educated to give primary care (Tables IX and X).
- 5) There are no existing means within a generally permissive system for changing in an arbitrary manner the specialty and geographic distribution of physicians.

* For the purposes of this document, primary care is considered to mean that type of longitudinal care characterizing the practice of the primary care physician.

- 6) A significant proportion of the number of physicians (20-25%) providing care to the public received their preliminary medical education in foreign countries (Tables XI and XII). A difference in educational background is revealed in the results of specialty board examinations.
- 7) There is a progressive increase in the use of hospital services (Table XIII).
- 8) There is a significant use of the resources of emergency services to provide care to ambulatory patients with non-catastrophic illness.
- 9) There has been a steady increase in the number of hospitals affiliated with academic medical centers and in the number of graduate educational programs offered in these institutions (Table XIV).
- 10) The total number of positions in graduate medical education has increased significantly from 32,840 in 1952-53 to 65,308 in 1972-73 (Tables XV and XVI).
- 11) More women are being accepted into schools of medicine and the majority of them seek careers in specialties providing primary care (Tables XVII and XVIII).
- 12) The vast majority of medical graduates in this country enter formal residency programs and become eligible for board certification (Table XIX).
- 13) There is a growing number of interdisciplinary physician groups (Table VIII).
- 14) If voluntary changes are to occur in order simultaneously to depress the rate of production of some specialists and to increase the number of primary care physicians, the schools of medicine, the institutions responsible for graduate education, the certifying specialty boards,

the accrediting agencies, national and regional professional organizations, states, and the federal government will all have to participate.

Recommendations:

- A. Schools of Medicine and their university and other affiliated hospitals should accept responsibility for the education of primary care physicians by:
1. Creating the appropriate faculty structure to recognize the primary care physician on the same basis that other specialists are recognized.
 2. Establishing appropriate and justifiable administrative units that will be identified with the education of physicians who are going to deliver primary care.
 3. Establishing appropriate undergraduate tracks and residency programs that will emphasize ambulatory care and will attract students into primary care specialties.
 4. Eliciting the participation of other departments in the support and activities of the faculty and staff responsible for education and service in the arena of primary care.
- B. The American Board of Family Practice and the American Academy of Family Physicians should continue to be supported in their efforts to develop the concept of family practice and to define the characteristics and contour of that specialty.
- C. The American Boards of Internal Medicine and Pediatrics should re-examine their requirements for admission to their certifying

examinations so that the educational program and a career in general medicine or general pediatrics will have the same or more professional prestige as the other specialty categories of internal medicine and pediatrics.

- D. The Liaison Committee on Graduate Medical Education and its sponsoring organizations should through the Essentials and the review of programs devise methods for emphasizing the desirability and need of strong and attractive educational experiences in general medicine and general pediatrics.
- E. The Coordinating Council on Medical Education should ascertain the number of diplomates for each medical specialty and their projections into the future, and should compare this with society's needs for various kinds of specialists and make recommendations to appropriate agencies.
- F. The Liaison Committee on Graduate Medical Education and residency review committees should be urged to maintain the standards utilized to evaluate the educational programs they are accrediting.
- G. Institutions responsible for graduate medical education should as a regional consortium identify the medical manpower requirements of the region and adjust their output of specialists accordingly.
- H. The Coordinating Council on Medical Education should acquaint the U.S. Congress, federal agencies, state legislatures, state departments of health, medical licensing boards, hospital trustees and administrators, and university boards of regents with information concerning physician manpower distribution and should urge support

from appropriate sectors for additional endeavors designed to increase the number of primary care physicians and their effective geographic distribution. (Tables XX and XXI).

- I. The organizations (CFMG, ECFMG, AMA, AAMC, ABMS, AHA, NBME, FSMB, Fed. Gov't.) having segments of the responsibility for the incorporation of FMG's into the educational and health care structure of this country should jointly resolve the problem of the numbers of FMG's entering the educational system and establish criteria for entrance that are the same or equivalent to those required of USMG's.
- J. Schools of Medicine should utilize all available techniques to identify those applicants who may be reasonably expected to select careers in primary medical care and should accept a significant proportion of them into the educational system.
- K. The Coordinating Council on Medical Education, working cooperatively with the federal and state governments, should address itself to the question of identifying manageable geographic regions and supporting, with a commitment of regional financial resources, the efforts, mechanisms and organizations which would have the responsibility of defining the area's health care needs, the number and type of health professionals required to meet the needs of the public, the number and types of educational programs required, and the appropriate distribution of physical and professional resources to meet health care needs.
- L. The Coordinating Council on Medical Education should continue to

assume, within the authority of its parental organizations, the responsibility for -

- a) Coordinating data and information pertinent to professional manpower and the costs of graduate medical education.
- b) cooperating with other agencies and the federal government to develop appropriate solutions to the manpower problem.
- c) developing guidelines for the use of medical centers which assume a regional responsibility.
- d) monitoring the effectiveness of the medical center's efforts to solve on a regional basis the problem of professional manpower and related educational programs.
- e) continuing to address itself to the integration of regional professional manpower needs into an equitable and efficient national manpower policy.
- f) recommending to appropriate professional bodies procedures for the process of accreditation that evaluate not only the quality of the educational programs, but also the quality and completeness of professional services provided by a medical center to a geographic region.
- g) initiating or conducting studies of the medical care reimbursement system to determine its effect upon the distribution of physicians by medical specialty and to suggest appropriate changes which might increase the supply and effective distribution of primary care physicians.

TABLE I

STUDENTS AND GRADUATES IN MEDICAL AND BASIC SCIENCE SCHOOLS

<u>YEAR</u>	<u># OF SCHOOLS</u>	<u>ENROLLMENT</u>	<u>GRADUATES</u>
1930-31	76	21, 982	4, 735
1940-41	77	21, 379	5, 275
1950-51	79	26, 186	6, 135
1960-61	86	30, 288	6, 994
1970-71	103	40, 487	8, 974
1972-73	112	47, 546	10, 391

TABLE II
DISTRIBUTION OF PHYSICIANS IN USA AND POSSESSIONS

<u>SPECIALTY</u>	<u>1965 NUMBER</u>	<u>%</u>	<u>1972 NUMBER</u>	<u>%</u>
GENERAL AND FAMILY PRACTICE	71,366	24.4	53,348	15.5
INTERNAL MEDICINE	38,690	13.2	47,994	13.5
SURGERY	27,693	9.5	30,989	8.7
PSYCHIATRY	17,888	6.1	22,570	6.3
OB-GYN	16,833	5.8	20,202	5.7
PEDIATRICS	15,665	5.4	19,610	5.5
RADIOLOGY	9,553	3.3	14,917	4.2
ANESTHESIOLOGY	8,644	3.0	11,853	3.3
OPHTHALMOLOGY	8,397	2.9	10,443	2.9
ORTHOPEDICS	7,549	2.6	10,356	2.9
UROLOGY	5,045	1.7	6,291	1.8
OTOLARYNGOLOGY	5,325	1.8	5,662	1.6
OTHERS	<u>59,440</u>	<u>20.4</u>	<u>89,275</u>	<u>25</u>
TOTAL	292,088	100	356,534	100
			% increment	+22.1

CHANGE IN SPECIALTY DISTRIBUTION

<u>PRIMARY CARE SPECIALTIES</u>	<u>1965</u>	<u>1972</u>	<u>% CHANGE</u>
INTERNAL MEDICINE	38,690	47,994	
PEDIATRICS	15,665	19,610	
GENERAL PRACTICE	<u>71,336</u>	<u>55,348</u>	
	125,691	122,952	- 2.3
 <u>MEDICAL SUBSPECIALTIES</u>			
ALLERGY	910	1,638	
CARDIOVASCULAR	1,901	5,883	
DERMATOLOGY	3,538	4,227	
GASTROENTEROLOGY	633	1,839	
PED. ALLERGY	82	383	
PED. CARDIOLOGY	146	514	
PULMONARY DISEASE	<u>1,226</u>	<u>2,065</u>	
	8,436	16,549	+ 96.2
<hr/>			
% CHANGE IN RATIO OF MEDICAL AND PEDIATRIC SUBSPECIALISTS TO BOARD CERTIFIED INTERNISTS AND PEDIA- TRICIANS	15.5	24.5	
<hr/>			
<u>SURGICAL SPECIALTIES</u>	76,147	91,058	+ 19.9
<u>OTHER SPECIALTIES</u>	67,271	90,344	+ 34.3

TABLE IVPHYSICIAN-POPULATION RATIOS

<u>YEAR</u>	<u>PHYSICIANS PER 100,000 POPULATION M.D. AND D.O.</u>
1963	149
1968	160
1972	173

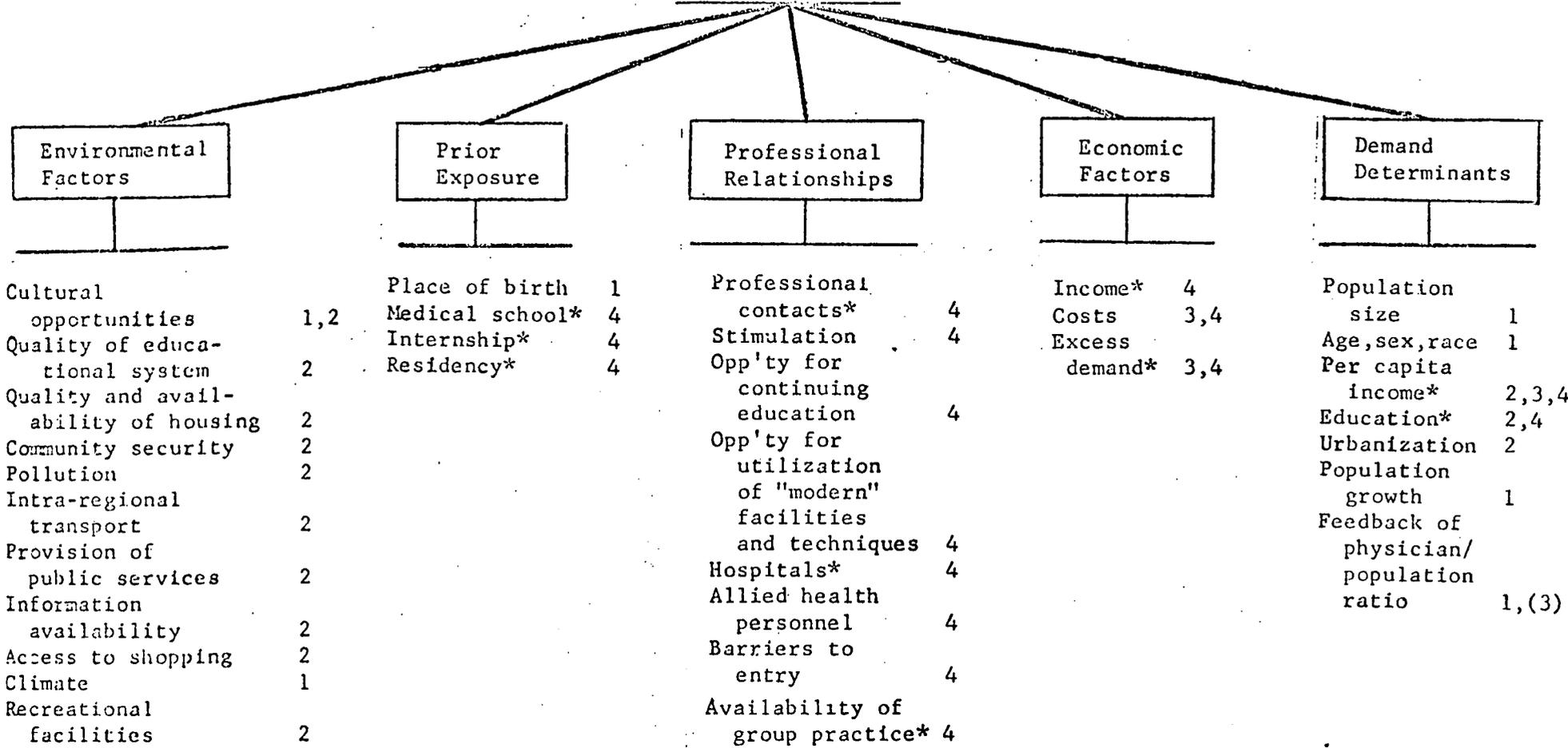
TABLE V

AVERAGE SIZE OF MEDICAL SCHOOLS, 1930-1973

<u>YEAR</u>	<u>NUMBER OF SCHOOLS</u>	<u>AVERAGE 1st YEAR ENROLLMENT</u>	<u>AVERAGE TOTAL ENROLLMENT</u>	<u>AVERAGE GRADUATES</u>
1930	76	84	289	62
1940	77	75	277	68
1950	79	90	331	77
1960	86	96	352	87
1970	103	110	393	96
1971	108	114	404	101
1972	113	118	416	102
1973	114	121	447	109

POLICY POTENTIAL OF FACTORS IN LOCATION DECISIONS

LOCATION DECISION



Classification Code:

1. Not subject to policy manipulation
2. Inefficient policy variable
3. Infeasible variable for policy
4. Potential policy variable

Source

McFarland, J.: Toward an Explanation of the Geographical Location of Physicians in The United States. In: Contributions to a Comprehensive Health Manpower Strategy, Chicago: AMA Center for Health Services, Research and Development. Rev. July, 1973 - pp 29-67

* Indicates variable, in the subset of policy alternatives, which seems to be very important

TABLE VII
PHYSICIANS CERTIFIED BY SPECIALTY BOARDS
12-31-72

<u>AMERICAN BOARDS</u>	<u>NUMBER</u>	<u>%</u>
<u>PRIMARY CARE M. D. 'S</u>		
FAMILY PRACTICE	4, 520	
INTERNAL MEDICINE	22, 737	
PEDIATRICS	<u>13, 101</u>	
SUBTOTAL	40, 358	30
<u>ALL OTHERS</u>	<u>95, 110</u>	<u>70</u>
TOTAL	135, 468	100

TABLE VIII

TOTAL GROUPS BY TYPE OF GROUP
1959, 1965, 1969

Survey Year	Total	Type of Group			
		Single Specialty	General Practice	Multispecialty	General Practice and Multispecialty
1959	1,546	392	--*	--*	1,154
1965	4,289	2,161	651	1,477	2,128
1969 (actual)	6,371	3,169	784	2,418	3,202
1969 (adjusted)	6,162	3,252	758	2,152	2,910
<u>Annual Average Percentage Change</u>					
1959-65	18.5	32.9	--*	--*	10.7
1965-69 (actual)	10.4	10.0	4.8	13.1	10.8
1965-69 (adjusted)	9.5	10.8	3.9	9.9	8.1
<u>Percentage Distribution</u>					
1959	100.0	25.4	--*	--*	74.6
1965	100.0	50.4	15.2	34.4	49.6
1969 (actual)	100.0	49.7	12.3	38.0	50.3
1969 (adjusted)	100.0	52.8	12.3	34.9	47.2

Total percentages may not add to 100.0% due to rounding.

*The 1959 survey combined General Practice and Multispecialty groups.

Source: Todd, C., McNamara, M.E.: Medical Groups in the U.S., 1969
Chicago: Center for Health Services Research and Development, American
Medical Association, 1971. p. 74.

Notes: The 1959 survey was conducted by the Public Health Service.
The 1965 and 1969 surveys were conducted by the American Medical
Association.

Since no differentiation was made between full-time and part-time
employment in the 1969 survey, these data were adjusted to meet
the 1965 survey criterion of three or more full-time physicians.

TABLE IX

CHART 3: PERCENT OF NON-FEDERAL PHYSICIANS BY SPECIALTY
DEC. 31, 1972

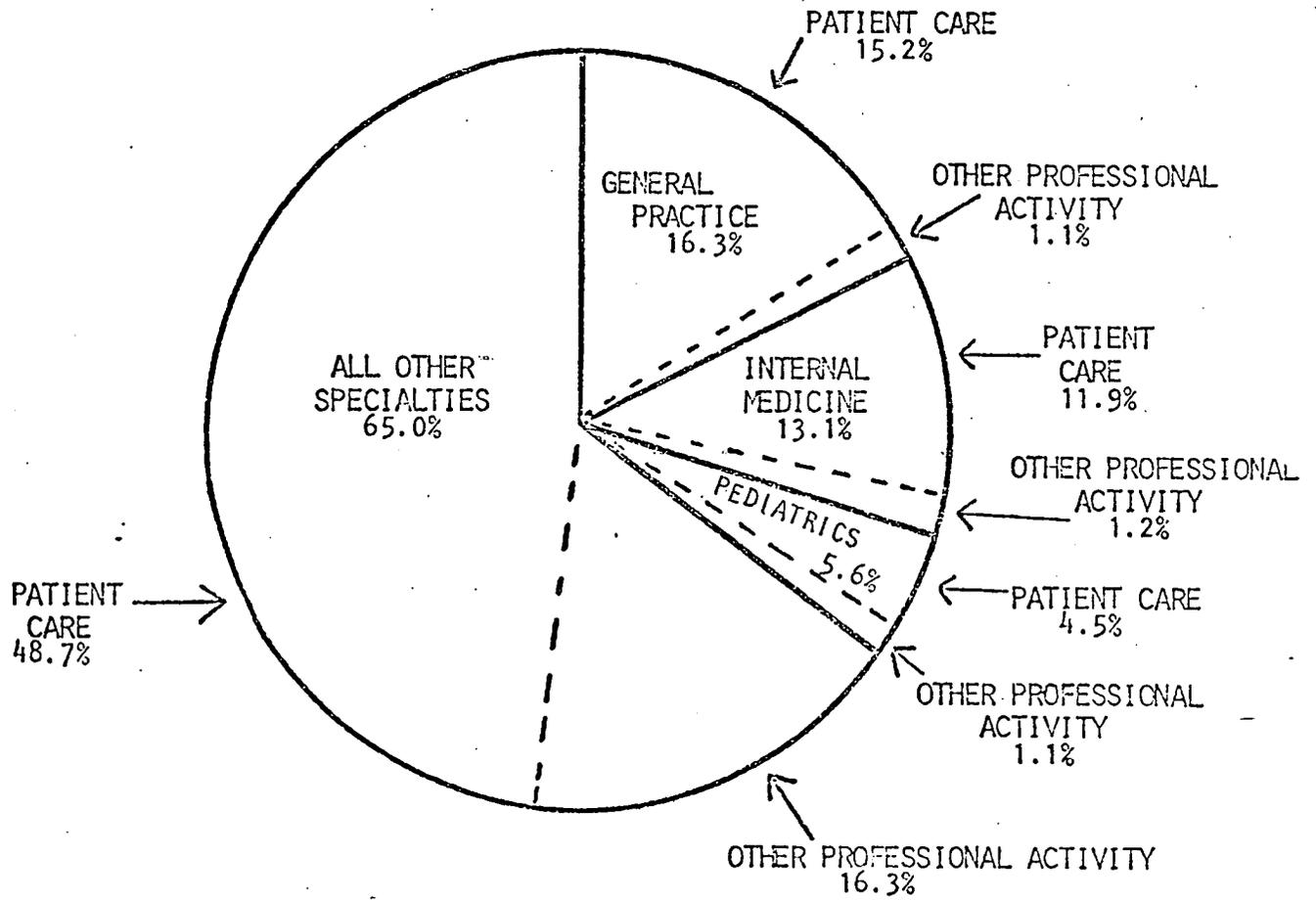


TABLE X

A COMPARISON OF PROJECTIONS FROM 2 SOURCES FOR
MANPOWER IN THE SURGICAL SPECIALTIES

	Division of Medical Intelligence*	SOSSUS*
General Surgery	$\frac{55,530}{24,480} = 2.26$ (126%)	$\frac{16,131}{13,175} = 1.2$ (20%)
Neurosurgery	$\frac{3,680}{2,170} = 1.69$ (69%)	$\frac{2,119}{1,353} = 1.57$ (57%)
Ob-Gyn	$\frac{21,520}{15,810} = 1.36$ (36%)	$\frac{16,647}{9,786} = 1.7$ (70%)
Otolaryngology	$\frac{7,560}{4,770} = 1.58$ (58%)	$\frac{4,874}{3,674} = 1.33$ (33%)
Orthopedics	$\frac{16,630}{8,740} = 1.9$ (90%)	$\frac{11,261}{6,011} = 1.87$ (87%)
Plastic Surgery	$\frac{3,050}{1,390} = 2.19$ (119%)	$\frac{1,720}{828} = 2.08$ (108%)
Thoracic Surgery	$\frac{3,340}{1,440} = 2.32$ (132%)	$\frac{3,819}{2,178} = 1.75$ (75%)
Urology	$\frac{8,500}{5,060} = 1.68$ (68%)	$\frac{4,390}{3,289} = 1.33$ (33%)

$\frac{n \text{ in } 1990}{n \text{ in } 1970} = \text{ratio (\% increase)}$

*Division of Medical Intelligence data from Table 36 (P. 135), "The Supply of Health Manpower".

*SOSSUS data from Table 10 (p. 468), F. Moore, et al, ANNALS OF SURGERY, October 1972.

TABLE 11. FOREIGN MEDICAL GRADUATES IN TRAINING PROGRAMS

ACADEMIC YEAR	INTERNS	RESIDENTS	OTHER TRAINEES	TOTAL ON DUTY
1963-64	2,566	7,052	1,791	11,409
1964-65	2,821	8,153	1,925	12,899
1965-66	2,361	9,113	2,355	13,829
1966-67	2,793	9,505	2,566	14,864
1967-68	2,913	10,627	3,077	16,617
1968-69	3,270	11,201	4,046	18,517
1969-70	2,939	12,060	3,220	18,219
1970-71	3,339	12,943	3,331	19,613
1971-72	3,946	13,520	4,106	21,572
1972-73	3,924	14,440	3,595	21,959

TABLE XII
FAILURE RATES OF
AMERICAN MEDICAL SPECIALTY BOARDS

	<u>USMG</u>	<u>FMG</u>
A	10	50
B	13	53
C	30	73
D	6	20
E	11	38
F	14	47
G	5	18
H	17	41
I	14	55
J	10	58
K	<u>14</u>	<u>43</u>
AVERAGE	26	64

TABLE XIII

TABLE 1 - UTILIZATION DATA FOR NON-FEDERAL GENERAL
SHORT-TERM HOSPITALS IN THE U.S., 1955 AND 1970

	1955	1970	PER CENT INCREASE
HOSPITALS	5,237	5,859	11.9
INPATIENT BEDS	567,612	848,232	49.4
INPATIENT ADMISSIONS	19,100,262	29,251,655	53.1
INPATIENT DAYS	148,522,150	241,458,815	62.6
TOTAL OUTPATIENT VISITS	53,593,912	124,287,646	131.9
REFERRED	12,327,113	37,297,792	202.6
CLINIC	28,731,275	44,297,093	54.2
EMERGENCY	10,465,788	42,692,761	307.9
EMERGENCY DEPARTMENT VISITS			
AS PER CENT OF ALL OPD VISITS	19	34	78.9
PER ADMISSION	0.5	1.5	200.0
PER BED	18	50	177.8
PER INPATIENT DAY	0.07	0.18	157.1
PER HOSPITAL	1998	7287	264.7
PER 1,000 POPULATION	64	212	231.2

SOURCE: GUIDE ISSUE OF HOSPITALS, J.A.H.A., PART 2, AUG. 1, 1956 AND AUG. 1, 1971.

TABLE XIV. HOSPITAL AFFILIATION WITH MEDICAL SCHOOLS

<u>EDITION OF DIRECTORY</u>	<u>TOTAL AFFILIATED</u>	<u>UNAFFILIATED HOSPITALS</u>	<u>TOTAL HOSPITALS WITH PROGRAMS</u>
1964-65	389	1,034	1,423
1965-66	369	1,017	1,386
1966-67	517	850	1,367
1967-68	607	950	1,512
1968-69	631	781	1,412
1969-70	699	750	1,449
1970-71	919	766	1,685
1971-72	996	696	1,692
1972-73	888	573	1,461
1973-74	1,165	546	1,711
	<u>546</u> 1,711	<u>1,034</u> <u>389</u> 1,423	

TABLE XV
INTERNSHIP AND RESIDENCY PROGRAMS

<u>YEAR</u>	<u>INTERNSHIPS</u>		<u>RESIDENCIES</u>		<u>TOTAL</u>	<u>TOTAL</u>
	<u>OFFERED</u>	<u>FILLED</u>	<u>OFFERED</u>	<u>FILLED</u>	<u>OFFERED</u>	<u>FILLED</u>
1952-53	10,548	7,645	22,292	16,867	32,840	24,512
1962-63	12,024	8,805	36,502	29,239	48,526	38,044
1972-73	13,650	11,163	51,658	45,081	65,308	56,244

Table XVI

Number of First-Year Residency Positions Offered, Filled,
Percent Filled, in Affiliated and Nonaffiliated
Hospitals, 1963 - 1972

Year (As of Sept. 1)	Affiliated			Nonaffiliated			Total		
	Offered	Filled	% Filled	Offered	Filled	% Filled	Offered	Filled	% Filled
1966	9,145	7,772	62	6,348	5,083	80	15,493	12,855	83
1967	10,856	9,218	85	4,518	3,363	74	15,374	12,581	82
1968	11,558	9,963	86	3,807	2,758	72	15,365	12,721	83
1969	13,418	11,536	86	3,022	2,189	72	16,440	13,725	84
1970	14,216	12,542	88	2,690	2,014	75	16,906	14,556	86
1971	15,466	13,523	87	2,227	1,658	74	17,693	15,181	86
1972	16,770	15,144	90	2,027	1,629	80	18,797	16,773	89

Source: Annual *Directory of Approved Internships and Residencies*, AMA, Chicago.

TABLE XVII
N. I. R. M. P. 1973
WOMEN MATCHED

	<u>#</u>	<u>%</u>
ROTATING O	52	
ROTATING, MEDICINE	20	
ROTATING, PEDIATRICS	18	
MEDICINE	199	
PEDIATRICS	84	
FAMILY PRACTICE	29	
PEDIATRIC RESIDENCY	<u>122</u>	
	524	62.4
OTHER	<u>315</u>	37.6
TOTAL	839	100

TABLE 18. WOMEN IN U.S. MEDICAL SCHOOLS
(SELECTED YEARS FROM 1939-1973)

ACADEMIC YEAR	WOMEN APPLICANTS*		WOMEN IN ENTERING CLASS		TOTAL WOMEN ENROLLED		WOMEN GRADUATES	
	NO.	%	NO.	%	NO.	%	NO.	%
1939-40	632	5.4	296**	5.0	1,145	5.4	253	5.0
1949-50	1,390	5.7	387	5.5	1,806	7.2	595	10.7
1959-60	1,026	6.9	494	6.0	1,710	5.7	405	5.7
1964-65	1,731	9.0	786	8.9	2,503	7.7	503	6.8
1969-70	2,289	9.4	952	9.2	3,390	9.0	700	8.4
1970-71	2,734	10.9	1,256	11.1	3,894	9.6	827	9.2
1971-72	3,737	12.8	1,693	13.7	4,755	10.9	860	9.0
1972-73	6,000+	16.6+	2,315	16.9	6,099	12.8	924	8.9

* AAMC ANNUAL STUDIES OF APPLICANTS

** E.F. POTTHOFF. "THE FUTURE SUPPLY OF MEDICAL STUDENTS IN THE U.S."
JOURNAL OF MEDICAL EDUCATION, VOL. 35 (1960) TABLE 1 p. 224.

+ ESTIMATES

TABLE XIX

TABLE 4

1960 Cohort

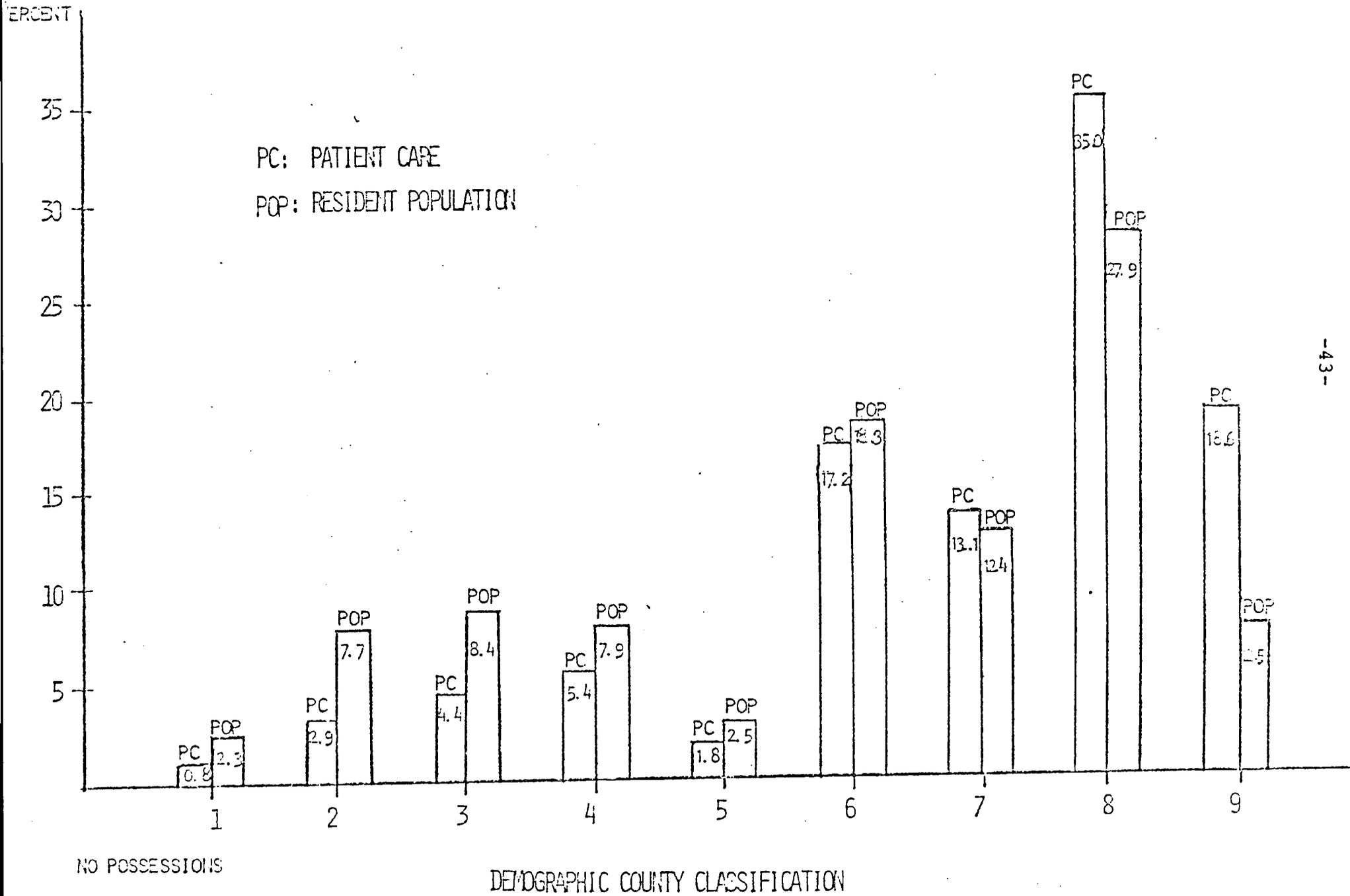
Specialty Certification and Record of Residency Training

Summation Analysis Excluding Family Practice and Unspecified Groups *

Specialty	Total Sample	History of Residency Training		Entered Cert. Process		Board Certified As of Sept. 1972	
		N	%	N	%	N	%
JTAL: All Primary Specialties (Excluding Family Practice and Unspecified)	557	551	99%	481	86%	405	73%

* Family Practice (or general practice) was excluded because it did not represent an option for graduates desiring board certification until 1969. The unspecified group was excluded because follow-up data were not available.

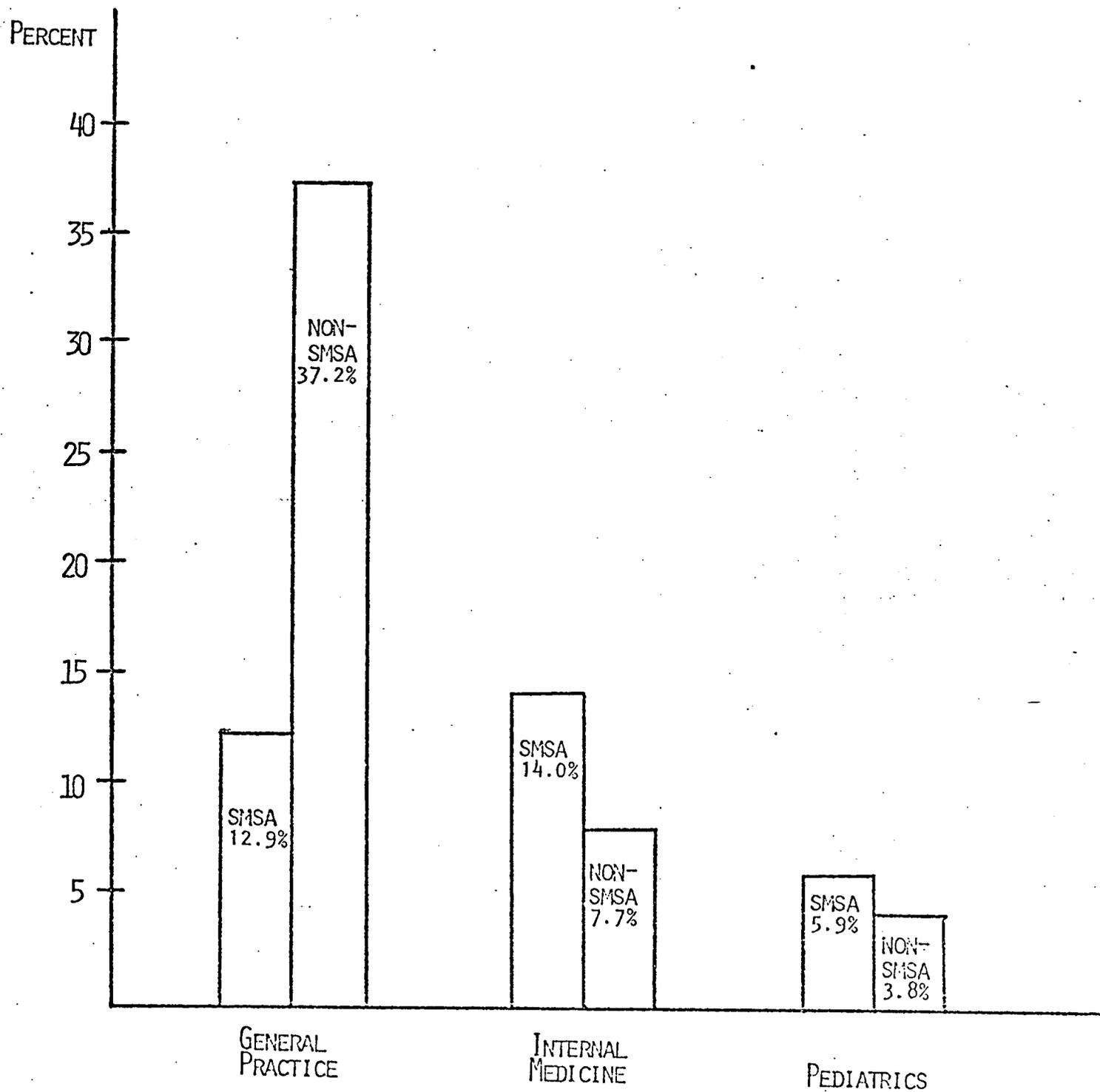
CHART 7: PERCENTAGE OF PHYSICIANS IN PATIENT CARE AND RESIDENT POPULATION DECEMBER 31, 1973



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TABLE XXI

CHART 4: PERCENTAGE OF GENERAL PRACTICE, INTERNAL MEDICINE, AND PEDIATRICS IN METROPOLITAN AND NON-METROPOLITAN AREAS, 12-31-72



AAMC Committee on Health Manpower

Report

Introduction

The Executive Council appointed the AAMC Committee on Health Manpower to develop an Association response in view of the approaching expiration on June 30, 1974, of the various authorities in the Comprehensive Health Manpower Training Act of 1971, the basic legislation dealing with federal support of health professions education.

The members of the committee who participated in its activities were Julius R. Krevans, M.D., Dean, University of California-San Francisco School of Medicine; Merlin K. DuVal, M.D., Vice President for Health Sciences, The University of Arizona College of Medicine; David R. Hawkins, M.D., Chairman, Department of Psychiatry, University of Virginia School of Medicine; Morton D. Bogdonoff, M.D., Chairman, Department of Medicine, The Abraham Lincoln School of Medicine; Sidney Lewine, Director, Mount Sinai Hospital of Cleveland; John C. Bartlett, Ph.D., Associate Dean for Health Affairs and Planning, University of Texas Medical School-Houston; Hugh E. Hilliard, Vice President for Finance and Treasurer, Emory University School of Medicine; and Bernard W. Nelson, M.D., Associate Dean for Medical Education, Stanford University School of Medicine. Dr. Krevans served as Chairman of the committee.

In authorizing appointment of the committee, the Executive Council charged it with reviewing the expiring authorities of the Comprehensive Health Manpower Training Act of 1971 and with recommending to the Executive Council appropriate modifications which the Association should support in working with Executive and Legislative officials on the extension of the expiring authorities. In its work, the committee reviewed the present federal health professions education assistance programs, the progress to date of the AAMC Committee on the Financing of Medical Education, and the provisions of known legislative proposals on health professions education assistance. The committee agreed to certain principles which should underlie the federal role in health professions education and developed a set of recommendations based on those principles.

This report sets out the committee's principles and recommendations and provides some additional explanatory material the committee considered useful in understanding fully its positions.

Principles

The AAMC Committee on Health Manpower believes the following principles should guide the federal role in health professions education.

There should be --

1. Stable, continuing, fiscally responsible federal support for medical

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schools' educational activities, special projects and initiatives, student assistance, and capital expenses;

2. First-dollar capitation support of the undergraduate educational activities of the medical schools;

3. Project-grant support for special projects and initiatives reflecting national priorities and special emphasis fields;

4. Direct loans and scholarships to help meet student financial needs, with options for voluntary participation in loan forgiveness programs or service-obligation scholarship programs; and

5. Grants and loan guarantees with interest subsidies to meet physical plant replacement needs and to develop or expand new types of facilities such as ambulatory care facilities.

Recommendations

The AAMC Committee on Health Manpower recommends that legislation embodying those principles should be developed that provides fiscally responsible levels of funding in line with overall national priorities and that encourages prudent institutional planning over a five-year period beginning July 1, 1974.

The committee's specific recommendations follow, grouped under headings of institutional support, special projects, student assistance and capital support:

Institutional support

1. Delete the present capitation formula for schools of medicine, osteopathy and dentistry and substitute a new formula of \$6,000 per student per year, regardless of the length of the curriculum or the type of training the student is undertaking.
2. Provide the capitation support as an entitlement with no separate authorization of appropriations.
3. Delete present provisions on enrollment bonus students.
4. Delete the present enrollment increase requirement.
5. Retain the present maintenance of effort provisions.
6. Delete the present provisions requiring a plan of action in certain areas as a condition of obtaining capitation support.
7. Extend unchanged the present programs of start-up and conversion assistance.
8. Extend unchanged the present program of financial distress grants and authorize appropriations of \$10 million per year (fiscal 1974 level).

Special projects and initiatives

1. Delete the following present programs: special projects, health manpower education initiative awards, grants to hospitals for family medicine training, capitation grants for graduate training in certain specialties, grants for health professions teacher training, and grants for computer technology health care demonstrations.

2. Substitute for those programs a new, consolidated program of special initiative awards under which the HEW Secretary could award grants and contracts for carrying out projects in three broad areas: (1) health professions education development; (2) special national emphasis programs; and (3) health care practice and the use of health care personnel.

3. Authorize the appropriation of such sums as may be necessary, and provide that appropriated funds are to remain available until expended.

Student assistance

1. Increase the present \$3,500 loan ceiling to \$4,500 per student per year.

2. Delete the present loan forgiveness formula and substitute a new formula providing 100 percent forgiveness for two years' service in a designated area.

3. Authorize appropriations of \$70-\$75-\$80-\$85-\$90 million (15,000 students currently aided at \$4,500 per year, plus growth of need for loans).

4. Delete the loan program for U.S. students abroad.

5. Increase the present \$3,500 health professions scholarship ceiling to \$4,500 per student per year.

6. Delete the present entitlement formula and substitute a new formula of \$4,000 times the greater of one-tenth the number of full-time students or the number of students from low-income backgrounds.

7. Delete the health professions scholarship program for U.S. students abroad.

8. Increase the present \$5,000 physician shortage area scholarship ceiling to \$6,000 per student per year.

9. Delete the present shortage-area service requirement and substitute a new service requirement of two years in a designated area regardless of the time support was received.

10. Authorize appropriations of \$13.5 million per year (5-percent student participation).

Capital support

1. Authorize appropriations, for medical schools alone, of \$200 million per year, and provide that appropriated funds are to remain available until expended. Participation of other schools will raise the funding level.
2. Delete the enrollment increase requirement.
3. Extend unchanged the present loan guarantee and interest subsidy program, including the present appropriations limitation for interest subsidies of \$24 million.

Commentary

The AAMC Committee on Health Manpower believes there is an appropriate role for the federal government in helping to meet some of the costs of undergraduate medical education. Undergraduate medical education is composed of interacting elements integral to a unified process leading to the M.D. degree. The elements of this process are the instructional activities covering the imparting of disciplinary and interdisciplinary subject matter through lectures, seminars and laboratory exercise; participation in the care and management of patients; and training in research methods for the solution of problems in health. The cost of the elements is high, and in the past has been shared by the federal government, state and local governments, medical schools themselves through tuition and endowment income, private foundations and others. The federal role has been justified because of the national mobility of physicians and because of an underallocation of resources to medical education by the private sector. In seeking an appropriate federal share, the committee agrees with the report of the Senate Committee on Labor and Public Welfare, accompanying the Comprehensive Health Manpower Training Act of 1971: "The bill ... entitles each educational institution to an award intended to cover approximately one-third of the average per-student educational costs incurred nationally by such institutions The costs of research and the

costs of patient care are integral to per-student costs of the institution. And ... they shall be included in the calculation of costs for the purpose of applying for their entitlement grant."

The AAMC Committee on Health Manpower believes there is a federal interest in the financial viability of medical schools as institutions, in equalizing financial opportunities for medical education, and in carrying out certain nationally determined special projects for which medical schools are particularly well suited.

Institutional support

Beginning with the White House Conference on Aging during the midyears of the Eisenhower Administration and continuing to the present, there is a growing agreement that access to health care is a right. This is a concept that has been endorsed by important political figures of both parties in both the House and the Senate; it was included as part of President Nixon's health message to Congress in February 1971; and it was a main theme of a White Paper issued by the Department of Health, Education and Welfare in 1971: Towards a Comprehensive Health Policy for the 1970s. This concept carries with it implications which are crucial to understanding the federal role in support of the undergraduate medical education activities of medical schools.

There is no way in which the right of access to adequate health care can be claimed or delivered without trained health personnel. Since the public has a claim for access to adequate health care, it must follow then that the public has a legitimate interest in sustaining the production of health personnel. Because of the setting in which education in the health professions is conducted, the educational expense is necessarily a joint product. This fact

means that the expenses of the environment of a health professions education are the integrated expenses of instruction, research and medical service. This is so because health professionals are educated in an academic environment, by the research and development arm of the medical profession, some would say, rather than undergoing an apprenticeship process in which they are educated directly by practicing physicians.

Recognizing the issues of joint costs, the federal government in 1971 put in place a program which called for direct support of the education activities of health professions schools through a capitation grant. Through this device, the government acknowledged the legitimate public interest in the continuity and integrity of health professions educational institutions. The capitation grants have enabled the schools to respond to the need for increased numbers of health professionals. In doing so, the schools have expanded their facilities and have made commitments to new faculty and new programs which now must be sustained if the objectives are to be achieved. In addition, through the device of capitation, the government recognized the value of the establishment of a creative partnership between itself and the academic health centers for the purpose of permitting leverage through which national purposes could be achieved.

The recommendations of the AAMC Committee on Health Manpower that capitation support be extended for five years, that the level of capitation be set at \$6,000 per student per year, that capitation be an entitlement, and that capitation no longer be tied to enrollment increases are based on the following factors.

1. The \$6,000-per-student-per-year capitation level corresponds with approximately one-third of the average of the annual cost per student for the elements of instruction, research and medical service at 12 schools studied by the AAMC Committee on the Financing of Medical Education. Further, adjusting the present \$2,500-per-student-per-year capitation level, which was based on 1969-70 data, for rising costs projected to the midpoint of a five-year program of support also approaches \$6,000 per student per year, when allowances are made also for rising research and medical service costs. Significantly increased capitation levels are needed also to help offset declines in other support, such as research training and the practice income from clinical faculty. The Committee wishes to point out that while a \$6,000 capitation level may appear significantly higher than the present \$2,500 level, the \$6,000 level is only modestly increased over the level recommended in 1971 by the Association when the present legislation was under consideration. The \$2,500 level is one determined by the Congress. The Association's 1971 capitation recommendation was \$5,000, which, if adjusted upward for rising costs, stands at \$6,000 in current dollars.

2. Converting the program to an entitlement and extending it for five years act together to encourage rational institutional planning, based on the program's continuity and predictability of support. With short-lived programs and fluctuating support levels, rational institutional planning is impossible.

3. Abandonment of the mandatory enrollment increase does not prejudice the issue of manpower supply. The facts are that since 1963 when federal aid to health professions schools was initiated, the number of schools has increased from 87 to 114; enrollment has increased from 32,001 to 47,259; and graduates

have increased from 7,336 to 10,000 per year. At the same time, new kinds of health personnel and new kinds of health care delivery are being developed. It is impossible to determine the adequacy of the present health personnel supply. Major increases in M.D. production have occurred, and other changes in health care are also underway. The AAMC Committee on Health Manpower feels strongly that the effect of these changes should be observed closely during the next five years before setting new incentives to alter the supply of health manpower.

Special projects and initiatives

There is a useful role for the project-grant approach to financing selected activities in health professions schools. This approach recognizes the incremental cost to the school of such a project and clearly separates the financial support for the project from the general pool of financial support for the basic undergraduate medical education program. Special projects serve as a vehicle for the health professions schools to participate in constructive change in the interest of improving the health and health professions education of the nation. Competitive rather than formula awards strengthen the entire health professions education system by ensuring heterogeneity; homogeneity would produce rigidity and resistance to any change. Competitive awards also allow research and demonstrations without total system involvement.

A problem with the current programs is that they have proliferated over time into an almost unintelligible patchwork of authorities whose complexities pose problems for both applicants and administrators. The AAMC Committee on Health Manpower Education therefore proposes a simplified program of special initiative awards which would permit the federal government to select

its own priority projects, the institutions or combinations of institutions to carry them out, and the levels of funding at which the government wished to support its priority projects. For this reason, the AAMC Committee did not recommend any specific levels of funding, although the AAMC is prepared to work with others in determining appropriate levels.

Student assistance

The Association of American Medical Colleges is committed to the goal that there should be equality of opportunity for students wishing to attend medical school. A major barrier denying equal opportunity is the high cost of medical education that must be borne directly by the student. The existing health professions education assistance legislation traces its origin to student aid programs designed specifically to assist the socioeconomically disadvantaged student in entering medical school. The health professions loan program and the health professions scholarship program have constituted a major source of student aid for medical students. Since their implementation, the medical profession has been enriched by the addition of students with a greater diversity of socioeconomic backgrounds.

During the past five years, American medical schools have made substantial progress in improving the representation of minority groups in medical school programs. The enrollment of minority groups in the fall of 1973 is 7.4 percent of the first-year enrollment. The AAMC has adopted a goal of 12-percent minority representation in entering classes by September 1975. The AAMC reiterates its belief, as did the AAMC Task Force to the Inter-Association Committee on Expanding Educational Opportunities in Medicine for Blacks and Other Minority Students in 1970, that financial assistance in the form of grants and loans is a critical factor if these goals are to be achieved. Without scholarship support

the acutely disadvantaged are forced to borrow sums of money that may exceed the earnings of the entire family. Many are persuaded that the risk of such a debt is too great for them to take -- an assessment frequently reinforced by the family's experience with past debts.

Equally fundamentally, an emphasis on loans focuses student attention on the future earnings of the physician. Thus it would be predictable that the student's interest in earning large sums of money would be reinforced by his need to borrow large sums as a student. This is not a desirable characteristic to be sought in students; and it is detrimental to the efforts of the country to develop a physician population interested in developing modes of practice that are less costly to the patient and to the nation.

The AAMC believes that the success of continuing efforts to recruit individuals from minority backgrounds into the medical profession will depend on the continuation of federally sponsored scholarship and loan programs for medical students. In particular, scholarship funds are needed to insure the representation of minority groups and the representation of students from socioeconomically disadvantaged backgrounds. These students enter medical school with large debts incurred during their undergraduate years. These debts, coupled with the debts incurred during medical school, make it commonplace for a student to leave medical school with debts of \$15,000 or higher.

It has been suggested that educational debts of a medical student could be forgiven in return for practice in designated areas or that scholarships should be made available on condition that the recipient later practice in a designated area. The AAMC has no objection to this approach, provided that it is offered as an alternative to a non-obligatory assistance program and provided further that participation is voluntary.

There is a great diversity of talent and ability among the socioeconomically disadvantaged, and these skills and abilities should be matched with the diversity of opportunity in medicine. The Association does not believe that a loan program that indentures a student to a particular form or area of practice is consistent with the goal of achieving equality of educational opportunity. Many of the proposals for the forgiveness of debt for practice in underserved areas restrict the participant to a fixed professional pathway. Over the long term, the Association does not believe that such an approach will attract to the profession the diversity of talent needed to meet society's needs. The Association believes there is a role for different and multiple approaches to the problem of financing the student costs of medical education.

The debt of students entering medical school is growing rapidly and is commonly underestimated. The Association believes that a limit on the amount of debt assumed by a student to meet the expense of attending college and medical school is reasonable. Excessive debt will reinforce the trend toward higher physician income. The Association believes it is only logical for physicians to focus their attention on higher fees if the government endorses the view that the future earnings of physicians should serve as the source of funds for repayment of educational expenses.

Loan guarantees as a sole source of debt financing of health professions education are unacceptable, although they may be offered in addition to a program of direct loans. A loan guarantee program, subject to the vagaries of the money market, removes from the educational institution all judgment concerning the individuals to whom loans are made, as well as the amount loaned, and places such judgment in the banks.

The AAMC Committee on Health Manpower recommends increasing the health professions loan and scholarship ceilings in recognition of rising medical student expenses, now estimated at between \$4,000 and \$5,000 per student per year. The shortage arms scholarship ceiling was raised in an effort to make the program more attractive. Service periods were stabilized at two years to equalize the burden of service to participating students and to provide a uniform period of career interruption, intended to facilitate improved career planning.

Capital support

The appropriateness of a federal role in the construction and maintenance of medical school facilities parallels the federal role in the support of undergraduate medical education. And, as in the case of undergraduate medical education, the cost of capital expansion also is shared by the federal government, state and local government, the institution itself, and various private and other outside sources.

The recommendations of the AAMC Committee on Health Manpower include continued grant support because teaching facilities are inherently cost-generating rather than income-producing. As a result, income from the operation of such facilities can not be used to amortize the cost of the facility. Thus debt financing for such facilities is totally inappropriate. At the same time, other types of facilities, such as ambulatory care centers, are potentially income-generating, and thus could produce funds which could be applied to offset debt financing. For that reason, the committee also recommended continuing the program of loan guarantees and interest subsidies. The committee's recommended funding levels are based on a professional judgment of an appropriate federal share of the cost of maintaining the existing physical plant of the schools, plus an allowance for new construction of ambulatory care facilities needed for the expanding number of primary care programs being established by academic health centers.

CLASSIFICATION OF SALARY STUDY INFORMATION

The Data Development Liaison Committee considered the question of classification of statistics developed from the annual salary survey of the Association, and the committee came to the following conclusion:

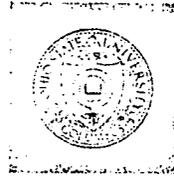
"Descriptive statistics of the Salary Study should be classified as public information so long as individuals or institutions are not identified by these statistics."

The public classification is necessary, if statistics are to be published in the Journal of Medical Education. Median salaries by rank and by department have been published in the Journal in the past, without identifying individual institutions, and the possibility of publishing an additional 25th and 75th percentile range is under consideration.

The detailed distribution has been published in the past and sent only to deans of medical schools, with a label of "confidential". If the new release policy is adopted, there would be no basis for a confidential classification for this report, since no individual or institution is identified. Indeed, our past policy has been subject to criticism from some of our academic societies who conduct independent salary surveys and have not had access to the "confidential report". Staff plans to produce a more compact report for the present year, including some high and low percentile information, but without the extremes of salary. The report would then be made available to any member of the Council of Deans, Council of Academic Societies, or Council of Teaching Hospitals.

RECOMMENDATION

The Data Development Liaison Committee requests that the Executive Council confirm public classification for statistics from the annual Faculty Salary Survey.



THE OHIO STATE UNIVERSITY

October 3, 1973

August D. Swanson, M.D.
Association of American Medical Colleges
1 DuPont Circle
Suite 200
Washington, D. C. 20036

Dear Gus:

The Joint Committee on Orthopaedic Research and Education Seminars will officially cease to exist 31 December 73. This will, of course, end its membership in the Council of American Societies. There are many reasons for its demise, one of which was the formation of the Association of Orthopaedic Chairmen which has now been accepted as a member of the CAS. But in no sense did the Association of Orthopaedic Chairmen absorb the Joint Committee.

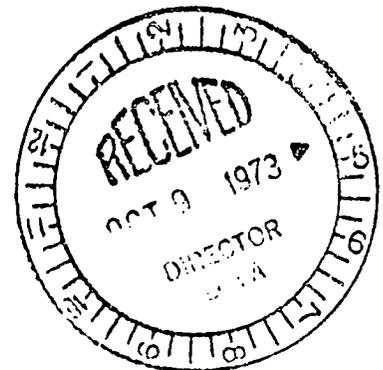
I am sorry if this sounds too Byzantine but it is a long story. If you are interested further I can discuss it when I hope to see you in Washington at the forthcoming AAMC Meeting.

Sincerely yours,

Paul H. Curtiss, Jr., M.D.

Paul H. Curtiss, Jr., M.D.
Professor & Director
Division of Orthopaedics

PHC/ms



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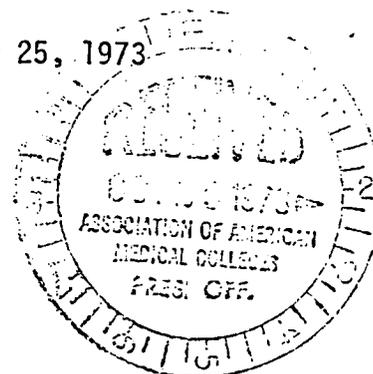
American College of Surgeons

FOUNDED BY SURGEONS OF THE UNITED STATES AND CANADA, 1913

55 EAST ERIE STREET CHICAGO, ILLINOIS 60611 AREA CODE 312-664-4050

C. ROLLINS HANLON, M.D., F.A.C.S.
DIRECTOR

October 25, 1973



John A. D. Cooper, M.D., Ph.D., President
Association of American Medical Colleges
One Dupont Circle, N.W.
Washington, D.C. 20036

Dear John:

The Regents at their meeting earlier this month reviewed participation by the College in the Council of Academic Societies (CAS). As you know, this participation has been discussed extensively on both sides before and after our entry. It was the decision of the Regents that the College will not continue membership in the CAS after the current term which ends June 30, 1974.

I send best wishes to the CAS in the useful work which it is conducting under Dr. Swanson's direction.

Kindest regards.

Sincerely,

C. Rollins Hanlon, M.D., F.A.C.S.

CRH/eas

CC: Frank E. Stinchfield, M.D., F.A.C.S.
Bentley P. Colcock, M.D., F.A.C.S.
William R. Drucker, M.D., F.A.C.S.
August G. Swanson, M.D.

RATIFICATION OF LCME ACCREDITATION DECISIONS

In their wording recognizing accredited medical schools, the various state medical practice acts are not constant. Some require recognition by the Council on Medical Education of the AMA, some membership in the AAMC, some accreditation by the LCME, and some by a combination of these.

The following list of medical schools is presented to the Executive Council so that its action may be formal and within the letter of some states' laws. All of these schools have been visited, reported on; the reports have been circulated and accepted, and acted upon by the LCME on October 17, 1973.

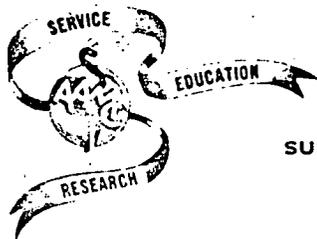
Recommendation:

The Executive Council approve as accredited the following list of schools for the terms stated.

<u>FULLY DEVELOPED SCHOOLS</u>	<u>Date of Survey</u>	<u>Years Approved</u>
University of Miami School of Medicine	2/20-23/73	*7; entering class size, 151
University of Alberta Faculty of Medicine	4/9-12/73	*5
Dalhousie University Faculty of Medicine	3/12-15/73	*5
Pennsylvania State University College of Medicine-Milton S. Hershey Medical Center	3/4-7/73	*5
<u>DEVELOPING SCHOOLS</u> (Schools progressing from Provisional status to fully developed schools)		
University of Calgary Faculty of Medicine	4/2-5/73	*5; full accreditation. Recommend full membership in ACMC & affiliate membership in AAMC
Louisiana State University School of Medicine in Shreveport	1/15-18/73	*3; full accreditation. Progress Report due 1/1/75. Recommend full membership in AAMC.
Memorial University of Newfoundland Faculty of Medicine	5/14-17/73	*5; full accreditation. Recommend full membership in ACMC and affiliate membership in AAMC
Dartmouth Medical School	3/19-21/73	*3; full accreditation

*years from date of survey

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ASSOCIATION OF AMERICAN MEDICAL COLLEGES

SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

December 5, 1973

TO: CAS Administrative Board
FROM: Connie Choate, Secretary to August G. Swanson, M.D.
SUBJECT: Addendum to CAS Agenda for December 13th.

Attached are some additional items to be added to the CAS agenda.

<u>Action Item</u>	<u>Page</u>
1. Policy for Release of AAMC Information	1
<u>Information Items</u>	
1. Policy Guidelines on Extramural Academic Experiences	3
2. AAMC Recommendations on Medical School Acceptance Procedures	7
3. FMG Task Force Recommendations	10
4. Action Taken by the CCME on the Bylaws and Amendments to the Bylaws of the ICGME	11
5. Cost of Living Council Letter	18

NOTE: The report entitled, "The Needs of Academic Radiology in the Seventies", listed as Appendix A under Discussion Items in the table of contents of the agenda book, is not enclosed with this package. We were unable to obtain enough copies to include with this mailing. It will be distributed at the Board meeting. You may refer to the preliminary draft that you received previously.

POLICY FOR RELEASE OF AAMC INFORMATION

The proposed policy for the release of AAMC information has been developed by staff, with the advice of the Data Development Liaison Committee. The Committee recommends it to the Executive Council. It has also been reviewed by the OSR and by the Student Records Committee of the Group on Student Affairs, as well as by the Association's attorneys.

RECOMMENDATION

The Data Development Liaison Committee recommends to the Executive Council that the policy for release of AAMC information be adopted

PROPOSED POLICY FOR RELEASE OF AAMC INFORMATION

It is the responsibility of the AAMC to make information on American medical education available to the public to the greatest extent possible, subject to limitations imposed by the sources of the data collected and by law.

Data collected by the Association will be owned and maintained by the Association for the benefit of medical education.

Data in the possession of the Association will be classified according to permitted access using the following categories:

- I. Unrestricted - may be made available to the general public.
- II. Restricted - Association confidential -- may be made available to member institutions and other qualified institutions, organizations and individuals subject to the discretion of the President.
- III. Confidential - A) Institutional - Sensitive data collected concerning individual institutions generally available only to staff of the Association. It may be released with permission from the institution; and B) Personal - Sensitive data collected from individual persons generally available only to staff of the Association. It may be released with permission from the individual person.

Classification will be guided by a group of individuals broadly representative of the Association's constituency. No information will be released which could be identified with an institution unless reported or confirmed by that institution.

The Association will always be willing to disclose to the individual institution or individual person any data supplied by that institution or person.

In those cases where, as a result of collection by another organization, data is owned wholly or in part by the other organization, the data would be classified in one of the above categories so far as the AAMC is concerned, but additional restrictions imposed by the other organization may also be necessary.

Policy Guidelines on
EXTRAMURAL ACADEMIC EXPERIENCES

I. INTRODUCTION

- A. Liberalization of curriculum structure and elective programs is enabling a growing number of medical students (particularly seniors) to seek clinical clerkship and didactic course experience in hospital and university settings other than their own. At present, it would appear that most schools respond favorably to such requests, resulting in a substantial movement of students from one medical center to another. The fluidity of the situation is such that the past tendency to handle extramural placements informally may no longer be feasible. Questions have been raised by Deans, GSA members, GME members and students concerning the adequacy of administrative handling of extramural educational experiences.
- B. Although the spontaneity and innovativeness of the extramural aspects of medical school curricula should be retained, the establishment of a modest level of systemization is desirable to ensure that the quality of the educational experience is not jeopardized and the student is not caught between differing medical school administrative practices. It is in this spirit that the following suggestions are made for policy relative to student participation in extramural courses or clerkships.

II. APPROVAL TO ENGAGE IN EXTRAMURAL COURSE OR CLERKSHIP

- A. Approval or disapproval to participate in an academic experience not under the direct control of the student's own medical school should be determined by a formal review procedure. Such a procedure should seek to assure that: 1) the planned program is consistent with the student's educational needs, 2) the program is truly available at the host institution, and 3) the host institution is willing to accept responsibility for the student's education.
- B. The reviewing procedure should provide written notification to both the student and the host institution as to whether approval has been granted.
- C. If approval is granted for an extramural activity, the following items will require precise definition:
1. Dates of Attendance
 2. Supervisor(s)
 3. Academic Credit
 4. Procedure for Evaluation of Student Performance
 5. Financial Considerations:
 - a. Tuition
 - b. Financial Aid
 - c. Health Service Charge
 - d. Health Insurance
 - e. Liability Insurance
 - f. Room and Board

III. SUGGESTED POLICIES PERTAINING TO ITEMS REQUIRING PRECISE DEFINITION

- A. Tuition and Fees--The host school is encouraged to waive tuition and fees for courses or clerkships for students concurrently enrolled and paying fees in their home school.
- B. Financial Aid--The visiting student's potential source of financial aid will continue to be the home school rather than the host school.
- C. Health and Liability Insurance--1) All visiting students should have adequate health insurance through coverage provided either by group insurance at their home or host school or by their own individual insurance. This health insurance should supplement the routine care provided by the host university health service. 2) Liability insurance is of particular importance for those visiting students engaging in clinical clerkships and must likewise be provided by either the home or host school.
- D. Room and Board--If room and board is provided at the host university's dormitories, it should be provided on a pro rata basis so that visiting students are not charged for a full term or semester when they are in residence for shorter periods of time.
- E. Communication--The Dean of Students or comparable official at the home school should ensure that a letter transmitting the information in Section II(C) above is sent to the appropriate person at the host school, hospital or agency, and that a satisfactory response is received before the student is cleared for departure.

IV. CONCLUSION

- A. It is hoped that a reasonable application of these policies will keep to a minimum misunderstandings related to unexpected monetary charges, supervisory responsibilities and academic record keeping.
- B. An application blank for enrollment in an extramural course of clerkship was developed by the GSA during 1971 and is available for use and/or modification by any U.S. medical school. A copy of the application and of its explanatory memorandum of January 3, 1972 are attached.

-5-

MEMORANDUM

January 3, 1972

TO: Admissions Officers Responsible for Medical Student Affairs
(GSA Code 2)

FROM: Roy K. Jarecky, Ed. D.
Associate Director
Division of Student Affairs

SUBJECT: Application for Extramural Course or Clerkship (AECC)

Burgeoning elective programs and the resultant increase in the flow of students among medical schools has intensified the need for a more standardized approach to application for and approval of extramural coursework and clerkships.

The enclosed sample application as developed during 1971 by the AAMC Group on Student Affairs (with initial impetus from its Committee on Educational Affairs), may be adapted as necessary for use by your institution. If used properly the AECC should serve to reduce misunderstandings concerning the details of extramural supervision, fees (if any), insurance coverage, and specific approval for the undertaking.

Instructions for the use of the AECC are as follows:

- I. Items 1 through 8, and 10 through 13 are to be completed by the Dean of Students (or comparable official) at the school at which the student is officially enrolled. The student then signs his name (Item 9), signifying acknowledgment that his request has been approved and that the elements of Item 10 are clearly understood. The AECC is then sent to the Dean of Students (or comparable official) of the school where the student is seeking the extramural course or clerkship, with a copy to the student.
- II. The Dean of Students (or comparable official) at the school to which the application has been directed completes Items 14 through 20 after consultation with the appropriate faculty committee and/or department. After making a copy for himself, the Dean of Students returns the original AECC to the individual who signed Item 11 and a copy directly to the student (note "cc" at bottom left-hand corner).
- III. The back of the form may be utilized as needed for special instructions, comments, et al.

We would appreciate any comments you may have about modification of the form as your experience suggests.

Encl

cc: Drs. Swanson, Tuttle, Green, Johnson and Bowles

W#8238

To: Faculty member who may supervise student during extramural course or clerkship:

1. _____ 2. Department of _____
(Faculty Member's Name)

(Exact Address, including Name of Medical School)

From: 4. Student's Name _____
5. Mailing Address _____
6. Currently enrolled as a _____-year student at _____ medical school
7. Specific course or clerkship for which application is made: _____

8. Inclusive dates of course or clerkship: _____ to _____

9. Signature of Student: _____ 9a. Date: _____
(The above signature indicates that he or she is applying for the course or clerkship entered in Item 7 and that he or she clearly understands the implications of such coverage limitations as may be noted in Item 10.)

10. Approval: (To be completed by Dean of Students (or comparable official) of the medical school where student is enrolled.)

The medical student named above is in good standing at this institution. He (will) (will not) pay tuition at our school during the period indicated. Malpractice insurance (does) (does not) cover the student away from our school. Personal health coverage (is) (is not) in effect away from our school. He is approved to take this clerkship (for credit) (not for credit). At the conclusion of the course or clerkship an evaluation report (will) (will not) be required. If required, our report form (copy attached) should be completed and returned within two weeks of the completion of the course or clerkship.

11. Signature: _____
12. Title: _____
13. Date: _____

14. Action: (To be completed by Dean of Students (or comparable official) of school where student is seeking to take extramural course or clerkship.)

Admission of the medical student named in Item 4 to the course or clerkship noted in Item 7 for the period specified in Item 8 (is) (is not) approved.

15. The student will report to:
Person: _____ Date: _____
Place: _____ Time: _____

16. Fees to be charged:
Tuition: \$ _____; Student Health Service: \$ _____; Malpractice Coverage: \$ _____
Other: \$ _____; (Specify Total Charge) \$ _____

17. Signature: _____
18. Title: _____
19. School: _____
20. Date: _____

Send both partially completed and fully completed form to student applicant (Item 4)
(Comments on reverse side yes no)

* General format of application as suggested during 1971 by AAMC Group on Student Affairs.

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AAMC RECOMMENDATIONS ON
MEDICAL SCHOOL ACCEPTANCE PROCEDURES

For the information of prospective medical students and their advisers, the recommended procedures for offering acceptance to medical school and for student responses to those offers are printed below:

1. Each medical school should prepare and distribute to applicants and pre-medical advisers a detailed schedule of its application and acceptance procedures, and should adhere to this schedule unless it is publicly amended.
- *2. An applicant should be given at least two weeks to reply to an offer of admission. After that time, an applicant may be required to file a statement of intent, or a deposit, or both. The statement of intent should provide freedom to withdraw if the applicant is later accepted by a school which he or she prefers; and the deposit, which should not exceed \$100, should be refundable without question. The refundable deposit may be credited against tuition charges if the applicant matriculates in the school.
- *3. No medical school should use any device which implies that acceptance of its offer creates a moral obligation to matriculate at that school. Every accepted applicant should be free to deal with all schools and to accept an offer from any one of them even though a deposit has been paid to another school. On the other hand, every accepted applicant retains under all circumstances an obligation to notify a school promptly of a decision not to accept its offer, and to withdraw at once if, after accepting an offer from one school, the applicant receives and accepts an offer from another school.
4. Each school is free to make appropriate rules for dealing with accepted applicants who, without adequate explanation, hold one or more places in other schools. These rules should recognize the problems of the student who has multiple offers and also of those applicants who have not yet been accepted.
5. Subsequent to June 1, a medical school seeking to admit an applicant already known to be accepted by another school for that entering class should advise that school of its intent. Because of the administrative problems involved in filling a place vacated just prior to the commencement of the academic year, schools should communicate fully with each other with respect to anticipated late roster changes in order to keep misunderstandings at a minimum.
6. After an applicant has actually enrolled at a U.S. medical school, no further acceptances should be offered to that individual. Once enrolled in a school, students have an obligation to withdraw their applications

promptly from all other schools. Enrollment is defined as being officially registered at a school on or subsequent to the formally publicized starting date for the first year class of that school.

*Most of these two procedures do not pertain to students accepted under the Early Decision Plan (EDP) because such students agree in advance to attend a given medical school if offered a place during the "Early Decision" segment of the application year.

Table 3.4

Recommended Acceptance Procedures of the Association of American Medical Colleges

For the information of prospective medical students and their advisers, the recommended procedures governing medical school acceptance offers and student's response to those offers are printed below.

1. No offer of admission to medical school should be made to an applicant more than one year before he will enter the course of instruction offered by the medical school.*
2. When an offer is made to an applicant, he should have not less than two weeks in which to reply.
3. A student receiving an offer may be required to file within two weeks a statement of intent, or a deposit, or both. The statement of intent should leave the student free to withdraw if he is accepted by a school he prefers; and the deposit, which should not exceed \$100, should be refundable without question. The refundable deposit may be credited against tuition charges if the student matriculates in the school.
4. Each medical school should prepare and distribute to applicants and college advisers a detailed schedule of its application and acceptance procedures, and should adhere to this schedule unless it is publicly amended.
5. No medical school should use any device which implies that acceptance of its offer creates a moral obligation to matriculate at that school. Every accepted applicant should know that he is free to deal with other schools and accept an offer from one of them even if he has paid a deposit to another school. Every accepted applicant does retain under all circumstances an obligation to notify a school promptly if he decides not to accept its offer to him, and to withdraw at once if, after accepting an offer from a school, he receives and accepts an offer from another school he prefers.
6. Each school is free to make appropriate rules for dealing with accepted candidates who hold one or more places in other schools without adequate explanation. These rules should recognize the problems of the student who has multiple offers, and also of those applicants who have not yet been accepted.
7. Subsequent to July 15, a medical school seeking to admit an applicant already known to be accepted by another school for that entering class should advise that school of its intent. Because of the administrative problems involved in filling a place vacated just prior to the commencement of the academic year, schools should communicate fully with each other with respect to anticipated late roster changes in order to keep misunderstandings at a minimum. *After an applicant has actually enrolled at a U.S. medical school, no further acceptances should be offered to that individual. In this connection, students have an obligation to withdraw their applications promptly from other schools when they enroll elsewhere, especially if their own school's classes start prior to September 1.*

*Under special circumstances a school may make an offer more than one year before the expected matriculation date to encourage the educational development of the student, but all such offers should state explicitly that the student is completely free to apply to other schools at the usual time.

Source = Medical School Admission Requirements, 1974-75

FMG TASK FORCE RECOMMENDATIONS

This is an interim report on the deliberations by the FMG Task Force regarding the influx of FMGs into the United States and the responsibilities of the AAMC constituency for a physician manpower pool of varying academic quality. There are two principal foci of concern:

- (a) The effect of the influx of large numbers of FMGs on the quality of medical education and the quality of medical care,
- (b) The specific problems of U.S. foreign medical graduates.

The FMG Task Force has developed the following recommendations regarding educational quality:

1.0 The flow of FMGs into the United States should not exceed the number for which U.S. resources can provide high quality graduate education which is appropriately organized to assure that FMGs achieve a level of knowledge and clinical competence equivalent to the (acceptable) U.S. medical graduate.

To accomplish the objectives implicit in this statement, actions are urged in terms of both program accreditation and FMG admission.

1.1 Accreditation-- Development of guidelines for criteria regarding resources and organization of U.S. graduate medical education programs to ensure quality education of FMGs. Graduate medical education programs must be required to meet these criteria if they are to accept FMGs for training.

1.2 Admission-- Development of a universal qualifying examination (e.g. such as the Qualifying A examination proposed in the GAP Report) to select U.S. and foreign medical graduates for admission into U.S. graduate medical education programs according to a uniform standard.

1.3 Interim Measure-- Adoption by the ECFMG of more stringent criteria to certify the eligibility of FMGs for U.S. graduate medical education. This could be accomplished through:

- Selection of questions for the ECFMG examination which compare more nearly in their degree of difficulty with those used for the National Board Examination, Parts I and II.
- Re-evaluation of the passing score on the ECFMG examination.
- Limitation on the number of times the ECFMG examination can be taken.

2.0 Should it be necessary to accept substantial numbers of FMGs into the U.S. medical education system beyond those who can be accommodated in terms of the above criteria, additional support must be provided for such programs to meet expanded instructional obligations.

December 4, 1973

ACTION TAKEN BY THE CCME ON THE BYLAWS AND AMENDMENTS TO THE BYLAWS OF THE LCGME

The Liaison Committee on Graduate Medical Education, at its meeting on November 20, 1973, approved several changes in its proposed Bylaws, which had been forwarded, after its meeting on September 11, to the Coordinating Council on Medical Education for its consideration and recommendations to its member organizations.

The changes cover a revision of the proposal to add a representative of the house-staff organizations to the Liaison Committee, the addition of a section on the payment of expenses of subcommittees, and a revision of the procedure for handling appeals. In the following pages, the additions to the Bylaws are shown in italics, and words deleted from the actual Bylaws are lined out.

At the CCME meeting of November 26, 1973 the amendments to the Bylaws were accepted and the Bylaws approved. It was agreed that the minutes would reflect that the CCME does believe that accreditation action by the LCGME is final.

Recommendation:

It is recommended that the Executive Council approve the LCGME Bylaws.

PROPOSED BY-LAWS
OF THE
LIAISON COMMITTEE ON GRADUATE MEDICAL EDUCATION

Foreword

These by-laws are based on and intended to conform to the previously adopted statement entitled: "A proposal for the establishment of the Liaison Committee on Graduate Medical Education, as developed from the five points of agreement by the American Board of Medical Specialties, the American Hospital Association, the American Medical Association, the Association of American Medical Colleges, and the Council on Medical Specialty Societies on January 25, 1972, in Washington, D.C."

Article I - NAME

The name of this organization shall be the Liaison Committee on Graduate Medical Education.

Article II - PURPOSE, OBJECTIVE, AND FUNCTIONS

Section 1. Purpose. The purpose of the Liaison Committee on Graduate Medical Education is to accredit programs in graduate medical education.

Section 2. Objective. The objective of the Liaison Committee on Graduate Medical Education is to develop the most effective methods to evaluate graduate medical education, to promote its quality, and to deal with such other matters relating to graduate medical education as are appropriate.

Section 3. Functions. The Liaison Committee shall:

- (a) Develop standards and criteria common to all programs in graduate medical education for approval by the Coordinating Council on Medical Education;
- (b) Approve specific guidelines provided by the individual residency review committees;
- (c) Establish general standards and criteria for evaluation of programs in graduate medical education;
- (d) Recommend and initiate studies pertinent to improving the organization and conduct of programs in graduate medical education;

Section 3. Functions (continued)

- (e) Receive and consider proposals for new types of programs in graduate medical education for which accreditation is being sought;
- (f) Review periodically the criteria by which programs of graduate medical education are evaluated;
- (g) Provide a means whereby programs in graduate medical education may appeal adverse decisions;
- (h) Receive from and provide information to the public and the government concerning the evaluation and accreditation of programs in graduate medical education;
- (i) Initiate studies and recommend policy to keep programs in graduate medical education responsive to public and social needs.

Article III - MEMBERSHIP

Section 1. Membership on the Liaison Committee shall consist of the following number of representatives from the member organizations:

American Board of Medical Specialties	4 Representatives
American Hospital Association	2 Representatives
American Medical Association	4 Representatives
Association of American Medical Colleges	4 Representatives
Council of Medical Specialty Societies	2 Representatives

In addition, one public member, and one representative of the Federal Government, and one representative of the house-staff organizations shall serve on the Liaison Committee.

Section 2. Each organization so designated shall select its representatives in the manner it chooses, but each is urged, insofar as possible, to designate staggered terms to provide continuity of service.

The public member shall be selected by the members of the Liaison Committee.

The representative from the Federal Government shall be designated by the Secretary of the Department of Health, Education, and Welfare.

The representative from the house-staff organizations shall be designated by a liaison committee established by the AMA Intern and Resident's Business Session and the Physicians National Housestaff Association.

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Section 3. Representatives of the professional organizations shall, except for the initial formation of the Liaison Committee, be appointed for three-year terms, with a maximum of six consecutive years.

The professional organizations shall notify the Secretary of the Liaison Committee at least one week prior to any meeting for which a new representative has been designated.

Additional organizations may be represented on the Liaison Committee by unanimous approval of the current sponsoring professional organizations.

The public member shall be elected annually, with a maximum of six consecutive terms.

The Federal Representative shall serve at the discretion of the appointing official.

The house-staff representative shall serve a two-year term, and must be a house officer at the beginning of his appointment but need not necessarily be a house officer for the full extent of the two-year

term

Article IV - OFFICERS

Section 1. The positions of Chairman and Vice-Chairman shall rotate, on an annual basis, among the parent organizations according to a schedule determined by the Liaison Committee.

Section 2. The officers shall be named by their respective organizations.

Section 3. The new officers shall take office at the conclusion of each annual meeting.

Section 4. The term of office shall be one year.

Section 5. Primary staff and secretarial services for the Liaison Committee shall be provided, for the time being, by the American Medical Association, with staff assistance provided by other members of sponsoring professional organizations as shall from time to time be deemed appropriate and necessary.

Article V - MEETINGS

Section 1. The Liaison Committee shall hold meetings on a basis that is felt to be appropriate by the membership of the Committee, with at least three meetings a year.

Section 2. The first meeting of each calendar year shall be considered the Annual Meeting.

Section 3. A majority of the members of the Liaison Committee shall constitute a quorum, provided representatives from at least three of the five professional organizations are present.

All designated members present at a meeting shall have the right to vote.

Section 4. Special meetings may be called by the Chairman or at the written request of any five (5) members of the Liaison Committee representing a minimum of at least three (3) of the five (5) parent organizations. The purpose of such Special meetings shall be stated in the call. At least twenty-one (21) days' written notice shall be given for a Special meeting.

Article VI - COMMITTEES

Section 1. The Chairman shall appoint standing or special committees for the Liaison Committee as shall from time to time be deemed necessary to carry on the work of the Committee.

Section 2. The Chairman shall appoint a finance committee to consider the financial support of any activities involving expenditures of the Liaison Committee beyond those in Article VII.

Article VII - FINANCES

Section 1. The expenses of Liaison Committee representatives from the various organizations shall be borne by those organizations.

The expense of the public member shall be shared equally by the professional organizations.

The expense of the representative of the Federal Government shall be borne by the Federal Government.

The expense of the representative of the house-staff organizations shall be borne by the house-staff organizations.

Section 2. *The expenses of members and others who are asked to serve on subcommittees of the Liaison Committee shall be paid by the Liaison Committee and shared on a pro rata basis by the member organizations. Persons other than those named to the subcommittee or those named to staff the subcommittee may attend meetings of subcommittees, but expenses of such persons will be borne by their sponsoring organizations.*

Section 23. Unless otherwise provided for by the finance committee, expenses above those incurred by the representatives of the professional organizations shall be shared on a pro rata basis by the professional organizations.

Article VIII - MODUS OPERANDI

Section 1. Accreditation. The Liaison Committee shall take action on the accreditation of each individual program following receipt of the recommendation from the appropriate residency review committee.

Section 2. Monitoring. Individual members of the Liaison Committee shall receive and review the full minutes of all residency review committees.

- (a) The membership of the Liaison Committee shall be divided into four groups, each of which shall be assigned a proportionate number of programs by specialty areas for review of the program recommendations of the residency review committees.
- (b) The files of all identified problem cases shall be scrutinized by the assigned groups. These shall include all programs that have been on probation for periods of time considered excessive by members of the Liaison Committee on Graduate Medical Education.
- (c) The Liaison Committee shall review all programs requested by the residency review committees.

Section 3. Appeals. Programs may appeal adverse decisions.

- (a) It is expected that a program will request reconsideration by its Residency Review Committee as the initial step in any consideration of an adverse decision.
- (b) Following this, *if approval has been withdrawn or withheld*, the program may then appeal directly to the Liaison Committee. The Chairman shall appoint at least four *three* members of the *Liaison Committee on Graduate Medical Education* who have not been previously involved in the review process of that program *and such additional consultants as appropriate who will be representative of the specialty under review.* Representatives of the program and of the Residency Review Committee shall be entitled to appear before the appeal hearing board.
- (c) The final decision shall be made by the Liaison Committee after receiving the recommendations of the appeal hearing board. *Any* members of the Liaison Committee who made the adverse decision or concurred in the adverse decision of the Review Committee would not participate in the final decision.

Section 4. Review of the Mechanism of Residency Review Committees.

- (a) Basic Essentials and Other Policy Matters: Approval of "Essentials" relating to graduate training programs is the responsibility of the Liaison Committee on Graduate Medical Education, to which the Coordinating Council on Medical Education has delegated consideration of additions, revisions, and deletions. Major policy decisions, however, after discussion by the Liaison Committee, shall be forwarded to the Coordinating Council on Medical Education for its consideration. The Liaison Committee would determine the order and manner in which approval would be sought of the parent bodies involved in the production of the "Essentials."

Article IX - PARLIAMENTARY AUTHORITY

Section 1. The rules contained in the current edition of Sturgis' Standard Code of Parliamentary Procedure shall govern the Liaison Committee in all cases to which they are applicable and in which they are not inconsistent with these by-laws and any special Rules of Order the Liaison Committee may adopt.

Article X - AMENDMENTS

Section 1. These By-Laws can be amended at any regular meeting of the Liaison Committee by a two-thirds vote of the members of the Liaison Committee present, provided that the amendment has been submitted in writing and has been read at a previous meeting.

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ASSOCIATION OF AMERICAN MEDICAL COLLEGES
SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

JOHN A. D. COOPER, M.D., F.R.C.P.
PRESIDENT

WASHINGTON 202 466 5175

November 30, 1973

Executive Secretariat
Cost of Living Council
2000 M Street, N.W.
Washington, D.C. 20508

RE: Proposed Phase IV Health Docket: General (§§150.501-.504) and Acute
Care Hospitals (§§150.516-.523)

Gentlemen:

The purpose of this letter is to express the views of the Association of American Medical Colleges (AAMC) regarding the proposed Phase IV Health Care Regulations as published in the Federal Register November 6, 1973 (6 CFR Part 150). The Association, through its Council of Teaching Hospitals, represents 400 of our largest tertiary care - teaching hospitals, as well as all of the nation's schools of medicine and 59 academic societies.

Fundamental Position

As proposed, the regulations would impose arbitrary ceilings upon both inpatient charges and expenditures per admission. These limitations will affect fundamental medical decisions such as the length of a patient's hospital stay and the intensity of that patient's treatment in terms of both the type and amount of services provided during that stay. The American Hospital Association (AHA) has raised serious questions regarding the legality of the proposed regulations. Specifically, the AHA holds that: (1) the Cost of Living Council will exceed its legal authority if it proceeds to formally adopt the regulations as presently proposed; (2) the proposed regulations violate the Medicare law in that they compromise the assurance that hospitals will be reimbursed for the "reasonable costs" of providing services to Title XVIII beneficiaries; and (3) the proposed limitations on per admissions charges and expenditures are contrary to sound medical practice and to the provision of adequate community health services. The AAMC believes these are reasonable and responsible assertions, and the Association supports the position of the AHA in this regard. Given the stated position of the American Hospital Association, the legitimacy of the aforementioned assertions will, no doubt, be considered by the courts.

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If the regulations are implemented, in substance, as proposed the industry might be faced with the necessity of operating under them while litigation is in process. Given this possibility the Association has chosen to submit substantive comments on the regulations as currently proposed. It is the Association's position that adoption of the modifications noted below will increase the interim workability and decrease the onerousness of the proposed regulations.

Recommended Modifications In Proposed Regulations

The Association strongly urges that the following modifications be made in the regulations prior to formal adoption and implementation by the Cost of Living Council. The first seven recommendations are of particular importance to teaching hospitals. The rationale underlying certain suggested modifications and the impact of the proposed regulations on the nation's teaching hospitals will be more fully developed in a subsequent section of this letter.

(1) The entire structure, criteria and process of the exceptions procedure should be published with an appropriate time period for comment prior to the effective date of the Phase IV regulations. The industry's experience with the exceptions process to date has been highly unsatisfactory and confidence in such procedures can only be developed through competent leadership, adequate staffing, a reasonable response period and published specific criteria. Adoption of the following recommendations would substantially improve the exceptions process.

- (a) Exceptions requests should be acted upon no later than thirty days following receipt of the request; failure to act should result in a decision granting the requested exception to the petitioner.
- (b) Following prenotification, certain self-executing exceptions should be permitted:
 - (i) in those instances where charges are lower than cost;
 - (ii) where specified costs are beyond the control or jurisdiction of the individual hospital such as: increased costs resulting from actions of the Joint Commission on Accreditation of Hospitals or the State Health Department; wage exceptions granted by the Cost of Living Council; excessive price increases in decontrolled sectors of the economy as well as excessive price increases which have been granted by the Cost of Living Council in controlled portions of the economy;
 - (iii) where approval of specific capital projects have been granted by the designated state agency acting pursuant to §227 of P.L. 92-603 (in these cases, both the expense and charges generated from the capital project should be excluded from the current

year charge and expense base upon which the hospital determines compliance for a period of three fiscal years beyond the completion of the project).

- (c) Specific and interpretable guidelines must be developed regarding the manner in which alterations in case mix can be demonstrated for the purpose of obtaining an exception to base allowable limits of charge and expense per admission increase.
- (d) In order to provide credibility, equity and administrative fairness, an Appeal Board should be established to handle exceptions. The composition of such a board should include fifty percent provider representation, and should report directly to the Director of the Cost of Living Council. Additionally, the Board should have a separate staff of hearing officers and an Executive Secretariat.

The equity of the exceptions process is particularly critical to teaching hospitals since it is these institutions that will be experiencing alteration in case mix, adding new services, and developing new health technologies. Indeed, initial analysis indicates that fully fifty-eight percent of COTH member hospitals would be out of compliance under the proposed regulations and thus would require an exception.

(2) The basic limitation on a hospital's increases in inpatient charges and expenses per admission in any fiscal year should be raised from 7.5 to 9 percent. This recommendation is particularly important for teaching hospitals which will be experiencing higher than average cost increases, and which will be predictably experiencing a change in case mix resulting in services with more intensity and complexity.

(3) The corridor within which hospitals are allowed the base amount of charge and expense per admission increase should be raised from two to five percent.

(4) Assumptions regarding the proportion of a hospital's costs that are fixed and variable do not appear to be formulated on the basis of either empirical evidence or operational reality (see text and citations associated with footnotes 2-10). For increases in admissions in excess of +5.0 percent, variable cost should be defined as sixty percent of average cost. For decreases in admissions greater than -5.0 percent, fixed cost should be defined as eighty percent of average cost.

(5) The limitation on price or cost increases for outpatient services should be set at a level consistent with inpatient limitations. This is particularly important since the proposed regulations provide no incentive to transfer a low cost inpatient procedure or service to a high cost ambulatory service or procedure; indeed, the proposed regulations provide a disincentive for such action.

(6) Embodied in the outpatient service section is a "class of purchaser" concept which applies to all instances where outpatient services, by contract or legislation, are reimbursed on a cost basis. The "class of purchaser" concept should be omitted, and compliance should be evaluated on a aggregated occasions of service basis.

(7) Due to both functional and organizational rearrangements as well as the anticipated implementation of specific legislation (e.g., Section 227 of P.L. 92-503) hospitals, particularly teaching institutions, are continuing to experience alterations in the manner in which physicians are compensated. The last decade has witnessed significant increases in the number of physicians who are compensated for professional services provided by institutional funds rather than by reasonable charges per unit of service rendered. Therefore, the Association urges that where hospital charges and/or expenses are altered due to a change in the basis for the remuneration of physicians, the hospital be allowed to adjust for such changes by altering the amount of total charges/ expenditures in either the base or control year for the purpose of computing the compliance calculation. For example, if a hospital experiences an increase in charge/expense of \$300,000 due to an increase in the number of practicing physicians on the hospital payroll during a specific control year it should be, for the purpose of calculating charge/expense per admission, allowed to: 1) increase the total charges/expenses of the base year by \$300,000 or 2) deduct \$300,000 from the total charges/expenditures of the control year.

(8) There should be an optional starting date for hospitals to become subject to the new regulations. Hospitals with fiscal years beginning after June 30, 1973 and before July 1, 1974 should have the option of functioning under Phase III or Phase IV.

(9) Both the charge and expense limitations should be reviewed and updated at specified periods based on the latest data of the consumer and wholesale price indices. This is necessary since the original limitations have been constructed with specific estimated percentages by class of expense in the non-wage category.

(10) A section on "violations" should be included in the regulations. Nowhere in the proposed regulations is there any indication of what action will be taken if limitations in the regulations are exceeded. Proposed regulations regarding the manner of handling violations should be published; hospitals and other interested parties should be given an opportunity to comment prior to the time that the Phase IV regulations are effective.

(11) Any state or the District of Columbia should be required to demonstrate broad provider acceptance before applying to the Cost of Living Council for authorization to administer the state control program in lieu of administration of the program by the Cost of Living Council.

(12) §150.517(e) should apply for beds which are licensed but not in use, and the application of the limitations should not apply until the third fiscal year following the increase in bed complement.

Impact On Teaching - Tertiary Care Hospitals

The Association of American Medical Colleges strongly believes that it is the nation's teaching hospitals which will be most severely affected by the proposed rates. Such rates, if implemented, will seriously erode the capability of our teaching hospitals to continue in their efforts to serve as the institutions where new technology and medical procedures are developed, refined and implemented and will inhibit their ability to provide highly sophisticated (and increasingly more expensive) tertiary care services. These observations are developed in detail below:

CLINICAL INVESTIGATION AND DEVELOPMENTAL FUNCTIONS. Teaching - tertiary care hospitals are the primary locus of health services clinical investigation and development. New methods of treatment, innovative types of health manpower and patient care team configurations, as well as new types of medical technology are developed, initially utilized and refined in such hospitals for eventual deployment throughout the health services industry. Teaching hospitals must recruit and retain large numbers of highly trained personnel. They must purchase and develop highly sophisticated and increasingly expensive equipment, modify and improve on it so that such technology, if beneficial, can be applied on a broader scale. The development of such health technologies as transplantation, neo-natal intensive care, cardiac intensive care and radio-holographic brain scanning are testimony to the effectiveness and efficiency of the nation's teaching hospitals in translating biomedical and bioengineering research into significant patient care procedures. One would expect that this clinical investigation and developmental involvement would be associated with both larger absolute costs and higher rates of cost increase. Indeed, a recent econometric study demonstrates that the rate of cost increase is 1.7 times greater for major teaching hospitals than community (non-teaching) hospitals even when controlling for absolute average cost, location, bed size and utilization.¹

The regulations as proposed are detrimental to and penalize those institutions that are significantly involved in health services clinical investigation and development functions. If implemented as proposed, the regulations would inhibit both the development and application of new technologies. Given the aforementioned rationale the Association strongly urges the adoption of recommendation (1)(b)(iii) previously detailed. Additionally, since many clinical investigation and developmental activities are not directly related to capital expenditures (e.g., alterations in the type of manpower and the nature of treatment modalities), it is further proposed that specific guidelines be developed so that exceptions can be sought and subsequently obtained for increases in costs associated with such innovations.

ALTERATIONS IN CASE MIX. Given the nature of the proposed regulations there will be a direct and immediate stimulus for some hospitals to reduce expenditures and lower lengths of stay by attempting to reduce the number of

¹ Judith R. Lave and Lester B. Lave, "Hospital Cost Functions", American Economic Review, Vol. 7 (June 1970), pp. 379-395.

admissions requiring complex and/or sophisticated treatment modalities. These cases will undoubtedly find their way into the nation's teaching hospitals. When viewed in isolation, the anticipated incremental shifting of tertiary patients to tertiary hospitals has laudable planning and regionalization effects. However, under the proposed regulations, the nation's teaching hospitals are not given the means to cope adequately with this development. The impact of an increased flow of complex cases into teaching hospitals, given the structure of the proposed regulations, would have a two-fold effect upon such facilities. First, increases in admissions will be those of the relatively high expense category with larger than average lengths of stay causing the average expense per admission to increase -- thereby heightening the probability of non compliance with the proposed regulations. Second, if the admissions of such facilities increase in excess of two percent over a base year, only forty-three percent of that base year's expense per admission will be deemed allowable. That is, teaching hospitals experiencing increases in increasingly costly cases will be allowed only fractional (43 percent) increases in expenses to provide such care.

Given the nature of the teaching hospital's mission, it is unrealistic to expect that such institutions would either directly or indirectly attempt to limit the increase of admissions requiring tertiary services except as a last resort to preserve institutional survival. The regulations as presently proposed would severely penalize institutions for avoiding such action. One would expect, however, that teaching hospitals would be forced to limit the expansion of already existing tertiary services when capacity is reached and to avoid or delay the implementation of new tertiary services as their clinical efficiency is demonstrated. Limiting the expansion of already existing services when current capacity is reached would inhibit the efficient utilization of such services by mitigating the distribution of relatively high developmental costs over increasing volume. Decisions not to develop and/or implement new tertiary services based upon arbitrary economic guidelines would inhibit medical progress and completely circumvent professional judgments regarding the efficacy of such services.

For the aforementioned reasons the Association urges the development of clear and implementable guidelines regarding the consideration of exceptions on the basis of alterations in case mix as previously specified in recommendation (1)(c). Additionally, to allow a greater degree of operational flexibility the Association urges the adoption of a widening of the admission increase corridor as detailed in recommendation (3).

FIXED AND VARIABLE COSTS. The proposed regulations assume that the fixed and variable cost of hospital operations are sixty and forty percent respectively of average cost. Listed below are estimates of marginal cost (MC) as a proportion of average cost (AC) obtained by all known econometric analyses of hospitals conducted during the last four years.

<u>Authors (DATE of Research)</u>	<u>Estimate of MC/AC</u>
Berry and Carr (1973) ²	0.84 - 0.96
Kuenne (1972) ³	0.65 - 0.91
Lave, Lave and Silverman (1972) ⁴	0.68
Evans and Walker (1972) ⁵	0.80 - 0.90
Evans (1971) ⁶	0.76 - 0.86
Lave and Lave (1970a) ⁷	0.40 - 0.65
Lave and Lave (1970b) ⁸	0.58 - 0.68
Cohen (1970) ⁹	0.67
Francisco (1970) ¹⁰	0.73 - 0.87

² Ralph E. Berry, Jr. and John W. Carr, Jr., "Efficiency in the Production of Hospital Services," unpublished paper (June 1973).

³ Robert E. Kuenne, "Average Sectorial Cost Functions in a Group of New Jersey Hospitals," Research Monograph #1 (Princeton University: General Economic Systems Project, October 1972).

⁴ Judith Lave, Lester Lave and Larry Silverman, "Hospital Cost Estimation Controlling For Case Mix," unpublished paper (1972).

⁵ Robert Evans and H. Walker, "Information Theory and the Analysis of Hospital Cost Structure," Canadian Journal of Economics, Vol. 5 (August 1972), pp. 398-418.

⁶ Robert Evans, "Behavioral Cost Functions For Hospitals," Canadian Journal of Economics, Vol. 4 (May 1971), pp. 198-215.

⁷ Judith Lave and Lester Lave, "Hospital Cost Functions," American Economic Review, Vol. 6 (June 1970), pp. 379-395.

⁸ Judith Lave and Lester Lave, "Estimated Cost Functions for Pennsylvania Hospitals," Inquiry, Vol. 7 (June 1970), pp. 3-14.

⁹ Harold Cohen, "Hospital Cost Curves With Emphasis On Measuring Patient Care Output," in Herbert Klarman (ed.), Empirical Studies in Health Economics (Baltimore, Maryland: The Johns Hopkins Press 1970), pp. 279-293.

¹⁰ Edgar Francisco, "Analysis of Cost Variations Among Short-Term General Hospitals," in Herbert Klarman (ed.), Empirical Studies in Health Economics (Baltimore, Maryland: The Johns Hopkins Press 1970), pp. 321-332.

Additionally, an analysis conducted at a large midwestern university owned hospital found that variable and fixed costs were 65 and 35 percent respectively.

Even though heterogeneous, all of the estimates provided above are in excess of the variable cost allowance provided for in the proposed regulations. The nature of the variability across studies (based upon different subsets of hospitals) and type of control variables employed within each study (case mix, size, utilization, etc.) appears to indicate that the proportion of costs that are fixed and variable are specific to an individual hospital at a given time depending upon the nature of the product produced, the scale of production, the percent of capacity at which the institution is operating and the method employed to finance capital facilities.

Given these observations (and elaborating on recommendations (3) and (4) noted previously) it is reasonable to suggest that increased flexibility be provided to different hospitals operating under different circumstances and constraints. In line with the aforementioned comments this could be accomplished in either or both of two ways. First, we urge that the corridor within which hospitals are allowed the full allowable amount expense/charge increase (107.5 percent of the previous year's base) be widened to a zone encompassing increases in admissions less than +5.0 percent to decreases in admissions less than -5.0 percent. Second, the regulations should be altered to recognize more reasonable specifications of variable costs consistent with empirical evidence and operational realities. The Association urges that for increases in admissions in excess of +5.0 percent, variable cost be defined as sixty percent of average cost. This figure is consistent with empirical findings and takes account of the fact that variable costs increase proportionately greater than admissions when occupancy increases. On the other hand, for decreases in admissions greater than -5.0 percent, fixed cost should be defined as eighty percent of average cost. This allowance takes adequate account of the fact that significant declines in occupancy, over the short run, in no way reduces gross expenditures as an adequate capacity must be maintained to meet the demands for service when occupancy increases. The adoption of these recommendations are particularly critical to teaching - tertiary care institutions as variable (marginal) costs are a large proportion of average cost given marginal increases in increasingly complex and hence high expense admissions.

OUTPATIENT SERVICES. The proposed regulations provide that outpatient cost and prices may increase by no more than six percent as determined by either an individual unit or an aggregated weighted calculation (in those cost centers where outpatient services account for at least seventy percent of total billed charges or costs). Furthermore, the regulations provide that where outpatient services are reimbursed at cost, the six percent allowable increase (per occasion of service) is to be applied to each class of purchaser considered individually.

Teaching hospitals have served as the leader in developing new modes of providing ambulatory care and expanding the delivery of such services to increasingly broader population groups. For example, the outpatient departments

of many teaching hospitals are serving as the base for the development of family practice clinics and comprehensive ambulatory care centers. Additionally, teaching hospitals have led the way in the transference of many medical procedures from an inpatient to an outpatient base. Creation of new modes of ambulatory care provision generally entails an increasing intensity of the amount and nature of the care provided per occasion of service (e.g., comprehensive family care versus episodic treatment), such developments are penalized under the proposed regulations. The transference of procedures provided on an inpatient basis to those provided on an outpatient basis would entail the conversion of a relatively low cost inpatient admission to a relatively high cost outpatient visit, engaging in such action drastically heightens the probability of non compliance for both outpatient and inpatient activities. Therefore, the Association urges that the allowable rate of expenditure and revenue per occasion of service increase be raised so that it is at least equal to the rate of increase provided for expense and revenue per inpatient admission (9.0 percent) -- see recommendation (10). Additionally, we recommend that the class of purchaser provision (§150.512(c)) be struck from the regulations when formally adopted -- see recommendation (11).

As evidenced above the Association of American Medical Colleges has deep concern and substantial reservations regarding the Phase IV regulations as they are presently proposed. Indeed, we are convinced that the proposed regulations will erode the ability of the nation's teaching hospitals to translate the results of biomedical research and development into effective diagnostic and therapeutic procedures, and to serve as the locus for the provision of intensive and complex tertiary care services. The Association stands ready to elaborate upon specific observations and/or recommendations presented in this letter.

Sincerely,

JOHN A. D. COOPER, M.D.
President

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

MEMORANDUM # 73-47

December 6, 1973

TO: Members of the Assembly

FROM: John A. D. Cooper, M.D., President

SUBJECT: AAMC response to the Cost of Living Council Phase IV Health Care Proposed Regulations and Senate Action on the Medicare Amendments of 1973

COST OF LIVING COUNCIL PROPOSED REGULATIONS

Attached is the full text of our response to the Cost of Living Council Phase IV Health Care Proposed Regulations. The letter was drafted with the guidance of a COTH Ad Hoc Committee chaired by Sidney Lewine, Director of the Mount Sinai Hospital of Cleveland. Other members of the committee were John Colloton, University of Iowa Hospitals; Baldwin G. Lamson, M.D., U.C.L.A. Hospital; Marvin Rushkoff, Mount Sinai Hospital in New York; John Stagl, Northwestern Memorial Hospital in Chicago; Jeff Steinert, Duke University; and Charles Womer, Yale-New Haven Hospital.

The letter states our support of legal questions raised by the American Hospital Association, recognizing that the final regulations may be implemented while litigation is in process. This being the case, twelve specific recommendations have been set forth which will, we believe, increase the interim workability and decrease the onerousness of the proposed regulations. It is our strong belief that it is the nation's teaching hospitals which will be most severely affected by the proposed rules, since it is these institutions which will predictably experience "case mix" changes and which play a vital role in clinical investigation and development functions. These two basic points as well as others are forthrightly developed in the letter.

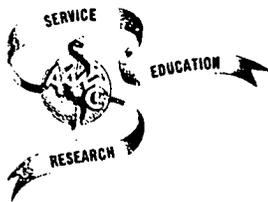
SENATE ACTION ON THE MEDICARE AMENDMENTS OF 1973

In the Weekly Activity Report of November 19, I reported that an amendment was being developed to modify Section 227 which could be included in the Social Security Amendments. These Amendments passed the Senate on Friday, November 30, including the modified teaching physician provision. The bill is now scheduled to go to Conference Committee to resolve House and Senate differences.

The provision postpones the implementation of Section 227 to fiscal years beginning after December 31, 1974. During this period, the Social Security Administration will conduct a study including at least 40 or 50 hospitals to determine the extent to which individuals who are covered under titles XVIII or XIX of the Social Security Act, other Government programs, and private programs incur expenses for physicians' professional services with respect to which payment is made or sought on the basis of charges, the patient care practices of such hospitals (including the extent of physicians' professional services involved in such care), and the extent to which payment is appropriate under titles XVIII and XIX of the Social Security Act with respect to physician's professional services provided in such institutions.

Attached is the full text of language regarding this provision which appears in the Senate Finance Committee Report. I urge you to read it carefully.

Attachment



ASSOCIATION OF AMERICAN MEDICAL COLLEGES
SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

JOHN A. D. COOPER, M.D., PH.D.
PRESIDENT

WASHINGTON: 202: 466-5175

November 30, 1973

Executive Secretariat
Cost of Living Council
2000 M Street, N.W.
Washington, D.C. 20508

RE: Proposed Phase IV Health Docket: General (§§150.501-.504) and Acute
Care Hospitals (§§150.516-.523)

Gentlemen:

The purpose of this letter is to express the views of the Association of American Medical Colleges (AAMC) regarding the proposed Phase IV Health Care Regulations as published in the Federal Register November 6, 1973 (6 CFR Part 150). The Association, through its Council of Teaching Hospitals, represents 400 of our largest tertiary care - teaching hospitals, as well as all of the nation's schools of medicine and 59 academic societies.

Fundamental Position

As proposed, the regulations would impose arbitrary ceilings upon both inpatient charges and expenditures per admission. These limitations will effect fundamental medical decisions such as the length of a patient's hospital stay and the intensity of that patient's treatment in terms of both the type and amount of services provided during that stay. The American Hospital Association (AHA) has raised serious questions regarding the legality of the proposed regulations. Specifically, the AHA holds that: (1) the Cost of Living Council will exceed its legal authority if it proceeds to formally adopt the regulations as presently proposed; (2) the proposed regulations violate the Medicare law in that they compromise the assurance that hospitals will be reimbursed for the "reasonable costs" of providing services to Title XVIII beneficiaries; and (3) the proposed limitations on per admissions charges and expenditures are contrary to sound medical practice and to the provision of adequate community health services. The AAMC believes these are reasonable and responsible assertions, and the Association supports the position of the AHA in this regard. Given the stated position of the American Hospital Association, the legitimacy of the aforementioned assertions will, no doubt, be considered by the courts.

If the regulations are implemented, in substance, as proposed the industry might be faced with the necessity of operating under them while litigation is in process. Given this possibility the Association has chosen to submit substantive comments on the regulations as currently proposed. It is the Association's position that adoption of the modifications noted below will increase the interim workability and decrease the onerousness of the proposed regulations.

Recommended Modifications In Proposed Regulations

The Association strongly urges that the following modifications be made in the regulations prior to formal adoption and implementation by the Cost of Living Council. The first seven recommendations are of particular importance to teaching hospitals. The rationale underlying certain suggested modifications and the impact of the proposed regulations on the nation's teaching hospitals will be more fully developed in a subsequent section of this letter.

(1) The entire structure, criteria and process of the exceptions procedure should be published with an appropriate time period for comment prior to the effective date of the Phase IV regulations. The industry's experience with the exceptions process to date has been highly unsatisfactory and confidence in such procedures can only be developed through competent leadership, adequate staffing, a reasonable response period and published specific criteria. Adoption of the following recommendations would substantially improve the exceptions process.

- (a) Exceptions requests should be acted upon no later than thirty days following receipt of the request; failure to act should result in a decision granting the requested exception to the petitioner.
- (b) Following prenotification, certain self-executing exceptions should be permitted:
 - (i) in those instances where charges are lower than cost;
 - (ii) where specified costs are beyond the control or jurisdiction of the individual hospital such as: increased costs resulting from actions of the Joint Commission on Accreditation of Hospitals or the State Health Department; wage exceptions granted by the Cost of Living Council; excessive price increases in decontrolled sectors of the economy as well as excessive price increases which have been granted by the Cost of Living Council in controlled portions of the economy;
 - (iii) where approval of specific capital projects have been granted by the designated state agency acting pursuant to §221 of P.L. 92-603 (in these cases, both the expense and charges generated from the capital project should be excluded from the current

year charge and expense base upon which the hospital determines compliance for a period of three fiscal years beyond the completion of the project).

- (c) Specific and interpretable guidelines must be developed regarding the manner in which alterations in case mix can be demonstrated for the purpose of obtaining an exception to base allowable limits of charge and expense per admission increase.
- (d) In order to provide credibility, equity and administrative fairness, an Appeal Board should be established to handle exceptions. The composition of such a board should include fifty percent provider representation, and should report directly to the Director of the Cost of Living Council. Additionally, the Board should have a separate staff of hearing officers and an Executive Secretariat.

The equity of the exceptions process is particularly critical to teaching hospitals since it is these institutions that will be experiencing alteration in case mix, adding new services, and developing new health technologies. Indeed, initial analysis indicates that fully fifty-eight percent of COTH member hospitals would be out of compliance under the proposed regulations and thus would require an exception.

(2) The basic limitation on a hospital's increases in inpatient charges and expenses per admission in any fiscal year should be raised from 7.5 to 9 percent. This recommendation is particularly important for teaching hospitals which will be experiencing higher than average cost increases, and which will be predictably experiencing a change in case mix resulting in services with more intensity and complexity.

(3) The corridor within which hospitals are allowed the base amount of charge and expense per admission increase should be raised from two to five percent.

(4) Assumptions regarding the proportion of a hospital's costs that are fixed and variable do not appear to be formulated on the basis of either empirical evidence or operational reality (see text and citations associated with footnotes 2-10). For increases in admissions in excess of +5.0 percent, variable cost should be defined as sixty percent of average cost. For decreases in admissions greater than -5.0 percent, fixed cost should be defined as eighty percent of average cost.

(5) The limitation on price or cost increases for outpatient services should be set at a level consistent with inpatient limitations. This is particularly important since the proposed regulations provide no incentive to transfer a low cost inpatient procedure or service to a high cost ambulatory service or procedure; indeed, the proposed regulations provide a disincentive for such action.

(6) Embodied in the outpatient service section is a "class of purchaser" concept which applies to all instances where outpatient services, by contract or legislation, are reimbursed on a cost basis. The "class of purchaser" concept should be omitted, and compliance should be evaluated on a aggregated occasions of service basis.

(7) Due to both functional and organizational rearrangements as well as the anticipated implementation of specific legislation (e.g., Section 227 of P.L. 92-603) hospitals, particularly teaching institutions, are continuing to experience alterations in the manner in which physicians are compensated. The last decade has witnessed significant increases in the number of physicians who are compensated for professional services provided by institutional funds rather than by reasonable charges per unit of service rendered. Therefore, the Association urges that where hospital charges and/or expenses are altered due to a change in the basis for the remuneration of physicians, the hospital be allowed to adjust for such changes by altering the amount of total charges/expenditures in either the base or control year for the purpose of computing the compliance calculation. For example, if a hospital experiences an increase in charge/expense of \$300,000 due to an increase in the number of practicing physicians on the hospital payroll during a specific control year it should be, for the purpose of calculating charge/expense per admission, allowed to: 1) increase the total charges/expenses of the base year by \$300,000 or 2) deduct \$300,000 from the total charges/expenditures of the control year.

(8) There should be an optional starting date for hospitals to become subject to the new regulations. Hospitals with fiscal years beginning after June 30, 1973 and before July 1, 1974 should have the option of functioning under Phase III or Phase IV.

(9) Both the charge and expense limitations should be reviewed and updated at specified periods based on the latest data of the consumer and wholesale price indices. This is necessary since the original limitations have been constructed with specific estimated percentages by class of expense in the non-wage category.

(10) A section on "violations" should be included in the regulations. Nowhere in the proposed regulations is there any indication of what action will be taken if limitations in the regulations are exceeded. Proposed regulations regarding the manner of handling violations should be published; hospitals and other interested parties should be given an opportunity to comment prior to the time that the Phase IV regulations are effective.

(11) Any state or the District of Columbia should be required to demonstrate broad provider acceptance before applying to the Cost of Living Council for authorization to administer the state control program in lieu of administration of the program by the Cost of Living Council.

(12) §150.517(e) should apply for beds which are licensed but not in use, and the application of the limitations should not apply until the third fiscal year following the increase in bed complement.

Impact On Teaching - Tertiary Care Hospitals

The Association of American Medical Colleges strongly believes that it is the nation's teaching hospitals which will be most severely affected by the proposed rules. Such rules, if implemented, will seriously erode the capability of our teaching hospitals to continue in their efforts to serve as the institutions where new technology and medical procedures are developed, refined and implemented and will inhibit their ability to provide highly sophisticated (and increasingly more expensive) tertiary care services. These observations are developed in detail below:

CLINICAL INVESTIGATION AND DEVELOPMENTAL FUNCTIONS. Teaching - tertiary care hospitals are the primary locus of health services clinical investigation and development. New methods of treatment, innovative types of health manpower and patient care team configurations, as well as new types of medical technology are developed, initially utilized and refined in such hospitals for eventual deployment throughout the health services industry. Teaching hospitals must recruit and retain large numbers of highly trained personnel. They must purchase and develop highly sophisticated and increasingly expensive equipment, modify and improve on it so that such technology, if beneficial, can be applied on a broader scale. The development of such health technologies as transplantation, neo-natal intensive care, cardiac intensive care and radio-holographic brain scanning are testimony to the effectiveness and efficiency of the nation's teaching hospitals in translating biomedical and bioengineering research into significant patient care procedures. One would expect that this clinical investigation and developmental involvement would be associated with both larger absolute costs and higher rates of cost increase. Indeed, a recent econometric study demonstrates that the rate of cost increase is 1.7 times greater for major teaching hospitals than community (non-teaching) hospitals even when controlling for absolute average cost, location, bed size and utilization.¹

The regulations as proposed are detrimental to and penalize those institutions that are significantly involved in health services clinical investigation and development functions. If implemented as proposed, the regulations would inhibit both the development and application of new technologies. Given the aforementioned rationale the Association strongly urges the adoption of recommendation (1)(b)(iii) previously detailed. Additionally, since many clinical investigation and developmental activities are not directly related to capital expenditures (e.g., alterations in the type of manpower and the nature of treatment modalities), it is further proposed that specific guidelines be developed so that exceptions can be sought and subsequently obtained for increases in costs associated with such innovations.

ALTERATIONS IN CASE MIX. Given the nature of the proposed regulations there will be a direct and immediate stimulus for some hospitals to reduce expenditures and lower lengths of stay by attempting to reduce the number of

¹ Judith R. Lave and Lester B. Lave, "Hospital Cost Functions", American Economic Review, Vol. 7 (June 1970), pp. 379-395.

admissions requiring complex and/or sophisticated treatment modalities. These cases will undoubtedly find their way into the nation's teaching hospitals. When viewed in isolation, the anticipated incremental shifting of tertiary patients to tertiary hospitals has laudable planning and regionalization effects. However, under the proposed regulations, the nation's teaching hospitals are not given the means to cope adequately with this development. The impact of an increased flow of complex cases into teaching hospitals, given the structure of the proposed regulations, would have a two-fold effect upon such facilities. First, increases in admissions will be those of the relatively high expense category with larger than average lengths of stay causing the average expense per admission to increase -- thereby heightening the probability of non compliance with the proposed regulations. Second, if the admissions of such facilities increase in excess of two percent over a base year, only forty-three percent of that base year's expense per admission will be deemed allowable. That is, teaching hospitals experiencing increases in increasingly costly cases will be allowed only fractional (43 percent) increases in expenses to provide such care.

Given the nature of the teaching hospital's mission, it is unrealistic to expect that such institutions would either directly or indirectly attempt to limit the increase of admissions requiring tertiary services except as a last resort to preserve institutional survival. The regulations as presently proposed would severely penalize institutions for avoiding such action. One would expect, however, that teaching hospitals would be forced to limit the expansion of already existing tertiary services when capacity is reached and to avoid or delay the implementation of new tertiary services as their clinical efficiency is demonstrated. Limiting the expansion of already existing services when current capacity is reached would inhibit the efficient utilization of such services by mitigating the distribution of relatively high developmental costs over increasing volume. Decisions not to develop and/or implement new tertiary services based upon arbitrary economic guidelines would inhibit medical progress and completely circumvent professional judgments regarding the efficacy of such services.

For the aforementioned reasons the Association urges the development of clear and implementable guidelines regarding the consideration of exceptions on the basis of alterations in case mix as previously specified in recommendation (1)(c). Additionally, to allow a greater degree of operational flexibility the Association urges the adoption of a widening of the admission increase corridor as detailed in recommendation (3).

FIXED AND VARIABLE COSTS. The proposed regulations assume that the fixed and variable cost of hospital operations are sixty and forty percent respectively of average cost. Listed below are estimates of marginal cost (MC) as a proportion of average cost (AC) obtained by all known econometric analyses of hospitals conducted during the last four years.

<u>Authors (Date of Research)</u>	<u>Estimate of MC/AC</u>
Berry and Carr (1973) ²	0.84 - 0.96
Kuenne (1972) ³	0.65 - 0.91
Lave, Lave and Silverman (1972) ⁴	0.68
Evans and Walker (1972) ⁵	0.80 - 0.90
Evans (1971) ⁶	0.76 - 0.86
Lave and Lave (1970a) ⁷	0.40 - 0.65
Lave and Lave (1970b) ⁸	0.58 - 0.68
Cohen (1970) ⁹	0.67
Francisco (1970) ¹⁰	-0.73 - 0.87

² Ralph E. Berry, Jr. and John W. Carr, Jr., "Efficiency in the Production of Hospital Services," unpublished paper (June 1973).

³ Robert E. Kuenne, "Average Sectorial Cost Functions in a Group of New Jersey Hospitals," Research Monograph #1 (Princeton University: General Economic Systems Project, October 1972).

⁴ Judith Lave, Lester Lave and Larry Silverman, "Hospital Cost Estimation Controlling For Case Mix," unpublished paper (1972).

⁵ Robert Evans and H. Walker, "Information Theory and the Analysis of Hospital Cost Structure," Canadian Journal of Economics, Vol. 5 (August 1972), pp. 398-418.

⁶ Robert Evans, "Behavioral Cost Functions For Hospitals," Canadian Journal of Economics, Vol. 4 (May 1971), pp. 198-215.

⁷ Judith Lave and Lester Lave, "Hospital Cost Functions," American Economic Review, Vol. 6 (June 1970), pp. 379-395.

⁸ Judith Lave and Lester Lave, "Estimated Cost Functions for Pennsylvania Hospitals," Inquiry, Vol. 7 (June 1970), pp. 3-14.

⁹ Harold Cohen, "Hospital Cost Curves With Emphasis On Measuring Patient Care Output," in Herbert Klarman (ed.), Empirical Studies in Health Economics (Baltimore, Maryland: The Johns Hopkins Press 1970), pp. 279-293.

¹⁰ Edgar Francisco, "Analysis of Cost Variations Among Short-Term General Hospitals," in Herbert Klarman (ed.), Empirical Studies in Health Economics (Baltimore, Maryland: The Johns Hopkins Press 1970), pp. 321-332.

Additionally, an analysis conducted at a large midwestern university owned hospital found that variable and fixed costs were 65 and 35 percent respectively.

Even though heterogeneous, all of the estimates provided above are in excess of the variable cost allowance provided for in the proposed regulations. The nature of the variability across studies (based upon different subsets of hospitals) and type of control variables employed within each study (case mix, size, utilization, etc.) appears to indicate that the proportion of costs that are fixed and variable are specific to an individual hospital at a given time depending upon the nature of the product produced, the scale of production, the percent of capacity at which the institution is operating and the method employed to finance capital facilities.

Given these observations (and elaborating on recommendations (3) and (4) noted previously) it is reasonable to suggest that increased flexibility be provided to different hospitals operating under different circumstances and constraints. In line with the aforementioned comments this could be accomplished in either or both of two ways. First, we urge that the corridor within which hospitals are allowed the full allowable amount expense/charge increase (107.5 percent of the previous year's base) be widened to a zone encompassing increases in admissions less than +5.0 percent to decreases in admissions less than -5.0 percent. Second, the regulations should be altered to recognize more reasonable specifications of variable costs consistent with empirical evidence and operational realities. The Association urges that for increases in admissions in excess of +5.0 percent, variable cost be defined as sixty percent of average cost. This figure is consistent with empirical findings and takes account of the fact that variable costs increase proportionately greater than admissions when occupancy increases. On the other hand, for decreases in admissions greater than -5.0 percent, fixed cost should be defined as eighty percent of average cost. This allowance takes adequate account of the fact that significant declines in occupancy, over the short run, in no way reduces gross expenditures as an adequate capacity must be maintained to meet the demands for service when occupancy increases. The adoption of these recommendations are particularly critical to teaching - tertiary care institutions as variable (marginal) costs are a large proportion of average cost given marginal increases in increasingly complex and hence high expense admissions.

OUTPATIENT SERVICES. The proposed regulations provide that outpatient cost and prices may increase by no more than six percent as determined by either an individual unit or an aggregated weighted calculation (in those cost centers where outpatient services account for at least seventy percent of total billed charges or costs). Furthermore, the regulations provide that where outpatient services are reimbursed at cost, the six percent allowable increase (per occasion of service) is to be applied to each class of purchaser considered individually.

Teaching hospitals have served as the leader in developing new modes of providing ambulatory care and expanding the delivery of such services to increasingly broader population groups. For example, the outpatient departments

of many teaching hospitals are serving as the base for the development of family practice clinics and comprehensive ambulatory care centers. Additionally, teaching hospitals have led the way in the transferrance of many medical procedures from an inpatient to an outpatient base. Creation of new modes of ambulatory care provision generally entails an increasing intensity of the amount and nature of the care provided per occasion of service (e.g., comprehensive family care versus episodic treatment), such developments are penalized under the proposed regulations. The transferrance of procedures provided on an inpatient basis to those provided on an outpatient basis would entail the conversion of a relatively low cost inpatient admission to a relatively high cost outpatient visit, engaging in such action drastically heightens the probability of non compliance for both outpatient and inpatient activities. Therefore, the Association urges that the allowable rate of expenditure and revenue per occasion of service increase be raised so that it is at least equal to the rate of increase provided for expense and revenue per inpatient admission (9.0 percent) -- see recommendation (10). Additionally, we recommend that the class of purchaser provision (§150.518(c)) be struck from the regulations when formally adopted -- see recommendation (11).

As evidenced above the Association of American Medical Colleges has deep concern and substantial reservations regarding the Phase IV regulations as they are presently proposed. Indeed, we are convinced that the proposed regulations will erode the ability of the nation's teaching hospitals to translate the results of biomedical research and development into effective diagnostic and therapeutic procedures, and to serve as the locus for the provision of intensive and complex tertiary care services. The Association stands ready to elaborate upon specific observations and/or recommendations presented in this letter.

Sincerely,

JOHN A. D. COOPER, M.D.
President

SOCIAL SECURITY AMENDMENTS OF 1973

Report of the Committee on Finance
U.S. Senate

PAYMENT FOR SUPERVISORY PHYSICIANS IN TEACHING HOSPITALS

(Sec. 176 of the bill)

Section 227 of P.L. 92-603, the Social Security Amendments of 1972, dealt with payment for supervisory physicians in teaching hospitals. The primary objective of the provision was to make it clear that fee-for-service reimbursement should be paid for the teaching physician's services only where the patient is a bona fide private patient. The Report of the Committee on Finance which accompanied the provision explained its concept of "private patient" in some detail. However, because of the extremely wide variety of teaching programs throughout the country and the lack of reliable data on the character of the professional care and the nature of the financial arrangements established to support the physicians' services rendered in them, the law authorized the Secretary to define "private patient" by regulation.

In its comments to the Department of Health, Education, and Welfare on the regulation proposed by the Secretary to define "private patient" for Medicare reimbursement purposes, the Association of American Medical Colleges submitted a report to the Secretary which, among other things, assessed for the first time the financial and programmatic impact of the proposed regulations on six unnamed member medical schools and teaching hospitals. While the data presented in this study are far too limited to serve as a basis for drawing conclusions about the appropriateness of the proposed regulations, they do raise questions about the impact of both the present and proposed reimbursement policies which deserve further study.

The committee amendment would authorize and direct that a more extensive study be done including at least 40 or 50 hospitals.

The study, which would be carried out at medicare expense, would encompass all aspects of third party financing for professional services rendered in the medical school and teaching hospital setting. The study would be carried out by personnel of the Social Security Administration who would be assisted to the extent they deem appropriate by personnel from the Association of American Medical Colleges as well as others with necessary expertise. In view of the limited time in which the study must be completed and for reasons such as the broad scope of the undertaking, the Committee would assume that the Social Security Administration would also find it useful to utilize the services of non-governmental organizations and persons other than the AAMC who could contribute substantial fiscal, administrative and program expertise in the areas of Medicare, Medicaid, patient care and graduate medical education. Representatives of the Association have agreed to cooperate fully with the Social Security Administration in obtaining the needed information and have stated that they will strongly urge their member medical schools and teaching hospitals to lend their full cooperation to the effort.

The study would describe both past and current practices of both private and public health insurance programs, relating to the payment for the services of supervisory and teaching physicians. The study would describe variations which exist among different teaching settings and variations which exist in the relationship between patients and physicians in these various settings.

The study would include data on the costs of providing teaching and supervisory services and it would include data on the extent of current fee-for-service and other reimbursement from public and private programs.

The study would analyze the impact of various alternative methods of financing professional services in a teaching setting. Both the fiscal and the programmatic aspects of various reimbursement mechanisms would be analyzed. Special attention would be given to the impact of current Medicare reimbursement mechanisms and the mechanisms outlined under Public Law 92-603.

In view of the expanding role of public health insurance programs, the study would analyze the effect of Government reimbursement policy not only on the institutions involved, but also on the practices of private insurers, and the Federal budget.

The amendment calls for the Secretary to submit a report of his findings, including any recommendations for legislative changes he may deem appropriate, to the Congress on or before July 1, 1974, but in no case may it be submitted later than December 31, 1974.

In view of the prospect that the information derived from the study could point up problems in the Secretary's proposed regulations or the law that should be remedied, the amendment would defer the implementation of the private-patient requirement of Public Law 92-603 for 1 year, so that it would be effective for hospital accounting years that begin after June 30, 1974. Moreover, under the amendment the Secretary could, if he believes that further study is warranted, defer implementation of the 1972 provision for an additional 6 months.

The 1972 legislation also provided for more favorable cost reimbursement than had been available previously where fee-for-service reimbursement is not paid for the services of a teaching physician. Since there is no reason to defer the implementation of these more favorable cost reimbursement provisions in teaching hospitals where no fee-for-service reimbursement is paid, the amendment would retain the original effective date insofar as these hospitals are concerned.

schools' educational activities, special projects and initiatives, student assistance, and capital expenses; B,

2. First-dollar capitation support of the undergraduate educational activities of the medical schools;

3. Project-grant support for special projects and initiatives reflecting national priorities and special emphasis fields;

4. Direct loans and scholarships to help meet student financial needs, with options for voluntary participation in loan forgiveness programs or service-obligation scholarship programs; and

5. Grants and loan guarantees with interest subsidies to meet physical plant replacement needs and to develop or expand new types of facilities such as ambulatory care facilities.

Recommendations

The AAMC Committee on Health Manpower recommends that legislation embodying those principles should be developed that provides fiscally responsible levels of funding in line with overall national priorities and that encourages prudent institutional planning over a five-year period beginning July 1, 1974.

The committee's specific recommendations follow, grouped under headings of institutional support, special projects, student assistance and capital support:

Institutional support

*Change* { 1. Delete the present capitation formula for schools of medicine, osteopathy, and dentistry and substitute a new formula of \$6,000 per student per year, with half of the \$6,000 tied to meeting certain conditions: \$1,000 per student per year for increasing first-year enrollment by the greater of 5 percent or 10 students; \$1,000 per student per year for developing or supporting programs emphasizing the teaching of primary care in ambulatory settings; \$1,000 per student per year for developing or supporting model health care delivery systems in shortage areas.

2. Provide the capitation support as an entitlement with no separate authorization of appropriations.

3. Delete present provisions on enrollment bonus students.

4. Delete the present enrollment increase requirement.

5. Retain the present maintenance of effort provisions.

6. Delete the present provisions requiring a plan of action in certain areas as a condition of obtaining capitation support.

7. Extend unchanged the present programs of start-up and conversion assistance.

8. Extend unchanged the present program of financial distress grants and authorize appropriations of \$10 million per year (fiscal 1974 level).

1. The \$6,000-per-student-per-year capitation level corresponds with approximately one-third of the average of the annual cost per student for the elements of instruction, research and medical service at 12 schools studied by the AAMC Committee on the Financing of Medical Education. Further, adjusting the present \$2,500-per-student-per-year capitation level, which was based on 1969-70 data, for rising costs projected to the midpoint of a five-year program of support also approaches \$6,000 per student per year, when allowances are made also for rising research and medical service costs. Significantly increased capitation levels are needed also to help offset declines in other support, such as research training and the practice income from clinical faculty. The Committee wishes to point out that while a \$6,000 capitation level may appear significantly higher than the present \$2,500 level, the \$6,000 level is only modestly increased over the level recommended in 1971 by the Association when the present legislation was under consideration. The \$2,500 level is one determined by the Congress. The Association's 1971 capitation recommendation was \$5,000, which, if adjusted upward for rising costs, stands at \$6,000 in current dollars.

2. Converting the program to an entitlement and extending it for five years act together to encourage rational institutional planning, based on the program's continuity and predictability of support. With short-lived programs and fluctuating support levels, rational institutional planning is impossible.

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long { 3. Coupling a portion of the capitation support to compliance with certain conditions acknowledges the schools' responsibility to contributing to improvements in the nation's health care while recognizing the additional costs associated with such projects. The responsibility of the schools goes

beyond mere numbers of M.D. graduates; it includes the kinds of training experiences available for medical students and the kinds of health care delivery systems being developed to provide needed health services. In terms on manpower, for example, in the 10 years since federal aid to health professions schools was initiated, the number of schools has increased from 87 to 114; enrollment has increased from 32,001 to 47,259; and graduates have increased from 7,336 to 10,000 per year. The AAMC Committee on Health Manpower is confident that record can be repeated under its proposed capitation system for developing new kinds of physicians and improved methods of delivery.

Special projects and initiatives

There is a useful role for the project-grant approach to financing selected activities in health professions schools. This approach recognizes the incremental cost to the school of such a project and clearly separates the financial support for the project from the general pool of financial support for the basic undergraduate medical education program. Special projects serve as a vehicle for the health professions schools to participate in constructive change in the interest of improving the health and health professions education of the nation. Competitive rather than formula awards strengthen the entire health professions education system by ensuring heterogeneity; homogeneity would produce rigidity and resistance to any change. Competitive awards also allow research and demonstrations without total system involvement.

A problem with the current programs is that they have proliferated over time into an almost unintelligible patchwork of authorities whose complexities pose problems for both applicants and administrators. The AAMC Committee on Health Manpower Education therefore proposes a simplified program of special initiative awards which would permit the federal government to select

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PROPOSAL FOR TIERED CAPITATION
FOR HPEA 1974

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The principle that the Federal Government has a legitimate obligation to support medical education was established in 1963. This principle has been reaffirmed in successive legislative acts, including the Health Professions Education Act of 1971. However, Congress has also established that through the provision of financial support to medical education, it should influence the directions and characteristics of medical education in order to ensure that the needs of the citizens of this country for medical manpower are met. Hence, in 1971, capitation support was tied to a required increase in class size and to modification of the educational programs in the schools. Continuation of the principle that there is legitimate federal role for providing base (first dollar) support to medical schools will not be unlinked from the second principle which demands modification of programs to meet health care needs perceived as vital by the Congress in the new health manpower legislation now under development.

All medical schools do not have a uniform capability to respond simultaneously and similarly to national mandates. Geographic location, physical plant restrictions, faculty talents and interests, non-federal resources, and demands and expectations by local forces require that each school adjust the scope of its educational program to fit these variable factors. Federal support should, on the one hand,

provide basic funding to all schools, while on the other, stimulate schools which can modify their programmatic scope to meet the Nation's perceived needs. A tiered capitation plan, linked to special projects support, can fulfill the two principles detailed above and also preserve the integrity of the schools.

I. Basic Capitation: \$2,000/year/each enrolled student. This fulfills the principle of the legitimate federal role in support of medical education (\$92 million).

II. Enrollment Increase Capitation: An additional \$1,000/year/each enrolled student for schools that increase first-year enrollment by 5% or 10 students. The total national increment of first-year enrollment increase should be limited to 1,000 students during the three-year period beginning July 1, 1974. This provision will stimulate schools with adequate physical and faculty resources to increase enrollments. The 1,000 limitation provides for an entering class of 15,000 by 1977 and meets the enrollment policies set forth by the AAMC in 1969 (\$20 million).

III. Primary Care Undergraduate Capitation: An additional \$2,000/year/each enrolled student for schools that initiate programs which provide for a major portion of the clinical education of at least one-half of their students in an ambulatory setting with provisions for longitudinal, continuous care of patients. Schools qualifying for primary care capitation should be eligible for additional support, not to ex-

ceed \$400,000 per year for the development of innovative, ambulatory educational settings (\$46 million plus \$40 million).

IV. Primary Care Graduate Capitations: Schools that evolve programs in graduate medical education which enroll first-year graduate students in a number equal to one-half of their graduating class size in programs designed to train family physicians, generalist-internists, or generalist-pediatricians should be eligible for \$4,000/student/year enrolled in these programs. Additional support should be available for institutions qualifying for primary care graduate capitation, not to exceed \$400,000/year for the development of ambulatory educational settings, except that schools qualifying for undergraduate primary care capitation, would be limited to \$200,000/year additional support over the \$400,000 granted for the undergraduate program (\$90 million plus \$20 million plus \$20 million).

In operation, a typical school with an enrollment of 400 would be eligible for \$800,000 basic capitation. If it chose to increase enrollment, it would be eligible for an additional \$400,000. If it developed an undergraduate primary care program, it would be eligible for \$800,000 in additional capitation and could compete for developmental support for the program up to \$400,000. If the school evolved graduate programs to provide for graduate training in primary care for a number equal to one-half of its graduating class (50%), it would be further eligible for graduate capitation support

of \$600,000 and could compete for an additional \$200,000 for program development support. The total this typical school would be eligible for would be \$3,200,000/year.

Total Authorization for Full Implementation:

\$328 million/year.

A STUDY OF SPECIALTY DISTRIBUTION
IN FIRST-YEAR RESIDENCY POSITIONS
IN AFFILIATED HOSPITALS



A study of the first-year residency positions offered and the first-year residents coming from U.S. and Canadian medical schools on duty in the affiliated hospitals is contained in six tables and one figure on pages 3-8. The five-year period from 1967 to 1971 was selected for study. Data was obtained from the tabulation of first-year residency positions offered and residents on duty in the Directory of Approved Internships and Residencies.

During the five-year period, the total number of first-year residency positions offered in the affiliated hospitals increased by 42% and the total number of first-year residents on duty (U.S. and Canadian medical school graduates) increased by 41%. Table 1 depicts the year-by-year increase of first-year positions in surgery and the surgical subspecialties. There was an overall increase of 37% in the positions offered in these specialties. Table 2 records the positions offered in "Primary Care Specialties". There was a 53% increase in the positions offered in these specialties. Table 3 demonstrates the first-year (U.S. and Canadian medical school graduates) residents on duty in the surgical specialties in first-year residencies. During the five-year period, there was an overall increase of 27% in all surgical specialties. Table 4 shows the first-year residents on duty in the primary care specialties. The overall increase was 49%; if ob-gyn is excluded from this group, the overall increase is 51%.

These data indicate that the number of first-year positions offered in affiliated hospitals has expanded more rapidly than the rate of entry of U.S. and Canadian graduates into the specialties. The surgical specialties have not expanded as rapidly as the primary care specialties, and the rate of entry into primary care specialties by U.S. and Canadian students has been higher than into the surgical specialties.

However, Table 5 illustrates that the proportions of first-year residents on duty between the surgical specialties, the primary care specialties and all other specialties has changed only slightly over the study period. There has been a slight increase from 35% to 37% in the primary care specialties, a slight decrease in the surgical specialties from 33% to 31% and the all other category has remained essentially constant.

It is difficult to determine from these data what future trends may be. The modest advantage in both offered positions and recruitment of first-year residents held by the primary care specialties may continue to accelerate; but

projections from the data available during the past five years do not permit making predictions with any confidence. It is possible to predict the number of specialists in these categories which will be produced when the number of graduates from U.S. medical schools reaches its expected plateau of 15,000 per year in 1980 if no changes occur in the present ratios. These estimates are illustrated in Table 6.

Two significant national policy decisions have influenced the data during this period. One is the development of family practice residency programs. These programs may be attracting students into primary care specialties that might otherwise have gone into surgery or residencies in the all other category, and the other is the effect of the Millis Commission report which has promoted increasing affiliations between medical schools and teaching hospitals. An inspection of the data from the Directory of Approved Internships and Residencies demonstrates that the number of non-affiliated hospitals has dropped precipitously during this period. However, it is not apparent that major changes in the distribution between specialties has occurred either through decisions regarding first-year positions to be offered or first-year positions to be selected by students.

If modifications in the graduate medical education pattern are to be accomplished, through changes in the available entering positions in the various specialties, mechanisms for influencing the decisions of program directors and institutions regarding the growth and development of residency programs must be combined with stimulating students to select specialties which are considered to be currently in need of increased manpower.

TABLE I

FIRST-YEAR RESIDENCY POSITIONS OFFERED
IN SURGICAL SPECIALTIES - 1967-1971

	1967	1968	% of Increase*	1970	% of Increase*	1971	% of Increase*
Surgery	1,783	1,861	4%	2,281	22%	2,458	8%
Colon & Rectal S.	10	10	0%	9	(11%)	9	0%
Neurosurgery	113	120	6%	146	21%	148	1%
Ophthalmology	331	372	12%	419	13%	416	(0.7%)
Orthopedics	355	349	(2%)	495	42%	492	(0.6%)
Otolaryngology	182	196	8%	246	25%	252	2%
Plastic Surgery	65	89	37%	120	34%	134	12%
Thoracic Surgery	102	126	24%	134	6%	137	2%
Urology	222	210	(6%)	293	40%	289	(1%)
TOTALS	3,163	3,333	5%	4,143	24%	4,335	5%

1967-1971 OVERALL INCREASE - 37%

*% = % of increase over previous report.

(%)= denotes decrease in positions offered

1969 Data not available

TABLE 2

FIRST-YEAR RESIDENCY POSITIONS OFFERED
IN "PRIMARY CARE SPECIALTIES" - 1967-1971

	1967	1968	% of Increase*	1970	% of Increase*	1971	% of Increase*
Medicine	2,073	2,262	9%	2,880	27%	3,113	8%
Pediatrics	933	946	1%	1,155	22%	1,295	12%
Family Practice				167		349	108%
General Practice	110	119	8%	138	16%	117	(16%)
Ob-Gyn	624	627	.4%	808	29%	867	7%
TOTALS	3,740	3,945	5%	5,148	30%	5,741	12%

1967-1971 OVERALL INCREASE - 53%

*% = % of increase over previous report

(%) = denotes decrease in positions offered

1969 Data not available

TABLE 3

FIRST-YEAR RESIDENTS ON DUTY IN SURGICAL SPECIALTIES - 1967-1971
(U.S. & CANADIAN MEDICAL SCHOOL GRADUATES)

	1967	1968	% of Increase*	1970	% of Increase*	1971	% of Increase*
Surgery	1,218	1,312	8%	1,508	15%	1,384	(9%)
Colon & Rectal S.	3	2	(50%)	2	0%	5	150%
Neurosurgery	74	86	16%	107	24%	117	9%
Ophthalmology	296	337	14%	394	17%	384	(3%)
Orthopedics	288	296	3%	431	46%	419	(6%)
Otolaryngology	152	158	4%	199	27%	201	1%
Plastic Surgery	41	67	63%	88	31%	96	9%
Thoracic Surgery	55	64	16%	77	20%	93	5%
Urology	143	141	(1%)	218	55%	213	2%
TOTALS	2,270	2,463	9%	3,024	23%	2,892	(5%)

1967-1971 OVERALL INCREASE - 27%

% = % of increase over previous report

(%) = denotes decrease in residents on duty over previous report

1969 Data not available

TABLE 4

FIRST-YEAR RESIDENTS ON DUTY IN PRIMARY CARE SPECIALTIES - 1967-1971
(U.S. & CANADIAN MEDICAL SCHOOL GRADUATES)

	1967	1968	% of Increase*	1970	% of Increase*	1971	% of Increase*
Medicine	1,429	1,592	11%	2,057	29%	2,028	(1%)
Pediatrics	557	536	(4%)	696	30%	799	15%
Family Practice				104		239	130%
General Practice	41	52	27%	27	(93%)	29	7%
Ob-Gyn	382	358	(7%)	486	36%	533	10%
TOTALS	2,409	2,538	5%	3,370	33%	3,599	7%

1967-1971 OVERALL INCREASE - 49%

LESS OB-GYN - 51%

% = % of increase over previous report

(%) = denotes decrease in residents on duty over previous report

1969 Data not available

TABLE 5

FIRST-YEAR RESIDENTS ON DUTY IN AFFILIATED HOSPITALS - 1967-1971
(U.S. & CANADIAN MEDICAL SCHOOL GRADUATES)

	1967	% of Total	1968	% of Total	1970	% of Total	1971	% of Total
Surgery	2,270	33%	2,463	33%	3,024	32%	2,892	31%
Primary Care	2,409	35%	2,538	34%	3,370	36%	3,599	37%
All Others	2,179	32%	2,408	33%	2,921	32%	3,188	32%
TOTALS	6,858	100%	7,407	100%	9,315	100%	9,679	100%

1969 Data not available

TABLE 6

PROJECTIONS OF NUMBER OF STUDENTS
ENTERING SPECIALTIES IN 1980

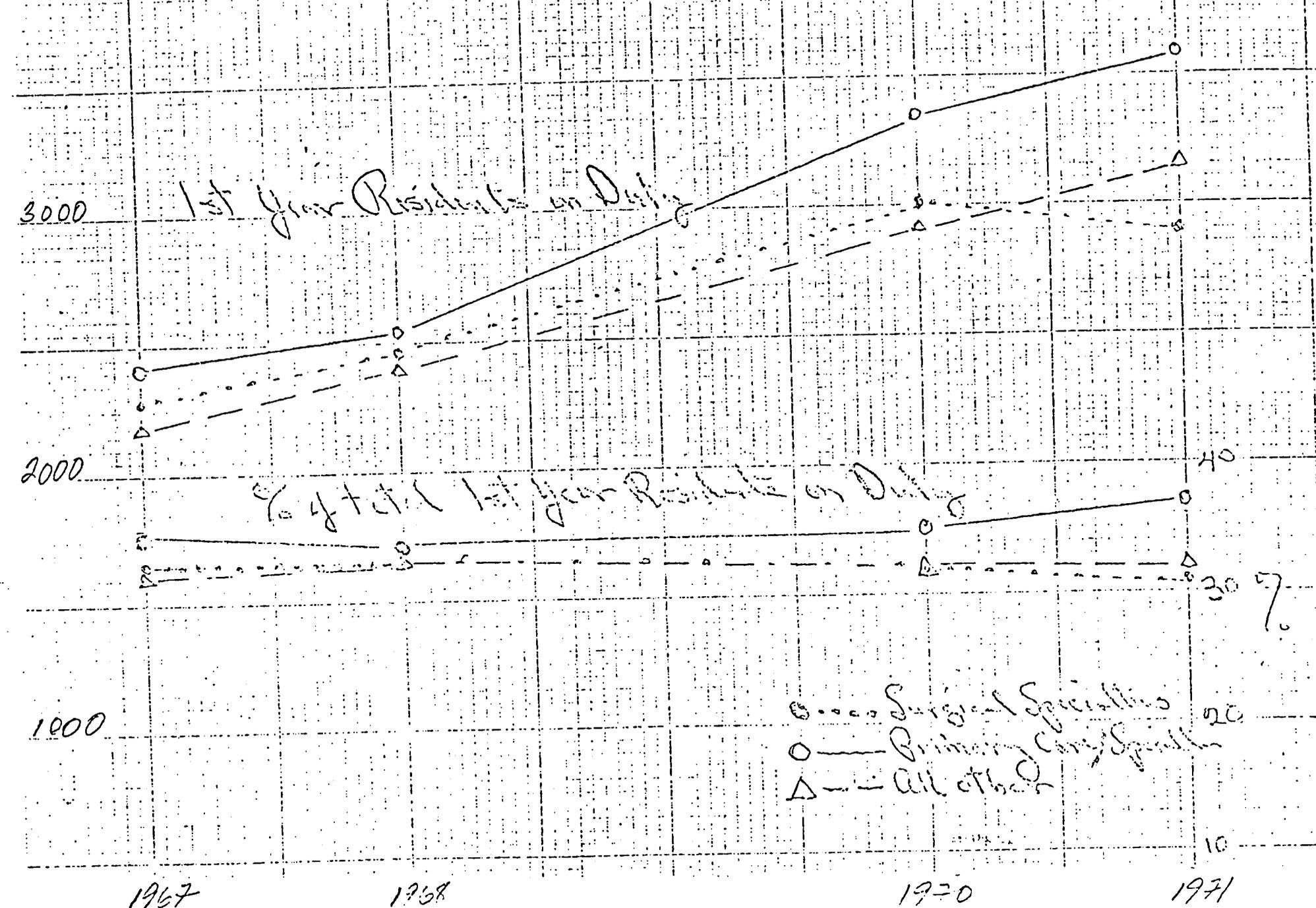
Surgery 33% of 15,000 = 4,950 - 21/100,000*

Primary Care 35% of 15,000 = 5,250 = 23/100,000*

All Others 32% of 15,000 = 4,800 = 20/100,000*

*Based on U.S. population of 230,800,000

First-Year Residents on Duty in Affiliated Hospitals (U.S. & Canadian Medical School Graduates)



○ ····· Surgical Specialists
 ○ ——— Primary Care Specialists
 △ - - - All other

E

Section III. Administrative Board

1. The Council of Academic Societies shall be governed by an Administrative Board which shall be composed of a Chairman, Chairman-Elect, a Secretary and six other representatives of member Academic Societies. Three of said six representatives shall be elected by written ballot at each annual meeting of the Council of Academic Societies, and each such representative shall serve for a term of two years or until his successor is elected and installed. Representatives to the Administrative Board may succeed themselves for two additional terms.

2. The Administrative Board shall meet at least twice each year at the time and place of the meetings of the Council of Academic Societies. The Administrative Board may meet at any other time and place upon call of the Chairman, provided ten (10) days written notice thereof has been given.

3. The Administrative Board shall recommend to the Nominating Committee of the Association nominees for positions on the Executive Council of the Association. The Chairman-Elect shall be one (1) nominee, and the remainder shall be chosen from members of the Administrative Board, chosen so as to present a balanced representation between societies primarily concerned with preclinical disciplines and societies primarily concerned with clinical disciplines..

Mar 7 =
 Business -
 Meetg -
 planned -
 Lunch -
 Schmitt F-D A
 or Roy?

Mar 8

(F)

THE EFFECT OF TENURE POLICIES & COLLECTIVE BARGAINING
 ON FACULTY DEVELOPMENT

9:30
~~8:30~~

a.m. - Keynote Speaker - Ronald W. Estabrook, Ph.D.
 Chairman, CAS

c George Bundy
 Pres. of Ford Found.
 opposition against
 tenure "A"
 John Lawrence
 (Ed. Regents)
 for "A"

6:50 a.m. - Debate on Tenure Policies

RESOLVED, THAT ACADEMIC TENURE IS OUTMODED AND
 SHOULD BE ABOLOSHED

Speaker A - For the Motion 20 min.

Speaker B - Against the Motion 20 min.

Discussion from floor .30 min.

Jane Goodlad / Bob
 Tschingi
 Kingman
 Brewster
 Bob Champion
 Tschingi

NOON

~~10:00~~ a.m. - Coffee Break

Found a Dean wrap
 who is for
 tenure

Afternoon
~~10:30~~ a.m.

- Debate on Collective Bargaining

RESOLVED, THAT COLLECTIVE BARGAINING BY THE
 FACULTY WILL STRENGTHEN BOTH RESEARCH AND
 EDUCATIONAL PROGRAMS IN UNIVERSITIES

Speaker A - For the Motion 20 min.

Speaker B - Against the Motion 20 min.

Discussion from floor 30 min.

Syracuse urologists
 Lillian
 Jack
 Hein
 u of Wash.
 Bob Marston is an
 excellent
 debater

11:45 a.m. - Lunch

1:00 p.m. - Debate on Rotating Chairmanships

RESOLVED, THAT LIMITING THE LENGTH OF TIME
 CHAIRMEN SERVE WILL PRODUCE MORE VIGOROUS
 INSTITUTIONS

Speaker A - For the Motion 20 min.

Speaker B - Against the Motion 20 min.

Discussion from floor 30 min.

2:15 p.m. - Adjourn

American Association of Neuropathologists, Inc.

E. P. Richardson, *President*
John Moossy, *Vice-President*
and President-Elect
Asao Hirano, *Vice-President-Elect*
Richard L. Davis, *Secretary-Treasurer*
Pasquale A. Cancilla, *Assistant*
Secretary-Treasurer

Office of Secretary-Treasurer
L.A.C. - U.S.C. Medical Center
1200 North State Street
Los Angeles, California 90033
(213) 225-3115, ext. 71283

Executive Council
Wolfgang Zeman
Stanley M. Aronson
Lucien J. Rubinstein
Murray B. Bornstein
Nicholas Gonatas

November 28, 1973

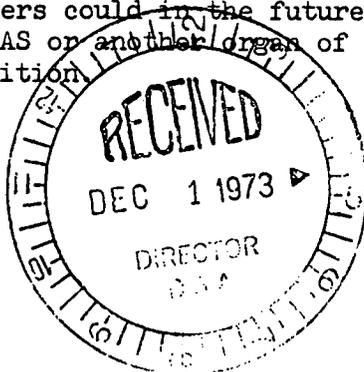
Council of Academic Societies
American Association of Medical Colleges
Suite 200, One Dupont Circle, N. W.
Washington, D. C. 20036

Gentlemen:

Our Association originally joined the Council of Academic Societies some years ago with the understanding that the Council was to be a forum for faculty members in the affairs of the AAMC. As we have participated and watched the affairs of the Council over the years, we have not been impressed that this goal has been met or is even being approached. In fact, as a society, we have not felt at all benefited by membership in the CAS. We continued to participate and to pay our annual \$100 dues because we hoped that with time the original goal would be realized.

However, in the light of the recent raise in dues without a mail ballot of the participant societies which would have assured total representation, we feel we can no longer continue as a member of the CAS. Though the precipitous rise in dues is the immediate cause for urgent reexamination of our membership, I would assure you that it is not the only or exclusive one. Our membership in the CAS has been under continuing scrutiny by the Executive Council of our Association ever since we joined and, as indicated, we do not feel that the CAS is in fact performing the role that it was intended to perform.

Our Executive Council has instructed me, therefore, to withdraw our Association from membership in the CAS and to inform you that we will not be paying further dues to you. Our Executive Council has also asked me to tell you that should the situation change and it seem that our society and its members could in the future benefit from participation in the affairs of the CAS or another organ of the AAMC, we will be happy to reconsider this position.



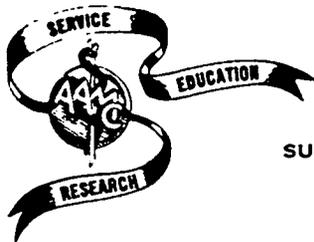
Sincerely yours,

Richard L. Davis, M. D.
Secretary-Treasurer

American Association of Neuropathologists

RLD:di

cc: E. P. Richardson, Jr., M. D., President
M. Netsky, Chairman, Professional Affairs Committee



ASSOCIATION OF AMERICAN MEDICAL COLLEGES

SUITE 200, ONE DUPONT CIRCLE, N.W., WASHINGTON, D.C. 20036

December 6, 1973

MEMORANDUM

TO: EXECUTIVE COUNCIL
ADMINISTRATIVE BOARD - Council of Deans
Council of Academic Societies
Council of Teaching Hospitals

FROM: John A.D. Cooper, M.D., President

SUBJECT: Report of the Advisory Committee on Academic Radiology

Early in 1972 the Association agreed to sponsor a study of the special needs of Academic Radiology conducted by the Association of University Radiologists and the Society of Chairmen of Academic Radiology and supported by the Picker Foundation. Sponsorship was contingent upon presentation of the final Report to the Executive Council of the Association for review and approval. One of the conditions of the agreement with the AAMC was a commitment from the Radiologists to rework any portion of the Report that the Executive Council finds unsatisfactory.

The Report has been submitted to the Executive Council for review by Alex Margulis on behalf of the Association of University Radiologists and the Society of Chairmen of Academic Radiology Departments and will be discussed by the Administrative Boards of the three Councils on December 13th and by the Executive Council December 14th.

[Physician
Manpower &
Distribution]

PHYSICIAN MANPOWER AND DISTRIBUTION

REPORT TO CCME

Physician Manpower and Distribution

In the late 1950's, concern was expressed that an insufficient number of physicians would be available in the future to meet the health care requirements of the public. The physician-population ratio in 1959 was 149/100,000.* The total number of physicians was 235,000. Osteopaths numbered 14,100. Seven thousand four hundred medical students were graduated.

A Consultant Group appointed by the Surgeon General of the U.S. Public Health Service stated in a report that "the maintenance of the present ratio of physicians to population (was) a minimum essential to protect the health of the people of the U.S. To achieve this, the number of physicians graduated annually by schools of medicine and osteopathy must be increased from the present 7,400 a year to some 11,000 by 1975." At that time concern was also expressed about the increasing number of specialists, the decreasing number of general practitioners, and a decrease in the total number of physicians who served families as primary care physicians.

In 1967, a National Advisory Commission on Health Manpower recommended that "the production of physicians should be increased beyond presently planned levels by a substantial expansion in the capacity of existing medical schools and by continued development of new schools." The Commission, recognizing that the ultimate solution of the physician manpower problem resided in the institutions responsible for the education

* The ratio published originally in the Bane Report was 141/100,000. In 1963, a national conference on physician statistics revised the categories of physicians and population to be counted. Using the new agreement, the 1959, physician/population ratio became 149/100,000.

of physicians, recommended that "the formal education for all health professionals be conducted under the supervision of universities. This would include graduate training such as internships, residencies, and their equivalents."

The schools of medicine have responded to the challenge for additional physicians. (Table I) If the United States merely maintains the current output capability of U.S. medical schools, there will be 50% more physicians by 1985. If there are no significant changes in the output capacity of U.S. medical schools or in the influx of foreign trained physicians, the ratio of physicians to population may attain an appropriate balance and even exceed it. As a result we feel that physician supply and requirements will move toward a rough balance by 1985. There may be other factors such as the physicians' productivity, the methods of delivering health care, the demands for care and economic support of the health care system that will influence the attainment of this balance.

Although the geographic distribution of specialists is not resolved by increasing numbers of specialists it will be indirectly affected by alterations in specialty distribution.

There is general agreement by those who have studied the physician manpower problem and the health care delivery system that:

- 1) Physicians now practice predominantly as specialists. (Table II)
- 2) Most of the growth has occurred in surgical and technological specialties and in medical subspecialties.
- 3) The primary care specialties are ordinarily considered to be internal medicine, pediatrics, family practice, and general practice. While

there has been an increase in the total number of internists and pediatricians, there has been an overall decline in the total number of physicians engaged in the specialties which are generally considered to be the primary care specialties. (Table III)

- 4) The demands for health care services are increasing out of proportion to increments in the population.
- 5) The total number of physicians in this country provides a physician-population ratio that is higher than any other in the western world (Tables IV and V).
- 6) It is very likely that physicians' productivity will continue to increase although there will be some factors which influence this in a negative way.
- 7) Any analysis of projected health professional manpower needs must consider the increasing numbers of physician assistants and nurse practitioners.
- 8) Factors which determine specialty selection and geographic location are numerous but are generally related to professional prestige, the availability and location of specialty residencies, potential income, life style, and environmental and social conditions (Table VI).
- 9) Additional information concerning the distribution of effort of physicians in all specialties is needed for a thorough analysis of the needs and demands of the people for health care services, the distribution of physician manpower and the amount and type of primary care provided.

Certain generalizations can be drawn from information presently available.

- 1) A primary care physician is one who establishes a relationship with an individual or a family for which he provides continuing surveillance of their health needs, comprehensive care for the disorders which he is qualified to care for, and access to the health care delivery system for those disorders requiring the services of other specialists.
- 2) There is a need for individuals and families to have a continuing relationship with a primary care physician, a group of physicians, or an institution that provides primary care, if access to the delivery system is to be secure and acceptable to the people. (Tables VII and VIII)
- 3) Although many board certified specialists of all types provide varying degrees of primary care,* the bulk is rendered by general internists, general pediatricians, and family practitioners who represent about one-third of the certified specialists and one-third of the total number of physicians (Tables II and VII).
- 4) There is an unsatisfactory overall distribution of specialists that has created an excess of some and a deficit of those specifically educated to give primary care (Tables IX and X).
- 5) There are no existing means within a generally permissive system for changing in an arbitrary manner the specialty and geographic distribution of physicians.

* For the purposes of this document, primary care is considered to mean that type of longitudinal care characterizing the practice of the primary care physician.

- 6) A significant proportion of the number of physicians (20-25%) providing care to the public received their preliminary medical education in foreign countries (Tables XI and XII). A difference in educational background is revealed in the results of specialty board examinations.
- 7) There is a progressive increase in the use of hospital services (Table XIII).
- 8) There is a significant use of the resources of emergency services to provide care to ambulatory patients with non-catastrophic illness.
- 9) There has been a steady increase in the number of hospitals affiliated with academic medical centers and in the number of graduate educational programs offered in these institutions (Table XIV).
- 10) The total number of positions in graduate medical education has increased significantly from 32,840 in 1952-53 to 65,308 in 1972-73 (Tables XV and XVI).
- 11) More women are being accepted into schools of medicine and the majority of them seek careers in specialties providing primary care (Tables XVII and XVIII).
- 12) The vast majority of medical graduates in this country enter formal residency programs and become eligible for board certification (Table XIX).
- 13) There is a growing number of interdisciplinary physician groups (Table VIII).
- 14) If voluntary changes are to occur in order simultaneously to depress the rate of production of some specialists and to increase the number of primary care physicians, the schools of medicine, the institutions responsible for graduate education, the certifying specialty boards,

the accrediting agencies, national and regional professional organizations, states, and the federal government will all have to participate.

Recommendations:

- A. Schools of Medicine and their university and other affiliated hospitals should accept responsibility for the education of primary care physicians by:
1. Creating the appropriate faculty structure to recognize the primary care physician on the same basis that other specialists are recognized.
 2. Establishing appropriate and justifiable administrative units that will be identified with the education of physicians who are going to deliver primary care.
 3. Establishing appropriate undergraduate tracks and residency programs that will emphasize ambulatory care and will attract students into primary care specialties.
 4. Eliciting the participation of other departments in the support and activities of the faculty and staff responsible for education and service in the arena of primary care.
- B. The American Board of Family Practice and the American Academy of Family Physicians should continue to be supported in their efforts to develop the concept of family practice and to define the characteristics and contour of that specialty.
- C. The American Boards of Internal Medicine and Pediatrics should re-examine their requirements for admission to their certifying

examinations so that the educational program and a career in general medicine or general pediatrics will have the same or more professional prestige as the other specialty categories of internal medicine and pediatrics.

- D. The Liaison Committee on Graduate Medical Education and its sponsoring organizations should through the Essentials and the review of programs devise methods for emphasizing the desirability and need of strong and attractive educational experiences in general medicine and general pediatrics.
- E. The Coordinating Council on Medical Education should ascertain the number of diplomates for each medical specialty and their projections into the future, and should compare this with society's needs for various kinds of specialists and make recommendations to appropriate agencies.
- F. The Liaison Committee on Graduate Medical Education and residency review committees should be urged to maintain the standards utilized to evaluate the educational programs they are accrediting.
- G. Institutions responsible for graduate medical education should as a regional consortium identify the medical manpower requirements of the region and adjust their output of specialists accordingly.
- H. The Coordinating Council on Medical Education should acquaint the U.S. Congress, federal agencies, state legislatures, state departments of health, medical licensing boards, hospital trustees and administrators, and university boards of regents with information concerning physician manpower distribution and should urge support

from appropriate sectors for additional endeavors designed to increase the number of primary care physicians and their effective geographic distribution. (Tables XX and XXI).

- I. The organizations (CFMG, ECFMG, AMA, AAMC, ABMS, AHA, NBME, FSMB, Fed. Gov't.) having segments of the responsibility for the incorporation of FMG's into the educational and health care structure of this country should jointly resolve the problem of the numbers of FMG's entering the educational system and establish criteria for entrance that are the same or equivalent to those required of USMG's.
- J. Schools of Medicine should utilize all available techniques to identify those applicants who may be reasonably expected to select careers in primary medical care and should accept a significant proportion of them into the educational system.
- K. The Coordinating Council on Medical Education, working cooperatively with the federal and state governments, should address itself to the question of identifying manageable geographic regions and supporting, with a commitment of regional financial resources, the efforts, mechanisms and organizations which would have the responsibility of defining the area's health care needs, the number and type of health professionals required to meet the needs of the public, the number and types of educational programs required, and the appropriate distribution of physical and professional resources to meet health care needs.
- L. The Coordinating Council on Medical Education should continue to

assume, within the authority of its parental organizations, the responsibility for -

- a) Coordinating data and information pertinent to professional manpower and the costs of graduate medical education.
- b) cooperating with other agencies and the federal government to develop appropriate solutions to the manpower problem.
- c) developing guidelines for the use of medical centers which assume a regional responsibility.
- d) monitoring the effectiveness of the medical center's efforts to solve on a regional basis the problem of professional manpower and related educational programs.
- e) continuing to address itself to the integration of regional professional manpower needs into an equitable and efficient national manpower policy.
- f) recommending to appropriate professional bodies procedures for the process of accreditation that evaluate not only the quality of the educational programs, but also the quality and completeness of professional services provided by a medical center to a geographic region.
- g) initiating or conducting studies of the medical care reimbursement system to determine its effect upon the distribution of physicians by medical specialty and to suggest appropriate changes which might increase the supply and effective distribution of primary care physicians.

November 23, 1973

TABLE I

STUDENTS AND GRADUATES IN MEDICAL AND BASIC SCIENCE SCHOOLS

<u>YEAR</u>	<u># OF SCHOOLS</u>	<u>ENROLLMENT</u>	<u>GRADUATES</u>
1930-31	76	21,982	4,735
1940-41	77	21,379	5,275
1950-51	79	26,186	6,135
1960-61	86	30,288	6,994
1970-71	103	40,487	8,974
1972-73	112	47,546	10,391

TABLE II
DISTRIBUTION OF PHYSICIANS IN USA AND POSSESSIONS

<u>SPECIALTY</u>	<u>1965 NUMBER</u>	<u>%</u>	<u>1972 NUMBER</u>	<u>%</u>
GENERAL AND FAMILY PRACTICE	71,366	24.4	53,348	15.5
INTERNAL MEDICINE	38,690	13.2	47,994	13.5
SURGERY	27,693	9.5	30,989	8.7
PSYCHIATRY	17,888	6.1	22,570	6.3
OB-GYN	16,833	5.8	20,202	5.7
PEDIATRICS	15,665	5.4	19,610	5.5
RADIOLOGY	9,553	3.3	14,917	4.2
ANESTHESIOLOGY	8,644	3.0	11,853	3.3
OPHTHALMOLOGY	8,397	2.9	10,443	2.9
ORTHOPEDICS	7,549	2.6	10,356	2.9
UROLOGY	5,045	1.7	6,291	1.8
OTOLARYNGOLOGY	5,325	1.8	5,662	1.6
OTHERS	<u>59,440</u>	<u>20.4</u>	<u>89,275</u>	<u>25</u>
TOTAL	292,088	100	356,534	100
			% increment	+22.1

TABLE III

CHANGE IN SPECIALTY DISTRIBUTION

<u>PRIMARY CARE SPECIALTIES</u>	<u>1965</u>	<u>1972</u>	<u>% CHANGE</u>
INTERNAL MEDICINE	38,690	47,994	
PEDIATRICS	15,665	19,610	
GENERAL PRACTICE	<u>71,336</u>	<u>55,348</u>	
	125,691	122,952	- 2.3
 <u>MEDICAL SUBSPECIALTIES</u>			
ALLERGY	910	1,638	
CARDIOVASCULAR	1,901	5,883	
DERMATOLOGY	3,538	4,227	
GASTROENTEROLOGY	633	1,839	
PED. ALLERGY	82	383	
PED. CARDIOLOGY	146	514	
PULMONARY DISEASE	<u>1,226</u>	<u>2,065</u>	
	8,436	16,549	+ 96.2
<hr/> <hr/>			
% CHANGE IN RATIO OF MEDICAL AND PEDIATRIC SUBSPECIALISTS TO BOARD CERTIFIED INTERNISTS AND PEDIA- TRICIANS	15.5	24.5	
<hr/> <hr/>			
<u>SURGICAL SPECIALTIES</u>	76,147	91,058	+ 19.9
<u>OTHER SPECIALTIES</u>	67,271	90,344	+ 34.3

TABLE IVPHYSICIAN-POPULATION RATIOS

<u>YEAR</u>	<u>PHYSICIANS PER 100,000 POPULATION M.D. AND D.O.</u>
1963	149
1968	160
1972	173

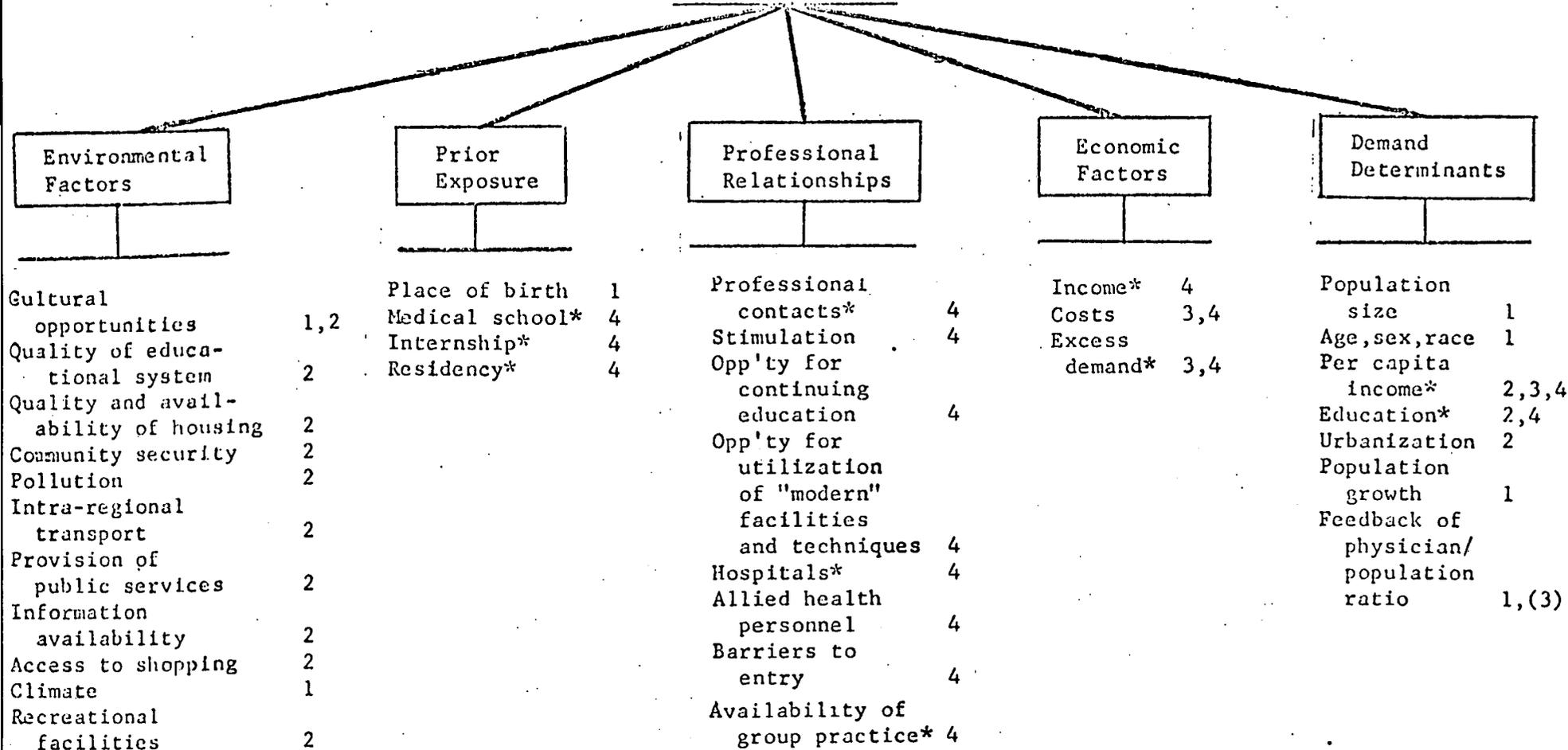
TABLE V

AVERAGE SIZE OF MEDICAL SCHOOLS, 1930-1973

<u>YEAR</u>	<u>NUMBER OF SCHOOLS</u>	<u>AVERAGE 1st YEAR ENROLLMENT</u>	<u>AVERAGE TOTAL ENROLLMENT</u>	<u>AVERAGE GRADUATES</u>
1930	76	84	289	62
1940	77	75	277	68
1950	79	90	331	77
1960	86	96	352	87
1970	103	110	393	96
1971	108	114	404	101
1972	113	118	416	102
1973	114	121	447	109

TABLE 21
POLICY POTENTIAL OF FACTORS IN LOCATION DECISIONS

LOCATION DECISION



Source

McFarland, J.: Toward an Explanation of the Geographical Location of Physicians in The United States. In: Contributions to a Comprehensive Health Manpower Strategy, Chicago: AMA Center for Health Services, Research and Development. Rev. July, 1973 - pp 29-67

Classification Code:

1. Not subject to policy manipulation
2. Inefficient policy variable
3. Infeasible variable for policy
4. Potential policy variable

* Indicates variable, in the subset of policy alternatives, which seems to be very important

TABLE VII
PHYSICIANS CERTIFIED BY SPECIALTY BOARDS
12-31-72

<u>AMERICAN BOARDS</u>	<u>NUMBER</u>	<u>%</u>
<u>PRIMARY CARE M. D. 'S</u>		
FAMILY PRACTICE	4, 520	
INTERNAL MEDICINE	22, 737	
PEDIATRICS	<u>13, 101</u>	
SUBTOTAL	40, 358	30
<u>ALL OTHERS</u>	<u>95, 110</u>	<u>70</u>
TOTAL	135, 468	100

TABLE VIII

**TOTAL GROUPS BY TYPE OF GROUP
1959, 1965, 1969**

Survey Year	Total	Type of Group			General Practice and Multispecialty	
		Single Specialty	General Practice	Multispecialty		
1959	1,546	392	--*	--*	1,154	
1965	4,289	2,161	651	1,477	2,129	
1969 (actual)	6,371	3,169	784	2,418	3,202	
1969 (adjusted)	6,162	3,252	758	2,152	2,910	
			<u>Annual Average Percentage Change</u>			
1959-65	18.5	32.9	--*	--*	10.7	
1965-69 (actual)	10.4	10.0	4.8	13.1	10.8	
1965-69 (adjusted)	9.5	10.8	3.9	9.9	8.1	
			<u>Percentage Distribution</u>			
1959	100.0	25.4	--*	--*	74.6	
1965	100.0	50.4	15.2	34.4	49.6	
1969 (actual)	100.0	49.7	12.3	38.0	50.3	
1969 (adjusted)	100.0	52.8	12.3	34.9	47.2	

Total percentages may not add to 100.0% due to rounding.

*The 1959 survey combined General Practice and Multispecialty groups.

Source: Todd, C., McNamara, M.E.: Medical Groups in the U.S., 1969
Chicago: Center for Health Services Research and Development, American
Medical Association, 1971. p. 74.

Notes: The 1959 survey was conducted by the Public Health Service.
The 1965 and 1969 surveys were conducted by the American Medical
Association.

Since no differentiation was made between full-time and part-time
employment in the 1969 survey, these data were adjusted to meet
the 1965 survey criterion of three or more full-time physicians.

TABLE IX

CHART 3: PERCENT OF NON-FEDERAL PHYSICIANS BY SPECIALTY
DEC. 31, 1972

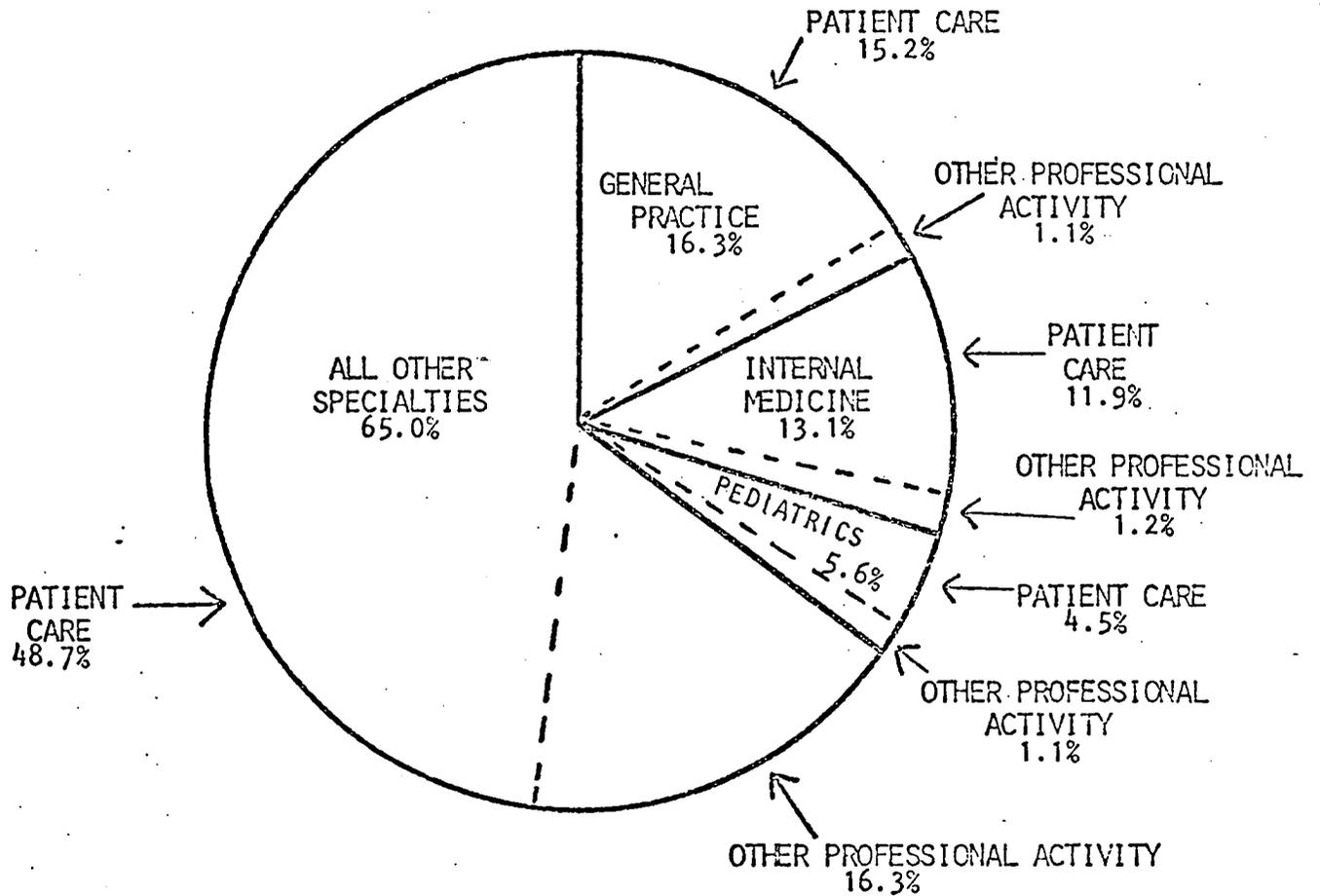


TABLE X

A COMPARISON OF PROJECTIONS FROM 2 SOURCES FOR
MANPOWER IN THE SURGICAL SPECIALTIES

	Division of Medical Intelligence*	SOSSUS*
General Surgery	$\frac{55,530}{24,480} = 2.26$ (126%)	$\frac{16,131}{13,175} = 1.2$ (20%)
Neurosurgery	$\frac{3,680}{2,170} = 1.69$ (69%)	$\frac{2,119}{1,353} = 1.57$ (57%)
Ob-Gyn	$\frac{21,520}{15,810} = 1.36$ (36%)	$\frac{16,647}{9,786} = 1.7$ (70%)
Otolaryngology	$\frac{7,560}{4,770} = 1.58$ (58%)	$\frac{4,874}{3,674} = 1.33$ (33%)
Orthopedics	$\frac{16,630}{8,740} = 1.9$ (90%)	$\frac{11,261}{6,011} = 1.87$ (87%)
Plastic Surgery	$\frac{3,050}{1,390} = 2.19$ (119%)	$\frac{1,720}{828} = 2.08$ (108%)
Thoracic Surgery	$\frac{3,340}{1,440} = 2.32$ (132%)	$\frac{3,819}{2,178} = 1.75$ (75%)
Urology	$\frac{8,500}{5,060} = 1.68$ (68%)	$\frac{4,390}{3,289} = 1.33$ (33%)

$\frac{n \text{ in } 1990}{n \text{ in } 1970} = \text{ratio (\% increase)}$

*Division of Medical Intelligence data from Table 36 (P. 135), "The Supply of Health Manpower".

*SOSSUS data from Table 10 (p. 468), F. Moore, et al, ANNALS OF SURGERY, October 1972.

TABLE 11. FOREIGN MEDICAL GRADUATES IN TRAINING PROGRAMS

ACADEMIC YEAR	INTERNS	RESIDENTS	OTHER TRAINEES	TOTAL ON DUTY
1963-64	2,566	7,052	1,791	11,409
1964-65	2,821	8,153	1,925	12,899
1965-66	2,361	9,113	2,355	13,829
1966-67	2,793	9,505	2,566	14,864
1967-68	2,913	10,627	3,077	16,617
1968-69	3,270	11,201	4,046	18,517
1969-70	2,939	12,060	3,220	18,219
1970-71	3,339	12,943	3,331	19,613
1971-72	3,946	13,520	4,106	21,572
1972-73	3,924	14,440	3,595	21,959

TABLE XII

FAILURE RATES OF
AMERICAN MEDICAL SPECIALTY BOARDS

	<u>USMG</u>	<u>FMG</u>
A	10	50
B	13	53
C	30	73
D	6	20
E	11	38
F	14	47
G	5	18
H	17	41
I	14	55
J	10	58
K	<u>14</u>	<u>43</u>
AVERAGE	26	64

TABLE XIII

TABLE 1 - UTILIZATION DATA FOR NON-FEDERAL GENERAL
SHORT-TERM HOSPITALS IN THE U.S., 1955 AND 1970

	1955	1970	PER CENT INCREASE
HOSPITALS	5,237	5,859	11.9
INPATIENT BEDS	567,612	848,232	49.4
INPATIENT ADMISSIONS	19,100,262	29,251,655	53.1
INPATIENT DAYS	148,522,150	241,458,815	62.6
TOTAL OUTPATIENT VISITS	53,593,912	124,287,646	131.9
REFERRED	12,327,113	37,297,792	202.6
CLINIC	28,731,275	44,297,093	54.2
EMERGENCY	10,465,788	42,692,761	307.9
EMERGENCY DEPARTMENT VISITS			
AS PER CENT OF ALL OPD VISITS	19	34	78.9
PER ADMISSION	0.5	1.5	200.0
PER BED	18	50	177.8
PER INPATIENT DAY	0.07	0.18	157.1
PER HOSPITAL	1998	7287	264.7
PER 1,000 POPULATION	64	212	231.2

SOURCE: GUIDE ISSUE OF HOSPITALS, J.A.H.A., PART 2, AUG. 1, 1956 AND AUG. 1, 1971.

TABLE XIV. HOSPITAL AFFILIATION WITH MEDICAL SCHOOLS

<u>EDITION OF DIRECTORY</u>	<u>TOTAL AFFILIATED</u>	<u>UNAFFILIATED HOSPITALS</u>	<u>TOTAL HOSPITALS WITH PROGRAMS</u>
1964-65	389	1,034	1,423
1965-66	369	1,017	1,386
1966-67	517	850	1,367
1967-68	607	950	1,512
1968-69	631	781	1,412
1969-70	699	750	1,449
1970-71	919	766	1,685
1971-72	996	696	1,692
1972-73	888	573	1,461
1973-74	1,165	546	1,711

TABLE XV
INTERNSHIP AND RESIDENCY PROGRAMS

<u>YEAR</u>	<u>INTERNSHIPS</u>		<u>RESIDENCIES</u>		<u>TOTAL</u>	<u>TOTAL</u>
	<u>OFFERED</u>	<u>FILLED</u>	<u>OFFERED</u>	<u>FILLED</u>	<u>OFFERED</u>	<u>FILLED</u>
1952-53	10,548	7,645	22,292	16,867	32,840	24,512
1962-63	12,024	8,805	36,502	29,239	48,526	38,044
1972-73	13,650	11,163	51,658	45,081	65,308	56,244

Table XVI

Number of First-Year Residency Positions Offered, Filled,
Percent Filled, in Affiliated and Nonaffiliated
Hospitals, 1963 - 1972

Year (As of Sept. 1)	Affiliated			Nonaffiliated			Total		
	Offered	Filled	% Filled	Offered	Filled	% Filled	Offered	Filled	% Filled
1966	9,145	7,772	85	6,348	5,083	80	15,493	12,855	83
1967	10,856	9,218	85	4,518	3,363	74	15,374	12,581	82
1968	11,558	9,963	86	3,807	2,758	72	15,365	12,721	83
1969	13,418	11,536	86	3,022	2,189	72	16,440	13,725	84
1970	14,216	12,542	88	2,690	2,014	75	16,906	14,556	86
1971	15,466	13,523	87	2,227	1,658	74	17,693	15,181	86
1972	16,770	15,144	90	2,027	1,629	80	18,797	16,773	89

Source: *Annual Directory of Approved Internships and Residencies*, AMA, Chicago.

TABLE XVIIN.I.R.M.P. 1973
WOMEN MATCHED

	<u>#</u>	<u>%</u>
ROTATING O	52	
ROTATING, MEDICINE	20	
ROTATING, PEDIATRICS	18	
MEDICINE	199	
PEDIATRICS	84	
FAMILY PRACTICE	29	
PEDIATRIC RESIDENCY	<u>122</u>	
	524	62.4
OTHER	<u>315</u>	37.6
TOTAL	839	100

TABLE 18. WOMEN IN U.S. MEDICAL SCHOOLS
(SELECTED YEARS FROM 1939-1973)

ACADEMIC YEAR	WOMEN APPLICANTS*		WOMEN IN ENTERING CLASS		TOTAL WOMEN ENROLLED		WOMEN GRADUATES	
	NO.	%	NO.	%	NO.	%	NO.	%
1939-40	632	5.4	296**	5.0	1,145	5.4	253	5.0
1949-50	1,390	5.7	387	5.5	1,806	7.2	595	10.7
1959-60	1,026	6.9	494	6.0	1,710	5.7	405	5.7
1964-65	1,731	9.0	786	8.9	2,503	7.7	503	6.8
1969-70	2,289	9.4	952	9.2	3,390	9.0	700	8.4
1970-71	2,734	10.9	1,256	11.1	3,894	9.6	827	9.2
1971-72	3,737	12.8	1,693	13.7	4,755	10.9	860	9.0
1972-73	6,000+	16.6+	2,315	16.9	6,099	12.8	924	8.9

* AAMC ANNUAL STUDIES OF APPLICANTS

** E.F. POTTHOFF. "THE FUTURE SUPPLY OF MEDICAL STUDENTS IN THE U.S."
JOURNAL OF MEDICAL EDUCATION, VOL. 35 (1960) TABLE 1 p. 224.

+ ESTIMATES

TABLE XIX

TABLE 4

1960 Cohort

Specialty Certification and Record of Residency Training

Summation Analysis Excluding Family Practice and Unspecified Groups *

Specialty	Total Sample	History of Residency Training		Entered Cert. Process		Board Certified As of Sept. 1972	
		N	%	N	%	N	%
AL: All Primary Specialties (Excluding Family Practice and Unspecified)	557	551	99%	481	86%	405	73%

*Family Practice (or general practice) was excluded because it did not represent an option for graduates desiring board certification until 1969. The unspecified group was excluded because follow-up data were not available.

TABLE XIX

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1960 Cohort

Specialty Certification and Record of Residency Training

Summation Analysis Excluding Family Practice and Unspecified Groups *

Specialty	Total Sample	History of Residency Training		Entered Cert. Process		Board Certified As of Sept. 1972	
		N	%	N	%	N	%
TOTAL: 1 Primary Specialties (Excluding Family Practice and Unspecified)	557	551	99%	481	86%	405	73%

*Family Practice (or general practice) was excluded because it did not represent an option for graduates desiring board certification until 1969. The unspecified group was excluded because follow-up data were not available.

TABLE X

CHART 7: PERCENTAGE OF PHYSICIANS IN PATIENT CARE AND RESIDENT POPULATION DECEMBER 31, 1973

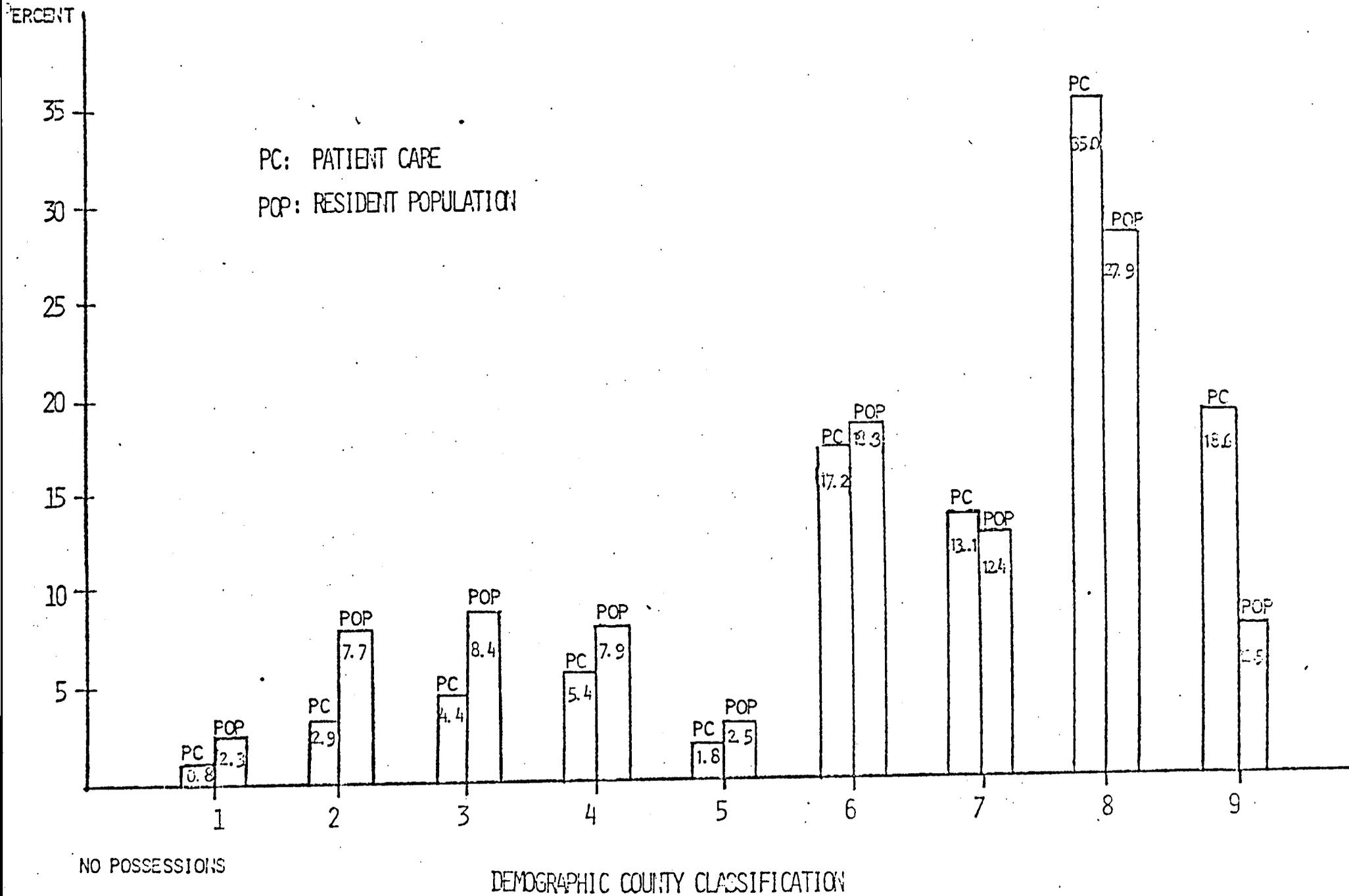
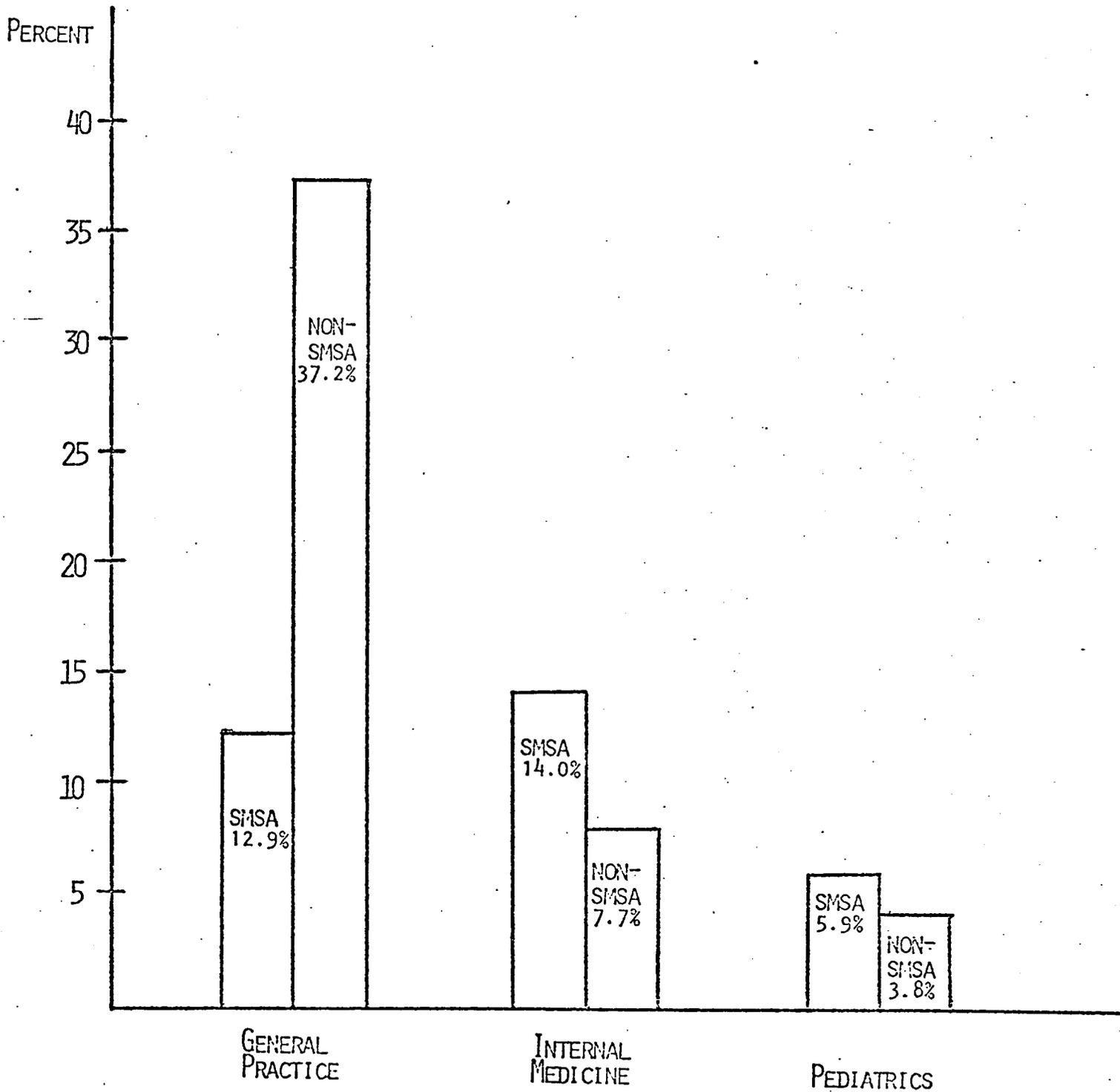


TABLE XXI

CHART 4: PERCENTAGE OF GENERAL PRACTICE, INTERNAL MEDICINE, AND PEDIATRICS IN METROPOLITAN AND NON-METROPOLITAN AREAS, 12-31-72



**THE NEEDS OF ACADEMIC RADIOLOGY
IN THE SEVENTIES**

**Report of the
Advisory Committee on Academic Radiology
of the
Association of University Radiologists
and
Society of Chairmen of Academic Radiology Departments**

November 1973

U. S. A.

THE NEEDS OF ACADEMIC RADIOLOGY IN THE SEVENTIES

Report of the
Advisory Committee on Academic Radiology
of the
Association of University Radiologists
and
Society of Chairmen of Academic Radiology Departments

November 1973

U.S.A.

The Advisory Committee on Academic Radiology was appointed by the presidents of the Association of University Radiologists (AUR) and the Society of Chairmen of Academic Radiology Departments (SCARD) in May 1971. It consisted of 10 members including the presidents of AUR and SCARD, who sat *ex officio*, and a liaison representative from the American College of Radiology. Subcommittees for diagnostic radiology, radiotherapy, and nuclear medicine worked on specific problems and recommendations for their subspecialties and presented drafts of their reports to the committee.

The work of the committee was funded through a grant from the James Picker Foundation and was greatly facilitated by the cooperation of Michael Ball, M.D., from the staff of the Association of American Medical Colleges. A preliminary version of this report was presented to a joint session of AUR-SCARD in Vancouver on May 9, 1973, which unanimously endorsed the approach, principles, and conclusions.

Mr. Cedric Brady, as staff consultant, contributed significantly in the preparation of this report, which was edited by Mr. Russell Schoch and Ms. Miriam Zeiger.

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ABSTRACT

This report, prepared by a joint committee of the Association of University Radiologists and the Society of Chairmen of Academic Radiology Departments, establishes the needs of academic radiology by identifying and separating the academic functions from the patient care function. In a community hospital, each of the subdisciplines of radiology--diagnostic radiology, radiotherapy, and nuclear medicine--is responsible solely for patient care. In an academic radiology department, each subdiscipline is responsible for three other functions in addition to patient care: resident training, graduate and undergraduate teaching, and research. By using the costs of high-quality community hospital radiologic patient care as a standard, the further needs of academic radiology were determined. It was found that, depending on the subdiscipline, from 77% to 120% more staff physicians are required in an academic than in a community hospital radiology department and that the academic department requires from 29% to 192% more space, from 33% to 56% more investment in equipment, and from 0.5 to 2.5 additional full-time equivalents in supporting staff. Adding to these are the costs of salaries and benefits for residents that must be borne by the academic radiology department. Finally, it is proposed that research beyond that necessary to sustain a high level of teaching--research that is vital to the future of radiology and important to medicine as a whole--be funded separately on a competitive basis. These recommendations are presented in graphic form in Appendix II.

INTRODUCTION

Radiology encompasses three separate subdisciplines: (1) diagnostic radiology, which uses X-rays in the diagnosis of disease; (2) radiotherapy, which uses radiant energy in the treatment of disease; and (3) nuclear medicine, which uses radioactive materials for the diagnosis, and to a lesser extent the treatment, of disease.

In community, or non-academic, hospitals, each of these subdisciplines is responsible solely for patient care. In academic medical centers, in addition to its responsibility for patient care, each of the subdisciplines of radiology has three further responsibilities: teaching medical students, training residents, and developing new knowledge for the improvement of patient care.

Traditionally, these four functions of academic radiology have been financed from multiple sources, with little concern for the precise cost of each function. In countries that have failed to provide funds for each of these functions, academic institutions have been forced to perform all four activities with funds intended only for patient care. The inevitable outcome has been a progressive deterioration in the quality of academic radiology--not only in teaching, training, and research, but in patient care itself.

With these problems in mind, this committee undertook to analyze the costs of academic radiology department activities and to suggest some methods for allocating them to patient care, resident training, medical education, and research.

Methodology

Because training of medical students and especially of residents must be carried out in a clinical situation, most of the time spent on patient care and teaching involves an overlap of these functions, which makes it difficult to determine the exact costs of each. Previous cost studies in academic radiology departments, which were based on the allocation of professional staff time to patient care, resident training, teaching, and research, inevitably suffered from the fact that allocations of time, and therefore of cost, to one or another of these four functions were essentially arbitrary.

To avoid arbitrary judgments, this report will take advantage of the fact that patient care is also delivered in the *community hospital*, where teaching is not a factor, which gives a standard of comparison for determining the purely academic needs of an academic radiology department. A basic assumption of this report will be that patient care costs in an academic radiology department should approximate the costs of patient care in a community hospital radiology department. Once these costs are known, additional costs in an academic department can properly be attributed to academic functions.

To this end, cost comparison models were developed by analyzing the requirements of academic and non-academic radiology departments in each subsdiscipline for the major types of resources used: staff physicians, supporting professional staff, space, and equipment. Research beyond that necessary to assure a high level of teaching will be considered in the final section of this report.

Since inflation and geographic differences in pay scale would distort most dollar measures, non-dollar measures were used for comparisons in all but the costs of equipment. Whenever possible, the concept of "full-time equivalent" (FTE) was used. An FTE is one person working full time, or two people each working half time, or five people each working one-fifth time, and so on--whatever combination adds up to the equivalent of one full-time worker. Using the FTE concept allows for the fact that few people perform only one function and that few functions are performed by only one person.

The information for most of the quantitative measures and comparisons used in this report came from surveys by the Society for Chairmen of Academic Radiology Departments (SCARD) from past years,¹ the Academic Council of the Society of Nuclear Medicine (ACSNM) survey of 1972,² and an independent survey conducted by this committee.³ The SCARD and ACSNM results were derived from 60 to 70 responding academic institutions. This committee's survey drew on 14 academic institutions and 30 nearby community hospitals, which were chosen for the variety of procedures performed and for the excellence of their professional staff.⁴

All comparisons made in this report are based on an analysis of average measurements from the institutions surveyed. The standards defined here are not intended to be applied uniformly to all institutions. Obviously, particular features of individual institutions will make it necessary to have flexible standards to meet differing needs. But it is hoped that this report will speak to the needs both of the various academic departments of radiology and of academic radiology as a whole as the discipline continues its growth, its service to the public, and its increase in cost to the hospitals that provide radiologic services.

DIAGNOSTIC RADIOLOGY

1. Introduction

Diagnostic radiology is one of the most useful disciplines of modern clinical medicine for diagnosing diseases. It is also one of the most heavily used. In 1964 a survey by the U.S. Public Health Service reported that 115 million medical diagnostic X-ray examinations were performed in the United States, equivalent to 1.2 diagnostic X-ray procedures for every two individuals in the population each year.⁵ Other studies have indicated that for every 100 patients admitted to a hospital, 160 X-ray diagnostic examinations are performed and that two-thirds of all hospital in-patients are examined radiologically during their hospitalization.⁶ Significantly, 73% of these in-patients have one or more medical diagnoses established or confirmed by radiological methods.⁷

The function of diagnostic radiology is to record and interpret images of organs and structures. Depending on the degree to which various parts of the body can be penetrated by radiation, shadows of varying density are produced by X-rays and are recorded as images on radiographic film. These images are then studied in order to pinpoint abnormalities and defects in organs and structures. In order to record an image of a hollow organ--such as the intestine--the organ is first filled with a compound that absorbs X-rays or with a gas that does not absorb X-rays at all. Similarly, images of blood vessels and lymphatics can be recorded after materials opaque to X-rays have been injected into them. Also, motion within organs and structures--such as blood flow and contraction of the heart and gut--can be visualized by recording multiple images on movie film. With specially

constructed fluoroscopes and television systems, this motion can be visualized on television screens and recorded on videotape. The most recent methods of producing images of organs and structures include the use of ultrasound (very high frequency sound waves) and thermography (the recording of variations in temperature of different body structures).

Although the diagnostic radiologist is responsible for obtaining these various types of images, his main responsibility is to study them in order to determine the medical significance of any abnormalities--in short, to diagnose diseases.

2. Staff Physician Requirements

a. Patient Care

Although the figure of 9,000 per annum has long been accepted as a reasonable number of examinations per diagnostic radiologist in a community hospital,⁸ the AUR-SCARD survey shows in fact that a mean of 11,000 and a median of 10,300 examinations are performed in community hospitals. Assuming 60,000 procedures in a community hospital department in a year, 6 FTE radiologists would be required.

In an academic department, however, several factors affect the number of procedures a diagnostic radiologist can perform. One of these is the use of academic departments as referral centers, a practice that results from the development of new methods of patient care by academic departments and the wide variety of special expertise they have available. Because complex cases require extra time, the number of procedures a physician can perform is decreased. Thus, more physicians are needed to perform 60,000 procedures in an academic department than in a non-academic department.

One way to account for the extra time needed for complicated cases is to introduce a "complexity factor"--a fraction added to 1 to account for the increased time needed and then multiplied by the number of procedures.⁹ A minimum estimate of the additional time required for X-ray examination and for interpretation based purely on complexity of the cases in a university department would be 10% of total time, a complexity factor of 0.1. Thus, 6.6 FTE radiologists would be needed in a university department, compared to the 6.0 in a community hospital, to perform 60,000 examinations per year.

Other factors limit the amount of time an academic radiologist can spend on patient care and affect the number of procedures he can perform. These include the training of residents, the teaching of graduate and undergraduate courses, research, and administration.

b. Resident Training

The clinical training of residents involves over-the-shoulder instruction in patient care and thus increases the amount of time the staff radiologist must devote to each case. He must teach the resident how to perform the procedures and to interpret the results of each case and must work at the resident's pace. Furthermore, the resident and the staff radiologist must interpret the films separately and then meet to discuss their findings--an unnecessary duplication in terms of patient care but an absolute necessity for good resident training.

But even though residents decrease the staff radiologists' efficiency, they render enough patient care to offset the loss of staff time--provided that there is an appropriate balance of staff radiologists and residents. A ratio of two residents to one staff radiologist is appropriate,¹⁰ although

it must be noted that this ratio holds only for staff physician FTE's directly involved in clinical teaching and does not include those involved in other functions.

Thus, it is unnecessary for the academic department to add to its staff of physicians to perform the clinical teaching function, which leaves the FTE requirement for academic radiologists at 6.6. The direct costs of the residents themselves are an additional item in an academic radiology department's budget which has no counterpart in the community hospital.

c. Graduate and Undergraduate Instruction

The core lecture course for radiology residents covers primarily radiologic techniques and pathophysiological processes, but also includes lectures on medical physics and radiobiology given by supporting professional staff. Approximately 100 hours of introductory lectures are given to beginning residents. With three hours of preparation and individual instruction necessary for each hour of teaching, the introductory lectures will require approximately 400 hours per year. In addition, approximately 400 hours per year should be devoted to teaching conferences and lectures at a higher level for more advanced residents; with preparation and tutoring time added, this will amount to 1,200 hours per year.¹¹ Thus, a total of approximately 1,600 hours per year is necessary for the teaching of core lecture courses for radiology residents. This requires an additional 1.0 FTE staff physician, bringing the total to 7.6.

Undergraduate teaching in radiology is a particularly important part of a medical school curriculum because, unlike other disciplines, radiology can be employed in the teaching of medicine as a whole. The amount of

faculty effort devoted to undergraduate core courses and electives depends on the size and curriculum of the individual undergraduate medical school. Typically, the diagnostic radiology section is called upon to provide 100 to 120 hours of undergraduate core teaching per year. Counting the time necessary for preparation, grading, and individual student contact, this requires an additional 0.5 FTE staff physician, bringing the total to 8.1.¹² Further staff support will be needed for undergraduate elective studies. Elective courses in diagnostic radiology are among the most popular courses in many medical schools. The classic preceptorship method of conducting these courses requires at least 0.5 FTE. This brings the total to 8.6 FTE staff physicians.

d. Clinical Research

In this committee's judgment, each faculty member involved in teaching should spend a minimum of 10% of his time in clinical (or laboratory) research in order to maintain a high level of instruction. Clinical research involves a continuous review of the benefits and limitations of the established approaches to diagnosis and treatment, as well as the development and testing of new approaches. This research allows continual improvement in patient care both for the department conducting the research and, after the results are published, for other departments. It also improves teaching by enabling staff radiologists to bring the most up-to-date information to their residents and medical students. Finally, it helps residents who enter private practice to recognize the need to continue their medical education in the years that follow.

Because this minimum level of research is seen as a teaching requirement, even though it also benefits patient care, it should be considered as a

teaching cost. The minimum 10% research requirement necessitates an additional 1.0 FTE, bringing the total to 9.6.

e. Continuing Medical Education

Continuing medical education is currently offered in both academic and community hospitals. This committee believes that such programs should be continued and that academic departments lacking these programs should be encouraged to develop them. In addition to keeping radiologists informed about the latest developments in their field, continuing medical education programs constitute an effective means of improving relations between the university physician and the community practitioner.

The role of the academic department in the development and operation of continuing medical education will obviously be critical. At least 1 FTE should be assigned to develop programs in order to assure the dissemination of new knowledge and the maintenance of skills on the part of those practicing radiology in the community.

Experience with existing programs in continuing education demonstrates that they can be self-supporting, since radiologists are willing to underwrite the cost of their own continuing education. Therefore, the 1 additional FTE that is needed does not have to be included in cost allocations.

f. Administration

The chief of any academic diagnostic radiology section other than the very smallest will find his time devoted more to administration than to patient care, teaching, or research. His administrative duties beyond those of the chief of a community hospital radiology section include selection of residents, coordination of graduate and undergraduate instruction and

clinical training, and coordination of research. A diagnostic radiology section generally requires one administrative staff FTE for up to 10 radiologists and two administrative staff FTE's for 11 to 20 radiologists. Assuming a staff of approximately 10 radiologists in the model discussed here, the total academic diagnostic radiology FTE requirement now becomes 10.6

g. Summary

The community hospital diagnostic radiology section performing 60,000 procedures per year needs 6 FTE radiologists. To perform the same number of procedures and also to perform its other functions, the academic diagnostic radiology department needs 10.6 FTE radiologists: 6.6 for patient care, 1 for graduate core studies, 1 for undergraduate core and elective studies, 1 for clinical research, and 1 for administration. These results are shown in Figure 1.

Another way of expressing the differing needs of academic and community hospital radiology departments is to use the incremental factor of 0.77 (derived from $10.6/6 = 1.77$). Of this 0.77 incremental factor, 0.10 is based on patient care requirements (because of the complexity of cases) and 0.67 is based on teaching requirements.

3. Supporting Professional Staff Requirements

At present, most community hospitals do not employ physicists. Instead, they use the services of physicist consultants to calibrate their equipment-- which often means that the equipment is not properly maintained. Therefore, and especially in view of the increasing concern with radiation exposure to the population,¹³ it is expected that community hospitals performing 60,000

DIAGNOSTIC RADIOLOGY

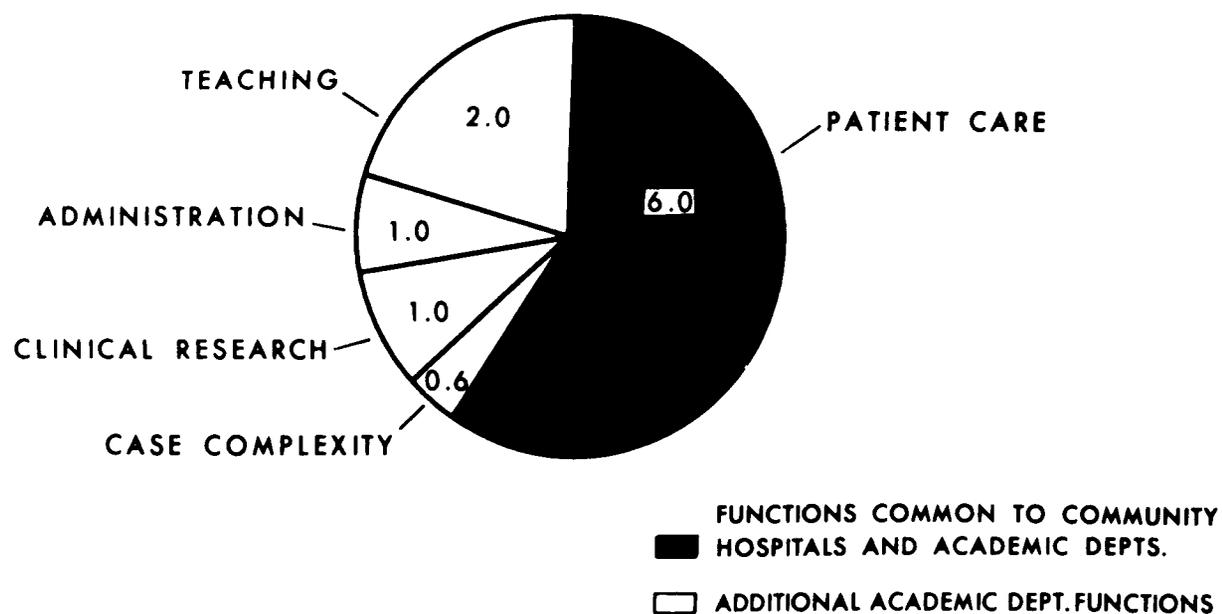


FIGURE 1

Physician staff functions in diagnostic radiology. Additional academic functions over and above those common to community hospital and academic departments are identified. The total number of FTE's for an academic department is 10.6 compared to 6.0 for the community hospital department.

procedures per year will use physicists' services of approximately 0.5 FTE in diagnostic radiology.

Academic diagnostic radiology departments performing 60,000 procedures need the same 0.5 FTE physicist plus an additional 0.5 FTE: 0.5 for quality control, equipment calibration, and the supervision of radiation safety; 0.1 to develop new approaches to imaging and to evaluate and develop equipment, and 0.4 to teach residents, medical students, and student technicians.

4. Space Requirements

Academic hospitals require more space than community hospitals in order to accommodate teaching laboratories, libraries, conference rooms, and teaching files.¹⁴ The size of these particular areas will vary according to the individual organization of each school and teaching hospital. Approximately 2 to 3 square feet per student (plus 50% for corridors, shafts, toilets, etc.) and 50 square feet per resident (plus 50%) are adequate where there is no separation of resident and medical student facilities. In schools with a class size of less than 100 and in those with a physical separation of pre-clinical and clinical teaching facilities, a larger square footage per student is necessary. In schools with functional multidisciplinary laboratories or centralized audiovisual facilities available to the preclinical students, the lower figure may be sufficient.

In Planning Guide for Radiologic Installations,¹⁵ Cooper and Young conclude that the diagnostic section of an academic radiology department requires an increase of 17% more space than that needed in the community hospital. In addition to this 0.17 incremental factor, the complexity factor introduced in

the analysis of staff physician requirements should also be used in the calculation of space requirements because the additional demand on staff time generally translates into a similar requirement for diagnostic space. This requirement is primarily for patient care. Thus, using both the 0.17 incremental factor suggested by Cooper and Young and the 0.1 complexity factor derived when considering patient care needs, yields a net incremental factor of 0.29 for space in academic institutions--of which roughly one-third is needed for patient care and two-thirds for teaching. If the community hospital space requirement for a radiology section were 10,000 square feet, the academic department's requirement would be 29% more, or 12,900 square feet.

This estimated increase in academic space requirements does not provide for research space. The amount of such space depends on the type of research being conducted. Several outstanding academic diagnostic radiology departments in the United States have research space of 5,000 square feet or more. About 3,000 square feet is a minimum for departments engaged in laboratory research.¹⁶

At a minimum, then, an academic radiology section will require 29% more space without counting research space, and approximately 50% more space if research space is considered.

5. Equipment Requirements

Case complexity, which slows the flow of patients through the academic diagnostic radiology department and thereby increases the department's space requirements, also adds to the need for diagnostic equipment. Each piece of equipment is used more heavily in an academic department because it serves

both residents and a greater number of staff radiologists. The use of complex and sensitive modern X-ray equipment in the training of novices takes a great toll on the life of the equipment. In addition, because the academic radiology department operates as a referral center and is continually improving its diagnostic methods, its equipment will become obsolete at a faster rate than the equipment in a community hospital department.

Generally, academic institutions estimate the life of their diagnostic radiology equipment to be six years, while community hospitals count on an average life span for their equipment of eight years.¹⁷ This can be translated as an incremental factor of 0.33 for the equipment in an academic diagnostic radiology department.

Another measure of the increase in equipment requirements is provided by this committee's survey, which showed an average for 10 academic departments of \$14 of equipment investment (at original purchase price) per procedure per year compared to an average for community hospitals of \$10.90. This converts to an incremental factor of 0.34.

6. Summary

The needs of a diagnostic radiology department are presented in Appendix II. In comparison to the community hospital diagnostic radiology section, these needs are as follows: 77% more staff physicians (to handle more complex cases of patient care, resident training, graduate and undergraduate instruction, clinical research, and administration); 29% more space (or 50% more if research space is included); and 33% more investment in equipment. In addition, 1.0 FTE physicist--compared to the 0.5 FTE physicist needed by the community hospital--and the direct costs of an appropriate number of

residents must be part of the calculation of the increased needs of an academic diagnostic radiology department. Although the figures developed in this chapter were based on departments performing 60,000 procedures per year, it is felt that the results can be extrapolated and applied to either larger or smaller departments.

RADIOTHERAPY

1. Introduction

Although radiotherapy has been practiced for over half a century, most of the development and refinement of its techniques have come about in the past 15 years. Currently, along with surgery, radiotherapy is the main weapon in the battle to cure cancer patients. Radiotherapy deals with the application of ionizing radiation--produced by X-ray machines, particle accelerators, or radioactive materials--to the area bearing a tumor. High doses of radiation must be applied with great precision if successful treatment is to be obtained.

In addition to its use in the cure of cancer patients, radiotherapy also has outstanding palliative capabilities. In a variety of clinical cases, it has been used effectively to alleviate pain, restore luminal patency, preserve skeletal integrity, and reestablish the function of afflicted organs.

2. Staff Physician Requirements

a. Patient Care

The generally accepted method of measuring the activity level of a radiotherapy department is to count the number of new patients treated per year. Three hundred new patients per year is the commonly used standard for a full-time non-academic radiotherapist's caseload. But 600 new patients per year--roughly 60 to 70 patients per day--is considered the minimum requirement for sustaining an academic department because fewer patients would not provide a sufficient diversity of case material for teaching.

This report will therefore be based on departments with 600 new patients per year, which would make the community hospital requirement 2 FTE radiotherapists (600/300).

Academic radiotherapy departments will need additional staff physicians, however, since they act as referral centers and therefore treat a more complicated mix of patients than do community hospital departments. This increase in the academic radiotherapist's workload can be accounted for by using a complexity factor of 0.1. Thus, 2.2 FTE radiotherapists will be needed in the academic department to treat its 600 new patients per year.

b. Resident Training

Another portion of the academic radiotherapist's time is given over to the training of residents. Since a resident can participate in and learn from the care of about 150 to 200 patients per year, the academic department can accommodate three to four residents. The clinical training of four residents would raise the academic radiotherapy requirement by about 1 FTE to 3.2. This high ratio--more than three faculty members for every four residents--is required because so much of the work involves direct patient care. In addition, the department will have to provide resident salaries and benefits.

c. Graduate and Undergraduate Instruction

Undergraduate core and elective teaching is a minor component in most academic radiotherapy sections. This is part of a serious underrepresentation in medical school curricula for the entire field of clinical oncology (the treatment of cancer), which is currently fragmented into three separate camps: the specialties of surgery, medical oncology, and radiation therapy.

What is needed is a major restructuring of the teaching and practice of clinical oncology to benefit both patients and residents; this would come from an interdisciplinary program. Currently, about 5% of faculty energies are devoted to undergraduate instruction; in a well organized interdisciplinary program, it would probably be closer to 10%. An interdisciplinary system might also change the teaching requirement for graduate core and elective teaching.

At present, the total graduate and undergraduate core and elective instruction activities would require about 0.5 FTE radiotherapists. This brings the academic department total to 3.7 FTE radiotherapists.

d. Clinical Research

Clinical research, which comprises the proper staging of cases and their follow-up review, benefits patients by allowing the relative merits of different treatment techniques to be analyzed. Also, it permits the wide range of experience typical of an academic department to be developed into a body of knowledge for the benefit of other practitioners and their patients. In addition, clinical research is an integral part of the teaching function since it allows the teacher to keep up with and better evaluate advances in his field, thereby improving the quality of resident training and graduate and undergraduate instruction.

The necessary minimum level of clinical research in an academic radiotherapy department is 10% of faculty energies, which translates into a 0.1 incremental factor or 0.5 FTE. This raises the total academic FTE requirement to 4.2 FTE radiotherapists.

e. Continuing Medical Education

Academic departments will play an expanding role in continuing medical education. However, since it is expected that this type of activity will be supported by the practicing radiotherapists who take advantage of continuing education courses, no FTE's need to be added to the cost allocations for this function.

f. Administration

Approximately 5% of the total effort of the radiotherapy faculty must be given to administration of academic functions, which works out to 0.2 FTE, making the academic department total 4.4 FTE radiotherapists.

g. Summary

A community hospital radiotherapy department treating 600 new patients per year requires 2 FTE radiotherapists. An academic department with 600 new patients per year and a full quota of residents needs a minimum of 4.4 FTE radiotherapists: 2.2 for patient care, 1.0 for resident training, 0.5 for graduate and undergraduate teaching, 0.5 for clinical research, and 0.2 for administration. These results are presented in Figure 2. Continuing medical education will require further additions to the academic staff, but their support is expected to come from the practitioners who take advantage of the educational opportunities.

3. Supporting Professional Staff Requirements

The planning of treatment, a critically important aspect of radiotherapy, is performed most effectively by physicists, dosimetrists, and other supporting professionals. To plan treatments, this committee believes that an academic department with 600 new patients per year needs 2 FTE physicists and

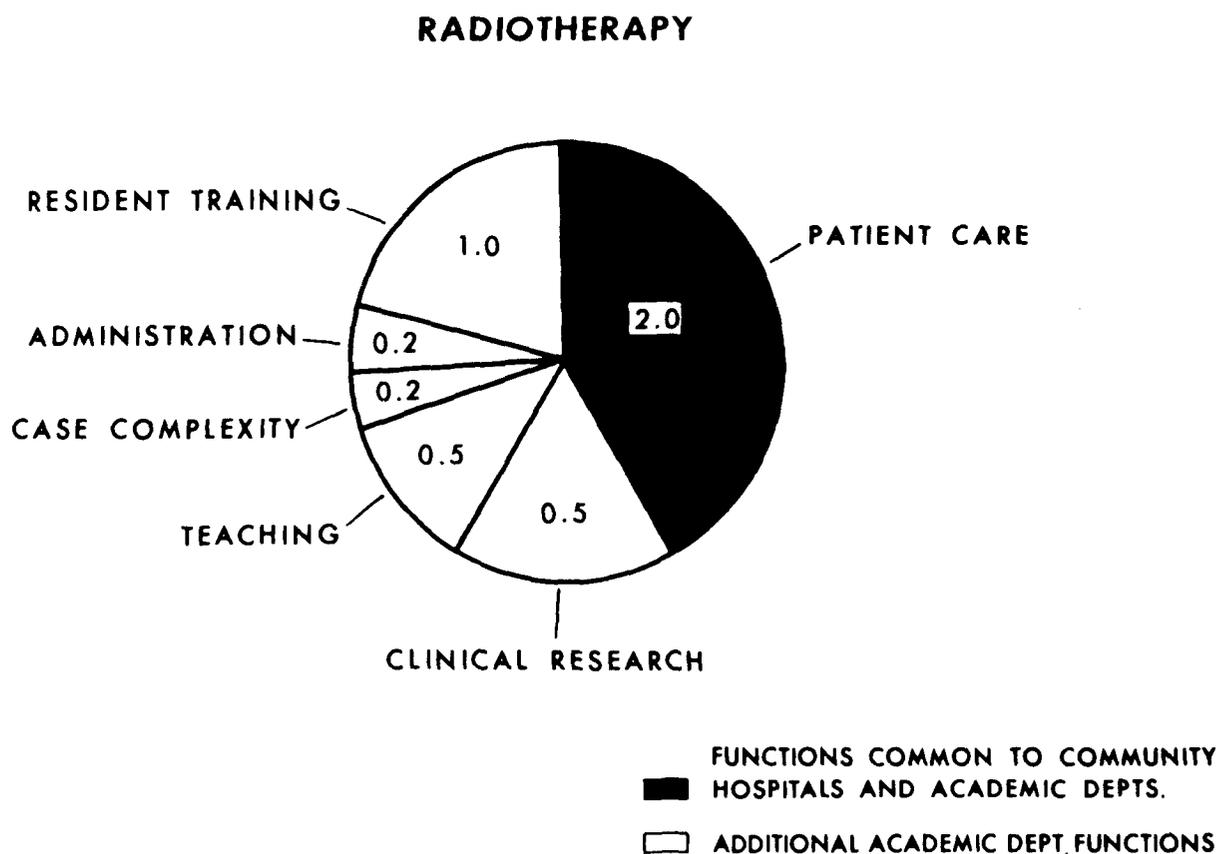


FIGURE 2

Physician staff functions in radiotherapy. Additional academic functions over and above those common to community hospital and academic departments are identified. The total number of FTE's for an academic department is 4.4 compared to 2.0 for the community hospital department.

1 FTE dosimetrist. Physicists and dosimetrists spend one-half to three-fourths of their time providing patient care in the form of planning for radiation treatments and quality control for dosimetry; the remainder of their time is given over to teaching and research.

This large percentage of time spent on patient care indicates that community hospital radiotherapy departments should also include physicists and dosimetrists on their staffs. The Committee for Radiation Therapy Studies recommends at least one physicist per 400 new patients per year for non-academic departments.¹⁸ There is also a need for increased supporting professional staff in order to upgrade the quality of patient care by community hospital radiotherapy departments; this further need, which could be met through cooperation with academic centers, will not be used in this report's calculations.

In addition to 2 FTE physicists and 1 FTE dosimetrist, the academic radiotherapy department needs 1 FTE radiobiologist. The radiobiologist would not be involved in direct patient care but would divide his time between teaching and research. Part of the cost of the teaching load of a radiobiologist could be allocated to diagnostic radiology and nuclear medicine.

Thus, the community hospital treating 600 new patients per year will need at least 1.5 FTE physicist and the academic department will need at least 4 FTE's in supporting staff: 2 FTE physicists, 1 FTE dosimetrist, and 1 FTE radiobiologist. This represents an increase of 2.5 FTE's in supporting staff for an academic radiotherapy department.

4. Space Requirements

The needs for space devoted purely to patient care are basically the same in the community hospital and the academic department. These include treatment rooms, waiting areas, and dressing rooms. Other areas, such as office space, employee lounges and dressing rooms, and patient examining rooms, are somewhat larger in an academic department because of its larger staff.

But some academic department facilities are completely additive requirements. These include simulator rooms, which lead to a more efficient use of the actual treatment rooms, a physics section, a dosimetry section, a tumor registry, a classroom, a study area, a library, resident offices, conference rooms, a teaching laboratory, and clinic space, either in the department or in the out-patient area. In addition, the academic department must provide research laboratory space, the amount of which will vary depending on the type of research being conducted.

The result of these additional requirements is that the academic radiotherapy department needs approximately twice as much space as a community hospital department with the same number of new patients per year.

5. Equipment Requirements

The standard investment and use of radiotherapy equipment is very nearly the same in community and academic departments. But complicated cases can require the purchase of highly specialized and expensive equipment, such as high energy betatrons or linear accelerators.

A survey by this committee reflects the demand on academic departments to make extra investments to provide services not usually available at community hospitals. The survey shows an average for 10 academic institutions

of \$705 per new patient per year in equipment investment (original purchase price) and an average for 14 community hospitals of \$405. This represents an increase of 57% in equipment investment for the academic radiotherapy department.

6. Summary

The needs of a radiotherapy department are presented in Appendix II. In comparison to the community hospital radiotherapy section with 600 new patients per year, the needs of the academic radiotherapy department are as follows: 120% more staff physicians (to handle more complex cases of patient care, resident training, graduate and undergraduate instruction, clinical research, and administration); 100% more space; and 57% more investment in equipment. In addition, the academic department will need about 2.5 more FTE's in supporting professional staff than the community hospital and must provide for the costs of resident salaries and benefits.

NUCLEAR MEDICINE

1. Introduction

Nuclear medicine is the newest of the radiological specialties and is still a rapidly evolving field. The discipline uses radiopharmaceuticals--radioactive materials--for treatment, but primarily for the diagnosis of disease. Diagnostic methods include those in which fluids or tissues from the patient are examined (*in vitro* studies) and those in which the patient himself is examined (*in vivo* studies). The most important of the *in vivo* studies are those performed by radiopharmaceutical imaging. To obtain images, the patient is given a radioactive compound which distributes itself differently in normal and abnormal body tissues; pictures of body radioactivity are then made with a radiation detector. From these pictures, a nuclear medicine physician is able to examine the structure and function of a wide variety of internal organs with little or no discomfort to the patient.

Academic nuclear medicine is actively engaged in the research and development of new instruments and radiopharmaceuticals for diagnostic examinations. Because these are rapidly adopted in the academic department's clinical practice, but not as rapidly in that of the community hospital, the difference between academic and most community hospital nuclear medicine sections is at present widening.

2. Staff Physician Requirements

a. Patient Care

Although *in vitro* studies are an important part of nuclear medicine, the numbers of these studies currently varies so widely from hospital to

hospital that only *in vivo* studies will be considered here. This discussion of the relative requirements for academic and community hospital nuclear medicine departments is based on the assumption that each department performs an average of 6,000 *in vivo* procedures per year.¹⁹ A study of full-time community hospital nuclear medicine sections by this committee indicates that 4,000 *in vivo* procedures per physician per year are performed.²⁰ Thus, for 6,000 *in vivo* procedures per year, the community hospital would require 1.5 FTE staff physician for patient care.

The newness of this specialty, its rapid evolution, and the shortage of active non-academic departments make academic nuclear medicine departments especially important as referral centers. This results in a high complexity factor--estimated by this committee at 0.3--for the academic department, which requires an additional 0.5 FTE, making the total 2.0 FTE staff physicians to perform its 6,000 *in vivo* procedures per year.

b. Resident Training

Although resident training responsibilities reduce the amount of time individual staff physicians can give to patient care in nuclear medicine, the patient care services provided by two or three residents²¹ offset this loss. Thus, the academic nuclear medicine department does not need to add physician staff, and the requirement remains at 2.0 FTE. However, the costs of residents' salaries and benefits will have to be included in the department's budget.

c. Graduate and Undergraduate Instruction

In order to prepare nuclear medicine residents to function as part of the clinical team, a great deal of basic instruction is required in nuclear medicine physics, radiochemistry, and physiology. At the present level, which is far from optimal, these teaching responsibilities require an

additional 0.3 FTE for the academic department, bringing the total to 2.3 FTE staff physicians.

d. Clinical Research

A reasonable minimum amount for clinical research is 20% of total nuclear medicine staff physician time. This requirement, higher than that for diagnostic radiology and radiotherapy, is justified for two reasons: the field of nuclear medicine is rapidly evolving and thus requires a greater amount of research, and academic nuclear medicine typically has a smaller staff of physicians than the other two subdisciplines, therefore requiring a higher proportional amount of time devoted to clinical research by each physician in order to achieve continuity in research programs.

The 20% requirement for clinical research adds another 0.6 FTE and raises the total for an academic nuclear medicine department to 2.9 FTE staff physicians.

e. Continuing Education

Although continuing education is a rapidly developing requirement for nuclear medicine, it is not possible at present to define adequately the staff requirements necessary to provide this service. For this reason, and also because physicians themselves will probably pay for the cost of these courses, continuing education will not be considered in assessing the needs of an academic nuclear medicine department.

f. Administration

A 1972 survey showed that approximately 18% of the academic nuclear medicine physician's time is spent on administrative matters.²² One-third of this, dealing with patient care, is duplicated in the community hospital

department. The remaining 12% produces an incremental factor of 0.1 for academic administrative duties, which adds another 0.3 FTE to the academic department staff and raises the total requirement to 3.2 FTE staff physicians.

g. Summary

The community hospital department needs 1.5 FTE staff physicians to perform 6,000 *in vivo* procedures per year, whereas the academic department requires 3.2 FTE staff physicians: 2.0 for patient care, 0.3 for teaching, 0.6 for clinical research, and 0.3 for administration.²³ These results are presented in Figure 3.

3. Supporting Professional Staff Requirements

The supporting professional staff in a nuclear medicine department supervises instrumentation and the production of radiopharmaceuticals. Most community hospitals do not need to employ supporting professionals because they use consultants for instrumentation and purchase radiopharmaceuticals. An ACSNM survey showed an average of two supporting professionals per academic nuclear medicine department,²⁴ and this seems a minimum requirement. The two supporting professionals, typically a radiation physicist and a radiopharmaceutical chemist, provide resident instruction and research expertise in the academic department, in addition to their technical duties. One other professional, a radiobiologist, is needed to give lectures to nuclear medicine residents. This resource would be shared with diagnostic radiology and radiotherapy departments.

Thus, the academic department will need to provide for two supporting professional staff employees and share in the support of a third.

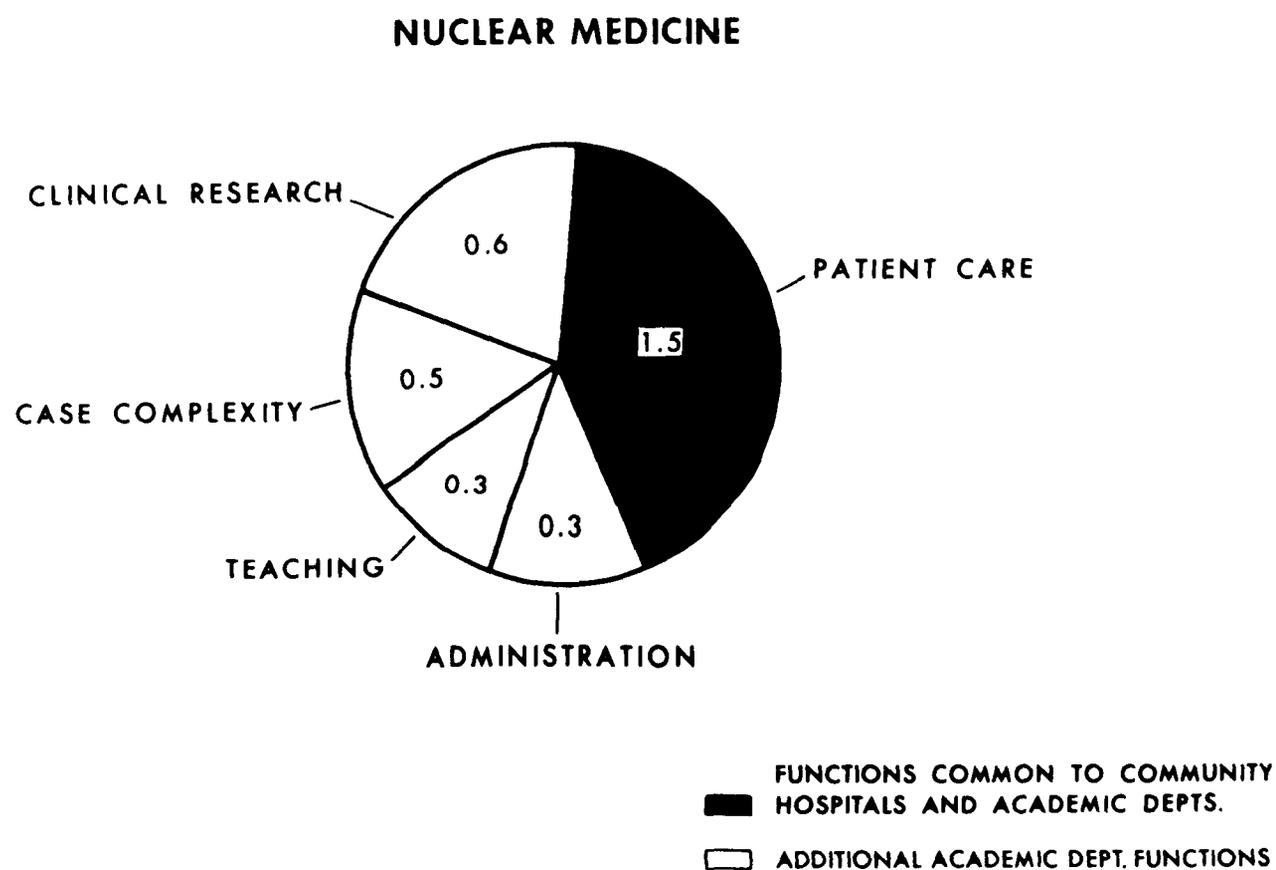


FIGURE 3

Physician staff functions in nuclear medicine. Additional academic functions over and above those common to community hospital and academic departments are identified. The total number of FTE's for an academic department is 3.2 compared to 1.5 for the community hospital department.

4. Space Requirements

A 1972 ACSNM survey showed that lack of sufficient space was the major problem faced by academic nuclear medicine departments; the median response to the survey indicated a need for twice the space currently used.²⁵ This committee recognizes that lack of space is also an acute problem in many community hospital nuclear medicine departments. Thus, it is difficult to achieve reliable estimates of relative space needs for the two types of departments: both currently lack adequate space.

The ACSNM survey showed that the average academic department requires 1 square foot per 1.66 *in vivo* and counting procedures.²⁶ This means that 3,600 square feet are required in academic departments performing 6,000 procedures. The SCARD survey of 1971 showed that 40% of this space is allocated to teaching and clinical research,²⁷ leaving 60%, or 2,100 square feet, for patient care.

This committee's survey indicates that community hospital nuclear medicine departments typically perform 6,000 *in vivo* procedures in about 1,300 square feet. This low a figure occurs because the community hospital's *in vivo* studies are generally less involved and less time consuming.

These figures for the two types of department indicate an incremental factor of 0.6 ($1.6 \times 1,300 = 2,100$) for academic department patient care and a total academic nuclear medicine department incremental factor of 1.8 ($2.8 \times 1,300 = 3,600$). In other words, and recognizing that both departments need more space, at present the academic department requires 192% more space than the community hospital section to perform 6,000 procedures.

5. Equipment Requirements

Because of the increased complexity of the procedures it performs--for example, dynamic uptake studies that use multiple-exposure cameras--the

academic nuclear medicine department needs more sophisticated equipment than the community hospital department does. This committee's survey, based on the estimated replacement cost of department equipment, shows that the initial investment of an academic department is 35% more per procedure than in the community hospital department. This 0.35 incremental factor does not take into account a rapid obsolescence factor, which is probably more critical in an academic department than in a community hospital department, because sufficient data are not available to form such an estimate.

6. Summary

The needs of an academic nuclear medicine department are presented in Appendix II. In comparison to the community hospital nuclear medicine department performing 6,000 *in vivo* procedures per year, the academic nuclear medicine department requires an increase of 113% in staff physicians, 192% in space, 35% in equipment investment, and at least two supporting professionals. It also has to provide for residents' salaries and benefits.

RESEARCH

Almost all of the advances in the three clinical branches of radiology--diagnosis, therapy, and nuclear medicine--have been achieved by clinical and laboratory research carried out by university radiologists. Clinical research, which involves a continuous review of the benefits and limitations of established diagnostic procedures and treatments, as well as the development and testing of new diagnostic procedures and treatments, helps to maintain a high quality of patient care and to preserve a high quality of teaching. The minimum amount of clinical research necessary to the teaching function was considered in each of the three preceding sections of this report.

Laboratory research in radiology encompasses two major areas. One is the development and improvement of equipment and systems. Examples of this type of research in diagnostic radiology include the development of ultrasound diagnostic equipment for the differentiation of solid tumors and cysts and the development of fine focal spot X-ray tubes to allow the magnification of details shown on X-ray films. In radiotherapy, laboratory research in this area is exemplified by the development of computerization of dose calculations to any point in and around the area being irradiated and by the development of machines that can give better defined beams of X-rays or gamma rays and electrons of various energy. In nuclear medicine, examples include the development of the gamma camera and the application of computers to obtain physiologic data from images.

The second area of laboratory research in radiology involves experimental studies of biologic and physiologic processes. In diagnostic radiology,

this includes the use of existing imaging systems in conjunction with other methods to study physiologic processes in animals. These studies, which vary widely in scope, attempt to establish animal models in which normal and abnormal functions can be analyzed for their relevance to the study of human disease. Studies of cardiac physiology, the regional circulations, pharmacodynamic responses of visceral vascular beds, methods of quantitating regional ischemia, the investigation of gastrointestinal motility--all of these studies of physiological processes increase the understanding of disease and lead to better methods for the diagnosis and treatment of patients.

In radiotherapy, this second area of laboratory research deals with cancer induction and the effects of radiation on animals, cell cultures, or other *in vitro* systems, such as enzyme systems or organ systems, designed to duplicate what happens in humans. Understanding these biologic processes through laboratory research enables the radiotherapist to better plan for the treatment of cancer in humans. To mention only one example, work with mouse leukemia led to the discovery that central nervous system irradiation in combination with chemotherapy yielded improved survival rates.²⁸ This same combination has led to improvement in the cure of childhood acute lymphocytic leukemia.²⁹

In nuclear medicine, experiments are performed on animals in order to develop new examinations for tumor detection and estimates of organ function, to determine the adequacy of the blood supply, and to make many other assessments of regional physiology useful in the care of patients. Only after the efficacy and safety of radioactive compounds and study methods have been tested extensively on laboratory animals are the studies applied to human patients.

To be significant, all laboratory studies must eventually be confirmed by clinical studies. Clinical research involves a great deal of planning, time, and effort, for its observations must be made on patients and its studies must be designed so as not to be harmful in any way.

This committee believes that from 10% to 20% of faculty time is an essential minimum to be spent on research for all academic radiology departments. Even more time must be spent in many departments if the field is to continue to advance and to increase the benefits to patients. In departments where there is an emphasis on research, an overall figure of 50% of faculty time devoted to research is not unreasonable.

How can these research activities be supported? The research grant, judged by peer review and awarded to an individual, is the mainstay of research in radiology, as it is in other fields of medicine today, and is likely to remain so in the future.

But laboratory research in radiology requires very expensive equipment, equipment that is not easily supported by the individual research grant. It also requires a number of full-time scientists and technicians to perform the research. It is unlikely that individual grants alone can support either a sufficient number of full-time scientists and technicians or the purchase and maintenance of large amounts of complicated and expensive major equipment. Even if some departments were able to afford these expenses by using individual grants, research centers could achieve the same goals through centralized management and could do so in a more efficient and economic way. Therefore, this committee believes that in addition to the research programs that should be a part of all radiology departments, a limited number of research centers should be funded and equipped for laboratory research.

The awarding of these centers must be done with great care. Their selection should be approved only on the basis of competitive application, with periodic review and mandatory applications for renewal at specific intervals. Scientific excellence and the ability of a center to perform meaningful research should be the only deciding criteria; little regard should be given to geographic location. It should be emphasized that the establishment of research centers should in no way influence or diminish the awarding of individual research grants.

In conclusion, this committee recommends that major clinical and laboratory research efforts be identified so that their costs can be properly allocated.

APPENDIX I

Calculating Space Requirements

There are two widely respected formulas for calculating the space needed by diagnostic radiology sections. But both present problems and were excluded from use in this report. Probably the most influential formula in the United States today for such calculations was devised by T. Wheeler.³⁰ Wheeler's method for calculating the number of X-ray rooms for in-patients consists of a formula with multiple constants (K) per patient type (medical, surgical, obstetric, pediatric, and long-term) representing the average number of examinations per admission:

$$\frac{K \times \% \text{ occupancy} \times \text{number of beds}}{\text{average stay}} = \text{exams per day.}$$

The main problem with Wheeler's formula is the empirical nature of the multiple constants (K). The formula allows no flexibility for adapting to local conditions and to the expected patient mix.

The second formula, the most comprehensive approach to the problem of space for diagnostic radiologic facilities, is by R. Lindheim.³¹ She proposes the formula:

$$\text{Number of X-ray rooms} = \frac{\% \text{ of peak load during workday} \times \text{peak workload} \times \text{average time/procedure}}{\text{amount of time each X-ray room or unit is to function daily}} .$$

Lindheim proposes 75% to 85% as the optimal percentage of peak load during the workday. She has also published average time data for a number of common examinations at a university hospital, ranging from a chest X-ray (7 minutes) to a chemopallidectomy (212 minutes). To calculate the number of diagnostic rooms required, separate equations are used for special procedure rooms, X-ray rooms, and fluoroscopy rooms.

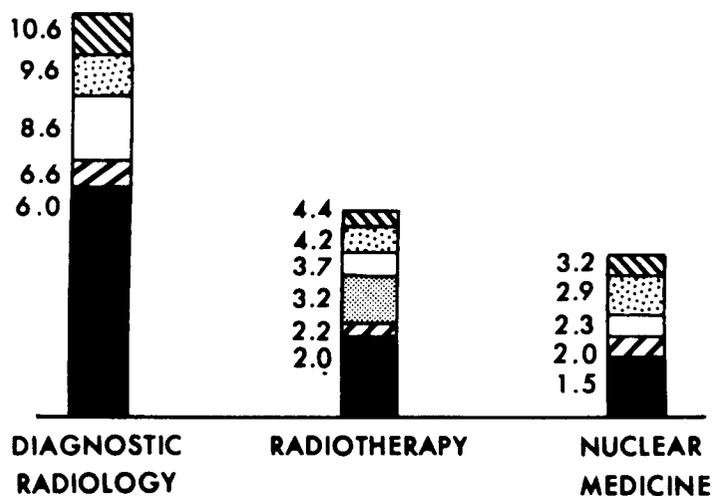
Lindheim's formula has been widely accepted because of its logic and flexibility. It does not dictate or exclude one- or two-shift operations. It gives consideration to patient waiting time and can be altered to fit local variations in average procedure time where they can be measured or predicted. The formula can also adjust to rapid automated equipment, and it allows the type of equipment and type of patient to be examined to determine individual room size.

But even though Lindheim's formula is a very strong tool for planning a diagnostic radiology section, it does not lead directly to a comparison between academic and community hospital operations because the average time per procedure varies. The question then becomes: How do these average times differ between academic and non-academic institutions? The answer is critical for deciding the number of diagnostic radiology rooms needed for expected patient loads in each type of institution. An involved systems study in several institutions could generate hard data on this subject. But to this committee's knowledge, no such study has been undertaken.

APPENDIX II

Table 1

STAFF PHYSICIANS (FTE's)



■ COMMUNITY HOSPITAL and
ACADEMIC DEPT. PATIENT CARE

ADDITIONAL ACADEMIC DEPT. FUNCTIONS

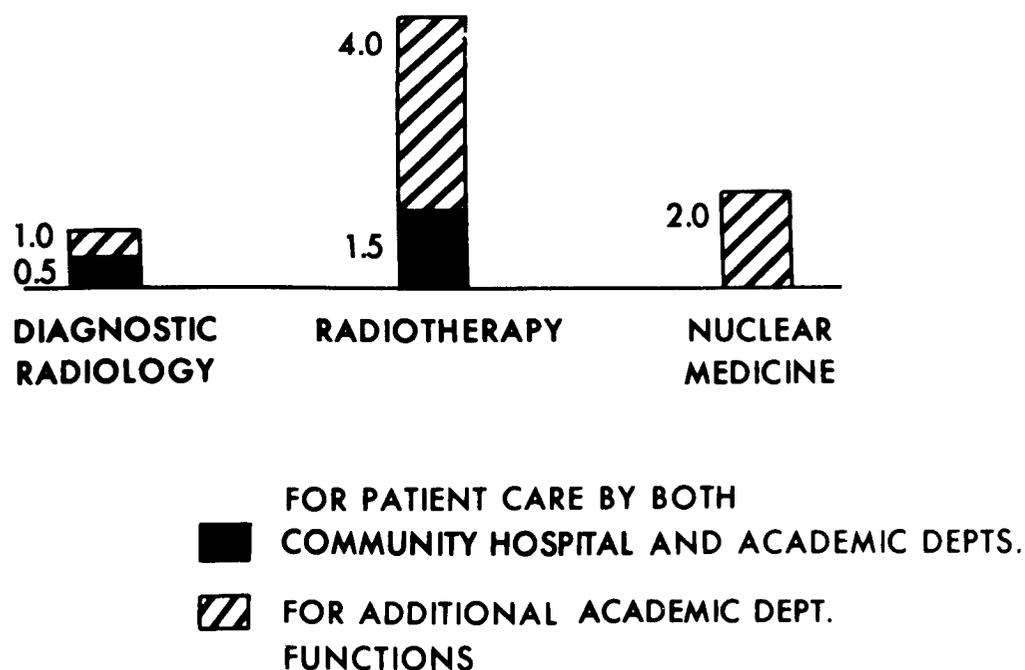
- ▨ CASE COMPLEXITY
- TEACHING
- ▤ CLINICAL RESEARCH
- ▧ ADMINISTRATION
- ▥ RESIDENT TRAINING

Staff physician FTE's required in an academic department in all three sub-disciplines of radiology. Numbers of additional FTE's needed for each academic function are identified as additions to the basic number of FTE's required for patient care in both community hospital and academic departments. Note that the case complexity requirement in academic departments is attributable to patient care.

APPENDIX II

Table 2

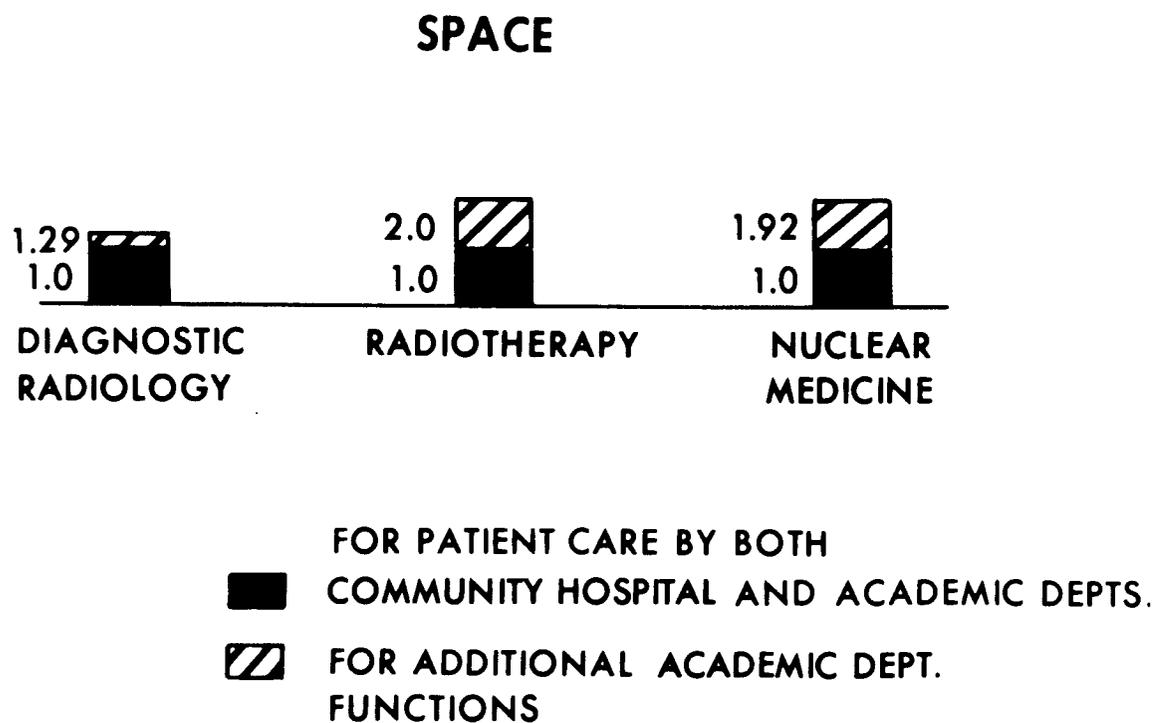
SUPPORTING PROFESSIONAL STAFF (FTE's)



Supporting professional staff FTE's required in an academic department in all three subdisciplines of radiology. Numbers of additional FTE's required for academic functions are identified as additions to the basic number of FTE's required for patient care in both community hospital and academic departments.

APPENDIX II

Table 3



Additional space requirements for academic departments in all three subdisciplines of radiology expressed in percentage form. The space necessary for patient care common to community hospital and academic departments is expressed as 1.

APPENDIX II

Table 4

EQUIPMENT

- FOR PATIENT CARE BY BOTH
 COMMUNITY HOSPITAL AND ACADEMIC DEPTS.
- FOR ADDITIONAL ACADEMIC DEPT.
 FUNCTIONS

Additional equipment requirements for academic departments in all three subdisciplines of radiology expressed in percentage form. The equipment necessary for patient care common to community hospital and academic departments is expressed as 1.

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2. Academic Council of the Society of Nuclear Medicine (ACSNM), Survey of academic divisions of nuclear medicine in U.S. medical schools. April 1972.
3. Association of University Radiologists-Society of Chairmen of Academic Radiology Departments (AUR-SCARD) Advisory Committee on Academic Radiology, Survey of diagnostic radiology, radiotherapy, and nuclear medicine departments. 1973. Statements on quantifiable projections and data that are not followed by a reference giving the source are opinions of the committee arrived at after discussion and committee evaluations.
4. In addition, the nuclear medicine subcommittee conducted a telephone survey to confirm some of the committee's data.
5. J.N. Gitlin and P.S. Lawrence, Population exposure to X-rays, U.S. 1964, A report on the Public Health Service X-ray exposure study. U.S. Department of Health, Education, and Welfare, Public Health Service Publication Number 1519, Washington, D.C., 1964.
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8. AUR-SCARD Advisory Committee on Academic Radiology, Survey of diagnostic radiology, radiotherapy, and nuclear medicine departments. 1973.
9. The concept of a complexity factor was developed by this committee.
10. Extrapolation from the SCARD survey of academic radiology departments. 1972-1973.

11. AUR-SCARD Advisory Committee on Academic Radiology, Survey of diagnostic radiology, radiotherapy, and nuclear medicine departments. 1973.
12. This is not necessarily an optimum situation. The amount of department involvement will depend on the interest of radiologists and on the availability of other teaching resources within the medical school. If the requirements are greater, the department must be staffed accordingly or other faculty functions will suffer.
13. See, for example, A.R. Margulis, The lessons of radiobiology for diagnostic radiology, Caldwell lecture, 1972. *Amer. J. Roentgenol.* 117: 741-756, Apr. 1973, and The Advisory Committee on the Biological Effects of Ionizing Radiations, The effects on populations of exposure to low levels of ionizing radiation. Division of Medical Sciences, National Academy of Sciences-National Research Council, Washington, D.C., Nov. 1972.
14. See Appendix I to this report for a discussion of two widely accepted formulas for determining the space needs of diagnostic radiology departments.
15. G. Cooper, Jr. and B.R. Young, General considerations in planning radiologic installations, in Planning Guide for Radiologic Installations, W.G. Scott, ed. Williams and Wilkins, Baltimore, 1966, p. 24.
16. SCARD, Survey of academic radiology departments. 1971-1972.
17. AUR-SCARD Advisory Committee on Academic Radiology, Survey of diagnostic radiology, radiotherapy, and nuclear medicine departments. 1973.
18. A proposal for integrated cancer management in the United States: the role of radiation oncology, report to the National Cancer Institute, National Institutes of Health, by the subcommittee for revision of the

- "Blue Book" (1968 report) of the committee for radiation therapy studies. Nov. 1, 1972.
19. The number performed by most academic centers surveyed by the ACSNM survey of academic divisions of nuclear medicine in U.S. medical schools. April 1972.
 20. It should be pointed out that the relative newness of nuclear medicine and the dearth of full-time practitioners in this specialty make the figure used here a less reliable standard than those used in diagnostic radiology and radiotherapy.
 21. ACSNM, Survey of academic divisions of nuclear medicine in U.S. medical schools. April 1972. The survey shows a current average of two or three nuclear medicine residents and an ideal average of two residents per staff physician.
 22. *Ibid.*
 23. This gives an overall average of 1,900 *in vivo* imaging studies per physician in an academic department, an estimate that compares favorably with the 2,280 studies per physician that the ACSNM survey (1972) of 66 institutions suggested. Many of these institutions have fewer than the assumed number of residents, which indicates that most of them are not as well staffed as the model used in this report. This committee's survey, based on results from 10 institutions, showed an average of 1,710 procedures per physician. Both of these actual averages are significantly lower than the community hospital productivity model of 4,000 procedures per physician. This is in marked contrast to the situation in diagnostic radiology, where the actual average of procedures per radiologist for 64 academic institutions was approximately the same as in community hospitals. The reason for this is

that patient care responsibilities dominate the functions of the radiologist in an academic diagnostic radiology department to a greater extent than in nuclear medicine.

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27. SCARD, Survey of academic radiology departments. 1971-1972.
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