

COUNCIL OF DEANS  
ADMINISTRATIVE BOARD

*Wednesday, September 8, 1982  
5:00 pm - 7:00 pm  
Jackson Room  
Washington Hilton Hotel*

AGENDA

Page

- I. Graduate Education in the Biomedical Science:  
Manpower Projection and Programmatic Linkages  
to Medical Education
- Robert M. Bock, Ph.D., Dean  
Graduate School and Professor  
of Biochemistry & Molecular Biology  
University of Wisconsin
  - Robert L. Hill, Ph.D., Chairman  
Department of Biochemistry  
Duke University School of Medicine and  
Chairman, Committee on a Study of National  
Needs for Biomedical and Behavioral Research  
Personnel, Commission on Human Resources, NRC.

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*Thursday, September 9, 1982  
9:00 am - 12:30 pm  
Farragut Room*

- I. Call to Order
- II. Report of the Chairman
- III. Approval of Minutes
- IV. Action Items
- A. Election of Institutional Members  
(Executive Council Agenda-----p. 28)
  - B. Election of Distinguished Service Members . . . . . 15
  - C. AHA's Proposed Medicare Prospective Payment System  
(Executive Council Agenda-----p. 32)
  - D. Statement on Status of Minority Students in Medical  
Education  
(Executive Council Agenda-----p. 53)

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A. MCAT Review Program . . . . .	17
B. Graduate Medical Education Positions (Executive Council Agenda-----p. 2)	
C. AAMC Response to Enactment of the Small Business Innovation Act (Executive Council Agenda-----p. 54)	
D. Status of Legislation (Executive Council Agenda-----p. 61)	
VI. Information Item	
A. Report of the COD Nominating Committee . . . . .	31
VII. Old Business	
VIII. New Business	
IX. Adjournment	

## BIOMEDICAL Ph.D. TRAINING PROGRAMS

### Impact of a Changing Environment on the Medical Schools

#### HISTORICAL BACKGROUND

The United States has been a world leader in biomedical research for several decades and has developed the most sophisticated research apparatus in the world. This has been primarily a function of the large amount of research funding invested by the federal government which began in the late 1940's and peaked in the late 1970's (figure 1). Concomitantly, there was a rapid increase in the number of academic doctorate degrees awarded (fig.2). Beginning in the early 1960's, federal support for medical education grew, allowing a dramatic expansion in both the number of new and size of existing medical schools. Medical student enrollment more than doubled between 1960 and 1980. Medical school faculty size increased more than four-fold in the same time period (fig. 3).

Most observers agree that these halcyon days of exuberant growth in federal support for research and medical education are over. Federal biomedical research expenditures began to decline as a percentage of national health expenditures as early as 1965. Although R&D funding continues to increase in absolute terms, by FY 1979 the increases began to fall behind inflation. Within the past four years, biomedical research funding has suffered an absolute decline when measured in constant dollars. Even more problematic is that this decline in research funding must be spread over a much larger number of investigators that completed training and entered the research "labor force" over the past decade. As figure 4 indicates, research dollars per faculty member have been steadily declining since 1963. More than one third of the Ph.D.'s in the biomedical sciences, and nearly all of the combined M.D./Ph.D.'s receive their training within the medical schools proper, and many more within the universities that contain the colleges of medicine. 27 percent of the average medical school's budget is derived from research funding. Obviously, changes in research funding would have profound repercussions for medical schools.

The National Academy of Sciences/National Research Council addressed many of these issues in a year-long study entitled, "Personnel Needs and Training for Biomedical and Behavioral Research: 1981 Report". Copies of their data and projections are attached. Unfortunately, experience since the publication of the report has resembled their most conservative projections.

#### PROJECTED DEMAND FOR FACULTY

There are several determinants of the demand for faculty logically revolving around the tri-partite functions of teaching, research, and service. Determinants include enrollment of undergraduate and graduate candidates for academic and professional degrees; the magnitude of research support from government, and medical students; funding from NIH, industry, and foundations; and general demand for medical services. Although biomedical Ph.D.'s do not provide direct patient care, they often collaborate with clinicians who do. Fully half of all new Ph.D.'s hired in medical schools have joined clinical departments.

R & D Funding: From 1973 to the time of the NAS/NRC report (1979), NIH funded research increased at an annual rate of 6.7% in real dollars. Total life sciences R & D expenditures at colleges and universities increased at a more moderate 3% per year. The report projected a subsequent one percent per year increase in constant dollars, based on the expectations that trends would continue at a somewhat more modest pace. They have not. The president's budget for FY 1983 proposed a 3% reduction in constant dollars from the FY 1982 level, which followed upon an aggregate 10% reduction since FY 1979. Few see any dramatic growth in the immediate future.

Student Enrollment: Biomedical faculty size is at least in part related to student enrollment at the undergraduate, graduate, and medical school level. The National Academy of Sciences report notes that total undergraduate enrollment (including biomedical science enrollment) is declining because of demographic trends. Similarly, graduate student enrollment is likely to decline because of a decreased applicant pool, declining availability of fellowship support and the rather bleak outlook in job opportunities for Ph.D.'s. The increase in medical student enrollment has decelerated sharply in the last couple of years. The GMENAC Report's prediction of an impending physician surplus provided a rationale for eliminating federal incentives for expansion. Class size at most medical schools has leveled off and a few schools are considering or have taken actual measures to reduce class size. In summary, teaching opportunities in the biomedical sciences show no signs of expansion and are more likely to contract over the next decade.

Clinical Practice: In the last decade medical schools have come to rely increasingly on funds generated by clinical practice. This dependence has grown from less than three percent to over twenty percent of the average medical school budget. Availability of this source of revenue has facilitated the expansion of the clinical faculty but may also have diverted physician members from research. However, patient care revenues for academic medical centers will probably not continue to grow as rapidly as in the past. First, the inevitable cutbacks in medicare and medicaid will probably have a differentially severe impact on academic medical centers because they care for a disproportionate number of poor and elderly patients. Secondly, academic medical centers, whose costs tend to be increased because of the research and teaching activities associated with patient care, will find it increasingly difficult to maintain service revenues as the political climate evolves towards price competition.

#### EFFECTS OF ZERO GROWTH ON BIOMEDICAL RESEARCH FACULTY

Because the biomedical research community has become accustomed to growth, there will be some painful readjustments will be necessary if growth slows or stops. One major effect would be the "graying" of the faculty. The rapid growth in faculty over the last 15 years has created a "bulge" in the age profile; i.e., a disproportionate fraction of young and middle aged. With any reduction in new appointments resulting from the economic circumstances, the mean age of the remaining faculty would gradually increase. It has been estimated that a continued growth of 6% per year is necessary to prevent this "graying" of the faculty. The implications of this are manifold. Among them is a top-heavy faculty in a period of austerity and retrenchment. Another major casualty would probably be research productivity. Most research is carried out by the graduate students and the post doctoral fellows under faculty

supervision. Without these categories of personnel the scope and volume of faculty research would of necessity be curtailed. Even more fundamental concern would be the loss of a generation of young investigators who produce a great number of significant original contributions. A third major issue is the quality of training for the next generation of biomedical researchers. As funding declines, and with it, graduate student enrollment, many institutions may lack the critical mass of students and research opportunities to provide optimal training. This will tend to lead to a further concentration of graduate training in a few major research institutions.

#### QUESTIONS FACING MEDICAL SCHOOLS

This changed environment presents two sets of questions to the medical schools. First, how will these changes affect individual medical schools, and how will they adapt? Specifically, how will they attract and retain qualified faculty? How will they deal with faculty who lose research funding-- both tenured and non tenured faculty? How will they maintain a quality education for students and fellows in the face of lost training grants and key faculty? To what extent will the quality of undergraduate medical education be jeopardized? If graduate programs must be cut, how can this be accomplished most appropriately? How will schools deal with graduate students and post-docs still "in the pipeline?" Finally, how will institutions cover the substantial overhead on their research facilities, or update obsolete equipment?

The second set of questions is how should the medical schools as a group respond to the shared responsibility for preserving the progress in biomedical research? What actions can be taken to stabilize funding? Should available funds be spread over many researchers or further concentrated in selected centers? As departments begin to discontinue graduate programs, who will ensure that no single field absorbs most of the losses?

Current Trends in Supply/Demand Indicators for Biomedical Science Ph.D.'s

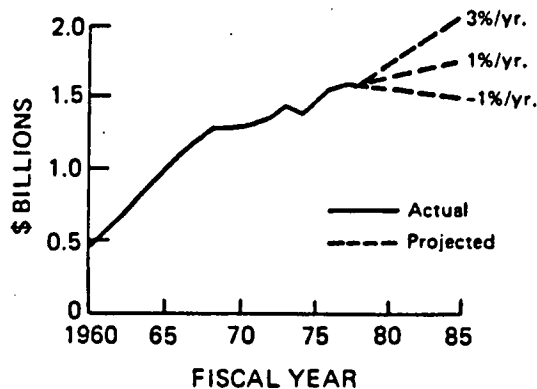
	1973	1975	1976	1977	1978	1979	Annual Growth Rate from 1973 to Latest Year	Latest Annual Change	Average Annual Change from 1973 to Latest Year
<b>1. SUPPLY INDICATORS (New Entrants):</b>									
a. Ph.D. production <sup>a</sup>	3,518	3,516	3,576	3,462	3,512	3,636	0.6%	3.5%	20
b. % of Ph.D.'s without specific employment prospects at time of graduation	6.5%	5.5%	5.3%	6.3%	5.1%	4.5%	-5.9%	-11.8%	-0.3%
c. Postdoctoral appts. <sup>b</sup>	4,123	5,346	N/A	6,342	N/A	7,334	10.1%	7.5%	535
<b>2. DEMAND INDICATORS:</b>									
a. National expenditures for health-related R and D (1972 \$, bil.)	\$3.53	\$3.69	\$3.80	\$3.96	\$4.11	\$4.29	3.2%	4.4%	\$0.127
b. Life science R and D expenditures in colleges and universities (1972 \$, bil.)	\$1.45	\$1.49	\$1.57	\$1.60	\$1.67	N/A	2.9%	4.4%	\$0.044
c. NIH research grant expenditures (1972 \$, bil.)	\$0.792	\$0.897	\$0.944	\$1.00	\$1.06	\$1.17	6.7%	10.4%	\$0.063
<b>3. LABOR FORCE:<sup>b</sup></b>									
a. Total	43,618	50,585	N/A	55,060	N/A	62,450	6.2%	6.5%	3,139
b. Academic (excl. postdocs.)	24,940	28,563	N/A	30,568	N/A	33,980	5.3%	5.4%	1,507
c. Business	5,328	6,779	N/A	7,002	N/A	8,550	8.2%	10.5%	537
d. Government	4,660	5,083	N/A	5,130	N/A	5,493	2.8%	3.5%	139
e. Non-profit	2,849	3,265	N/A	3,989	N/A	4,805	9.1%	9.8%	326
f. Self-employed	515	841	N/A	863	N/A	1,192	15.0%	17.5%	113
g. Other (incl. postdocs.)	4,913	5,527	N/A	6,715	N/A	7,748	7.9%	7.4%	472
h. Unemployed and seeking	413	527	N/A	793	N/A	682	8.7%	-7.3%	45
<b>4. BIOMEDICAL ENROLLMENTS:<sup>b</sup></b>									
a. First-year graduate	17,511	18,876	18,756	18,073	N/A	17,487	0.0%	-1.6%	-4
b. Total graduate	34,888	38,314	39,322	39,260	N/A	41,739	3.0%	3.1%	1,142
c. Medical and dental schools	65,922	74,220	77,011	78,289		84,933	4.3%	4.3%	3,169
d. Estimated undergraduate <sup>c</sup>	379,268	424,539	439,946	425,863	N/A	N/A	2.9%	-3.2%	11,649
e. Total biomedical graduate and undergraduate enrollment	480,078	537,073	556,279	543,412	N/A	N/A	3.1%	-2.3%	15,834

<sup>a</sup>Foreign nationals who received their doctorates from U.S. universities are included.

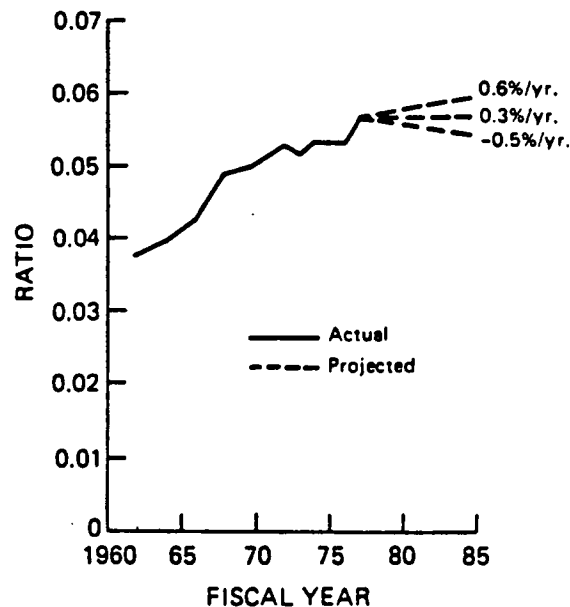
<sup>b</sup>Since labor force and graduate enrollment data are not available for 1978, latest annual change represents average annual growth rate from 1977-79. Graduate enrollment data for 1979 use the "biological science" category defined by the U.S. Department of Education which is a slightly different set of fields from the Committee's definition. Foreign nationals who received their doctorates from U.S. universities are included in labor force data.

<sup>c</sup>Estimated by the formula  $U_i = (A_{i+2}/B_{i+2})C_i$  where  $U_i$  = biomedical science undergraduate enrollments in year  $i$ ;  $A_{i+2}$  = biomedical B.A. degrees granted in year  $i+2$ , excluding health profession B.A.'s;  $B_{i+2}$  = total B.A. degrees granted in year  $i+2$ ;  $C_i$  = total undergraduate enrollments in year  $i$ .

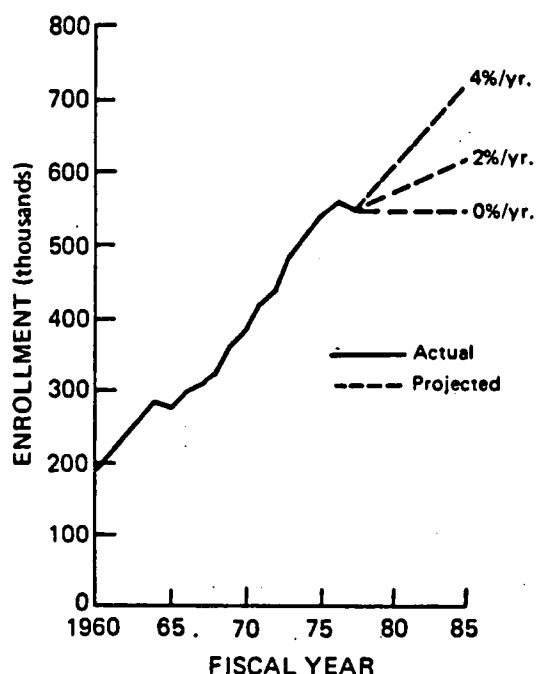
SOURCES: American Dental Association (1971-79a), AMA (1960-80), NIH (1966-81), NRC (1958-80, 1973-80), NSF (1975-79), U.S. Department of Education (1948-81, 1959-79, 1961-79, 1973-77, 1974-80).



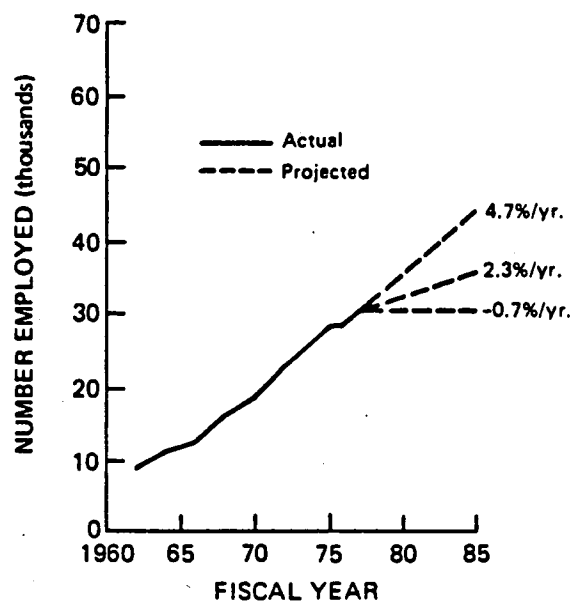
(a) Life Science R and D Expenditures in Colleges and Universities (1972 \$)



(b) Biomedical Ph.D. Faculty/Student Ratio



(c) Total Biomedical Graduate and Undergraduate Enrollment



(d) Biomedical Ph.D. Faculty

Life science R and D expenditures, academic employment, and biomedical science enrollment, 1960-77, with projections to 1985. Projections are stated in terms of expected annual growth rates for high, middle, and low estimates.

# NIH RESEARCH GRANT AWARDS, FISCAL YEARS 1960-1981

Figure 1

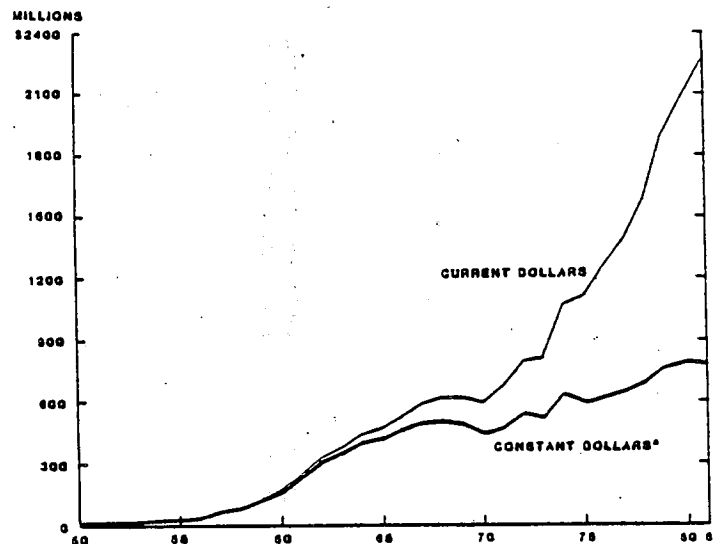
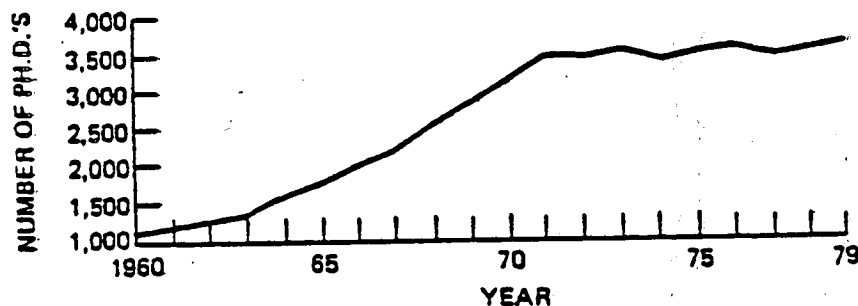
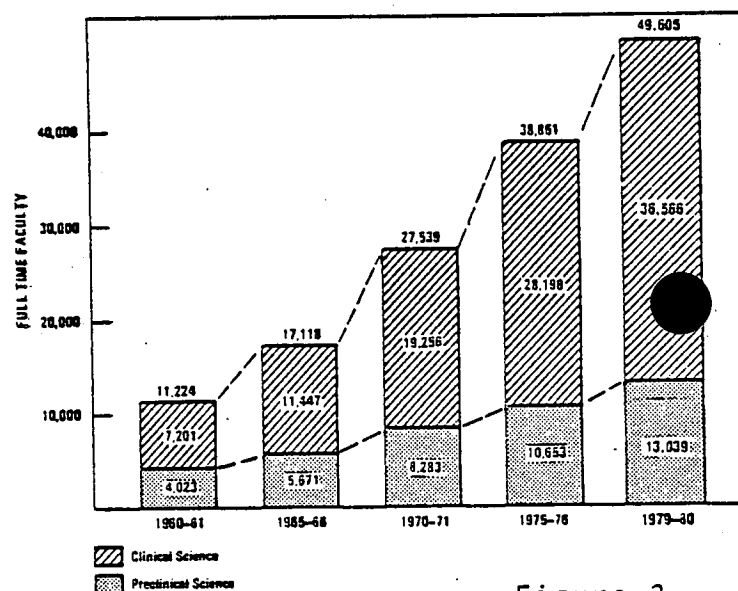


Figure 2



Ph.D.'s Awarded Annually in Biomedical Sciences, 1960-79.

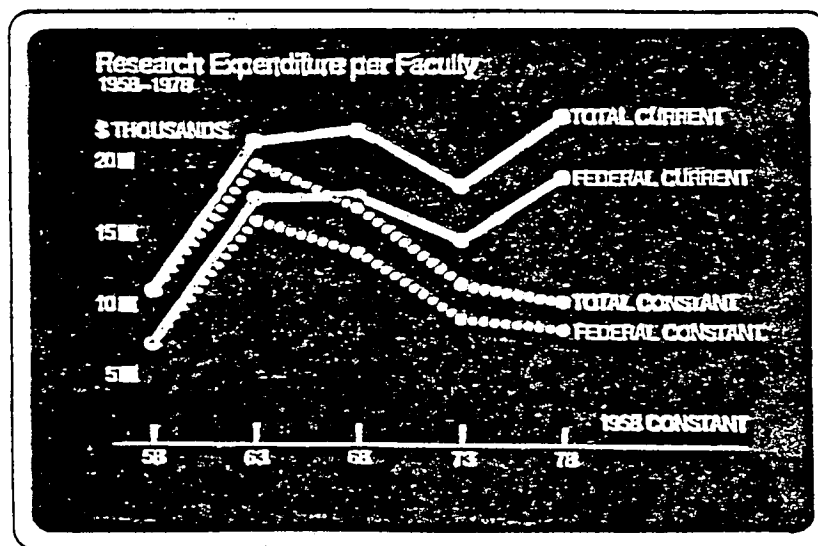
## NUMBER OF FULL-TIME FACULTY IN MEDICAL SCHOOLS 1960-61 THROUGH 1979-80



SOURCE: LCME Annual Questionnaire, Part II

Figure 3

Figure 4





ASSOCIATION OF AMERICAN MEDICAL COLLEGES  
ADMINISTRATIVE BOARD OF THE COUNCIL OF DEANS

MINUTES

Thursday, June 24, 1982  
9:00 am - 12:30 pm  
Independence Room  
Washington Hilton Hotel  
Washington, D.C.

PRESENT

(Board Members)

Steven C. Beering, M.D.  
Arnold L. Brown, M.D.  
John E. Chapman, M.D.  
William B. Deal, M.D.  
John W. Eckstein, M.D.  
William H. Luginbuhl, M.D.  
Richard M. Moy, M.D.  
Leonard M. Napolitano, Ph.D.  
Edward J. Stemmler, M.D.

(Staff)

Janet Bickel  
Robert Boerner  
John A. D. Cooper, M.D.  
Debra Day  
Joseph Isaacs  
Paul Jolly, Ph.D.  
Thomas J. Kennedy, Jr., M.D.  
Joseph A. Keyes, Jr.  
Nina Matheson  
James Schofield, M.D.  
Emanuel Suter, M.D.  
Kathleen Turner

(Guests)

John S. Graettinger, M.D.  
Grady Hughes  
Julius R. Krevans, M.D.  
Manson Meads, M.D.  
Ed Schwager

I. Call to Order

The meeting was called to order at 9:00 am. Dr. Luginbuhl adjusted the order of the agenda items to meet the schedule of individual presenters.

II. Report of the Chairman

Dr. Luginbuhl's report consisted primarily of a discussion of items considered at the Executive Committee meeting immediately preceding the Board meeting.

Animal research legislation: Many of the most objectionable features of the bill under consideration have been removed,

however it still contains a set-aside for funding and alternative research methods. After much discussion among the committee it was concluded that the AAMC should continue to oppose the bill. Dr. Luginbuhl noted there was no urgency in this regard.

FY1983 General Funds Budget: Dr. Luginbuhl reported that the FY1983 budget is a closely balanced budget and will be discussed further at the executive session of the Executive Council.

Residents' Claims for Worker's Unemployment Compensation: He explained that these claims were really under state statute and the institutions in each instance appealed the claims which subsequently had been upheld with residents receiving compensation. In concluding, it was realized that this issue would be very difficult to deal with as an Association and it was recommended that the Association should not involve itself, except to the extent of providing advice and counsel. No further action was recommended at this time.

Proposed survey of medical schools regarding medical education in HMOs: Dr. Madoff, Chairman, Department of Community Health at Tufts University, asked for AAMC support in conducting such a survey. The Committee agreed to participate with AAMC staff involvement in the questionnaire design and AAMC endorsement. As a follow up step, Dr. Madoff proposed a conference to create a protocol or methodology for determining the costs of medical education within IPAs and HMOs. The Executive Committee concluded it would be difficult for a conference to develop a protocol or design and questioned whether it was either feasible or desirable to have a uniform, single approach to looking at the cost of education in these organizations.

The Executive Committee proposed supporting participation in a conference which was an end in itself, devoted to sharing information among the participants on issues related to cost, rather than a means to another end-- i.e., a uniform methodology for finding and reporting costs.

Ninety Percent Indirect Cost Recovery: A group of thirteen eastern schools are considering challenging the legality of these reductions. The questions were raised whether the Association should be part to the exploration of the feasibility of such suit; and second, whether we should participate in the suit if it is brought. The Executive Committee concluded that this was not an appropriate action for the Association at this time.

Finally, the Chairman reported on the differences of opinions with respect to the appropriate strategy for dealing with the indirect cost reimbursement problem among members of the Executive Council. Faculty representatives generally argued that the policy should be directed toward preserving the number of ROIs rather than recovering full reimbursement of indirect costs. Dr. Luginbuhl felt that it would be more difficult to restore the principle of full reimbursement than it would be to get the number of grants

back up. He also stated his commitment to argue the position for full reimbursement.

### III. Approval of Minutes

The minutes of the April 13, 1982 meeting of the Administrative Board were approved as submitted.

### IV. Action Items

#### A. Membership Item

On motion, seconded and carried, the Board endorsed the election of the following institution to Full Institutional Membership in the AAMC:

Oral Roberts University School of Medicine

#### B. Annual Meeting Program Recommendations

Responding to the COD's adopted resolution at its 1982 Spring Meeting, the Board endorsed a proposed joint COD/GME session at the AAMC's 1982 Annual Meeting. As a topic for this session it was suggested to address "Professional Relations" from three different vantage points: 1) the relationship of the medical school to the medical profession, 2) continued medical education as a link of the medical school to the medical profession, and 3) continuing medical education as a mechanism to improve geriatric care.

On motion, seconded and carried, the Board approved a joint COD/GME session at the Annual Meeting in November.

#### C. ACCME Essentials

Dr. Suter, Director of the AAMC's Division of Education Resources and Programs, reviewed with the Board the ACCME's recommendation taken in response on action of the AMA, to delete and reference to the handbook in the Essentials, and to develop a new statement of eligibility which would not be a part of the Essentials. The ACCME viewed the handbook as merely a listing of examples, rather than a policy statement for CME providers in fulfilling the Essentials. Dr. Suter informed the Board that the ACCME has been informally using the revised Essentials and that simplicity has enhanced the Council's ability to make decisions with regard to application to organizations and institutions.

Dr. Luginbuhl pointed out that the Board had approved this document in an earlier version before the above noted changes. However, he remained concerned that the document continued to include the requirement that the sponsor's governing body formally approve the CME Mission Statement. Dr. Stemmler and others concurred that this was not the kind of matter appropriate for university governing boards. Other members noted with concern

that Essential #6 requires the provision of a budget. The Board was unanimous in its desire that these matters be dealt with appropriately. Further versions should be explicit that the medical school executive faculty is a competent body to approve the CME Mission Statement, and the provision of a budget should not be understood to mean that the sponsor is required to subsidize the activity.

After much discussion, the Chairman suggested that the Board endorse both these documents of the Essentials and further express the reservations of the Board to the Executive Council.

On motion, seconded and carried, the Board voted to endorse both documents of the Essentials.

#### D. Management of Academic Information

Nina Matheson, Director of Medical Library Studies at the AAMC, reported on the recently completed study entitled, Academic Information in the Academic Health Sciences Center: Roles for the Library in Information Management. The report recommends that professional associations assist institutions to achieve the long-range goal of harnessing information and communication technology to improve the performance of the institutions academic missions in the achievement of integrated information networks. She also explained that the Report calls on industry and the private sector to become more familiar with the unique nature of the academic medical center environment and to help build better systems for the management of the knowledge base that is vital to quality medical education and care.

Mr. Keyes noted that the Report identified immediate steps that could be taken to improve the library's functioning and bring it "electronically on line" without staggering cost implications. Accomplishment of such feasible first steps would put institutions in a far better position to exploit anticipated developments in technology, knowledge base development, artificial intelligence capabilities, and decision support systems.

Dr. Beering complimented and thanked Nina as the Report had already proven helpful with his institution's development of a new medical library. He informed the Board that the Indiana Higher Education Commission seemed suitably impressed with the Report.

On motion, seconded and carried, the Board endorsed the recommendations of the Report to be put before the Executive Council for concurrence.

#### E. ACGME Essentials

Mr. Keyes reported that the Board has reviewed these Consensus Statements in one form or another at earlier meetings. He explained that the ACGME has already negotiated the development of

the examination referred to in Statement #3 with the ECFMG which plans to implement it in January of 1984. Mr. Keyes further expressed the view that this document is really a reflection of progress made on earlier committee reports and positions taken by the Association.

The Chairman asked the Board to endorse the recommendation that the Executive Council ratify the ACGME's changes in eligibility standards and to endorse the ACGME's action on the development of a written examination to evaluate clinical skills and encourage the ACGME to proceed as soon as possible with the formation of a task force to investigate feasible methods for the evaluation of clinical skills by direct observation.

On motion, seconded and carried, the Board agreed to endorse this recommendation.

#### V. Discussion Items

##### A. Town Gown

The Board conducted a brief discussion of the paper presented in the Council's agenda book. While approaches necessarily varied on an institution by institution basis, the Board stressed the importance of academic medicine developing and maintaining appropriate relations with organized medicine from the national (AMA) level on down. Faculty should be encouraged to join and participate in local medical societies. The University of Kentucky was devoting special effort to tracking the number and kind of patient encounters with a view toward examining the impact of the faculty clinical practice on local physicians and volunteer faculty and vice versa.

##### B. AHA Proposals on Medicare Prospective Payments Systems

Joseph Issacs, Sr. Staff Associate in the AAMC Department of Teaching Hospitals, reported on the AHA proposal. He explained that the proposal, which is limited in duration to four years, would establish for each hospital a known fixed price for each Medicare discharge. Payments in each year would be adjusted to reflect increased prices in the goods and services purchased by hospitals. Significantly, hospitals able to provide care for less than the fixed payment would be allowed to retain the excess while those with costs greater than the payments would incur a loss. Lastly, as proposed, hospitals, under defined conditions and with specific changes in the fixed payment, would be allowed to charge Medicare patients up to \$1,000 per discharge above the government payment.

Dr. Beerling recommended that the Board review this proposal, but requested no further action at this time. He stressed his concern that the trend is clearly moving away from a single class of health care that we had so proudly been moving toward.

Dr. Clawson suggested that depending on how the program was implemented, the teaching hospitals could stand to lose significantly.

After further discussion, the Board concurred with Dr. Beering and suggested no further action be taken at this time.

#### C. Legislation

Dr. Kennedy reported on the status of numerous bills before Congress which the AAMC has been working closely on in recent months. Among these were: Small Business Set-Aside Legislation, NIH Renewal Legislation, The First Concurrent Resolution on the Budget for FY1983, and Animal Research Legislation.

In a final note to the Board, Dr. Kennedy reported that the AAMC did its best to defeat the Small Business Set-Aside Legislation. Having fought the good fight, however, the battle was still lost. Working on behalf of the Association's position were many important advocates including: Representatives Dingell, Waxman, Madigan, and McClosky.

#### D. 1983 COD Spring Meeting Topic

Dr. Luginbuhl suggested the COD consider a discussion of GME problems considered at the Board's previous meeting. Dr. Beering concurred and suggested that attention be given to the FMG, particularly, the USFMG aspects of the problem. Lastly, Dr. Moy expressed an interest in discussing the issues related to the observation and measurement of clinical skills and judgement.

The Chairman viewed this as a good beginning and requested further Board discussions at a later date.

#### E. 1984 COD Spring Meeting Location

Dates and location for the 1984 Spring Meeting were selected. Given the alternatives presented to the Board, the members expressed a preference for Callaway Gardens in Pine Mountain, Georgia with a meeting date of April 1-4th.

The Board on motion, seconded and carried, authorized the AAMC staff to make the final arrangements to secure the preferred meeting dates and location.

### VI. OSR Report

Grady Hughes presented the OSR Report to the members of the Board. Topics of discussion included development of an OSR Report to be distributed to medical students throughout the country. This report will also include Dr. Krevan's suggestion to include information on student loan delinquency and an exhortation to colleagues to improve their performance. The report is expected to be sent out before this year's Annual Meeting.

The OSR Board further discussed the Universal Application Form which will now be distributed to program directors.

Finally, the OSR Board discussed ethical issues for medical students in the hopes to develop some guidelines for students in this area. It was expressed to expand these guidelines into the clinical years as well.

With a final note, Dr. Luginbuhl commended the OSR on the importance of issues which the OSR Board had taken up and the quality of the performance in addressing them.

## VII. New Business

- A. Dr. Moy brought to the Board's attention a matter considered by the Illinois Council of Deans, namely the potential for destructive competition among medical schools for physician audiences as the schools attempted to exploit the potential of the Cable TV industry in offering CME programs and marketing their own clinical services. The Board determined this was not an issue that required AAMC involvement at the present.
- B. Dr. Eckstein reported that the student loan delinquency rate at his institution was not as dismal as previously thought. The problem areas seem to be among students who did not finish medical school, specifically, EOP students.
- C. Dr. Cooper reported that the effort to change the 30/90 day requirement had been exhausted and there seemed no hope for this change to occur. He also explained that the HHS Inspector General was so concerned with HPSL loan delinquency problem that he has threatened 1) to jeopardize eligibility of delinquent faculty for NIH grants and 2) to review the legality of deducting overdue payments from tax dollars withheld.

Finally, Dr. Krevans reviewed the Report of the ad hoc Committee on the Promotion of Ethical Standards in Research. The primary goal of this document was to set forth guidelines and recommendations that would be helpful to medical schools and teaching hospitals in designing their individual institutional approaches in dealing with alleged misconduct by researchers.

Although the guidelines and recommendations presented principally address fraud, they may also be useful in institutional efforts to deal with the violation of existing administrative procedures and ethical codes for the treatment of human and animal subjects of research and other problems that may arise in the conduct of research.

On motion, seconded and carried, the Board adopted the ad hoc Committee's report with its recommendations for maintenance of ethical standards.

X. Adjournment

The meeting was adjourned at 12:09 pm.



## ELECTION OF DISTINGUISHED SERVICE MEMBERS

At the June COD Administrative Board meeting, Dr. Luginbuhl appointed the following to serve on the Distinguished Member nominating committee: John W. Eckstein, M.D., Chairman, M. Roy Schwarz, M.D., and William B. Deal, M.D. This committee solicited recommendations from the general membership of the Council of Deans. Recommendations were received and the committee met by telephone conference call on September 2, 1982. Their report will be presented to the Board at this meeting.

PROPOSED MONITORING FUNCTION OF THE GROUP ON STUDENT  
AFFAIRS IN THE DISTRIBUTION OF NRMP MATCHING RESULTS

The AAMC Group on Student Affairs (GSA) considers receipt of the National Resident Matching Program (NRMP) Results Book at least 48 hours prior to Match Day essential to preparing for and counseling with unmatched students. In previous years, early receipt of the Results Book has infrequently occasioned the seeking of places for unmatched students prior to the specified hour and day. This presumably was abetted by some GSA members personally or by the release of the contents of the Results Book to others at their institution. Since similar violations of the NRMP Agreements in the future may result in a decision by the NRMP Board of Directors to cease distribution of the Results Book to student affairs deans prior to the stipulated day and hour of the Match, a mechanism to monitor inappropriate release of the information in the Results Book should be implemented. Since the GSA recognizes that the NRMP cannot and should not undertake this responsibility, the following plan is recommended:

1. In the future, the NRMP Results Book will be distributed through the auspices of the GSA Steering Committee.
2. The GSA National Chairman (on behalf of the GSA Steering Committee) will contact student affairs deans at all accredited U.S. medical schools and invite them to request a Results Book to be sent to them (at their specified address).
3. The Results Book will be mailed by the AAMC on behalf of the GSA Steering Committee to all student affairs deans only upon return of a form which states that the dean for student affairs wishes a copy of the Results Book, will treat it as absolutely confidential (until the specified date and hour for the release of the results of the Match), and will report any evidence of premature release of the Results Book to the GSA National Chairman.
4. The GSA Steering Committee will be empowered by the AAMC and the GSA to refuse early release of the Results Book to any institution at which there was substantial evidence (during the preceding year) of the results being released prior to NRMP deadlines.

RECOMMENDATION:

That the Council of Deans Administrative Board review this proposal and advise the Group on Student Affairs about its propriety and possible implementation prior to its presentation to the GSA membership.

MCAT PROGRAM REVIEW  
September 9, 1982

The purposes of these materials and the presentation and discussion planned for the meeting of the COD Administrative Board are:

- 1) to provide a brief overview of the current status of the MCAT program,
- 2) to provide pertinent information about some recurring questions,
- 3) to provide the opportunity to discuss new issues at the pleasure of the Board,
- 4) to sample the Board's reaction to possible program changes/additions.

To satisfy these objectives, information is provided in five areas, 1) validity, 2) performance change in repeated administrations, 3) test security, 4) special projects, and 5) new proposals.

1. Validity - The validity of the MCAT is a very complicated issue depending ultimately on all the circumstances of a particular application. The meaning attached to the scores by the user of the information in a specific instance is the final determinant of the validity or value of the test. Bearing that in mind, it is still possible to anticipate the general categories of use to which the scores will be put and the kinds of criteria that will measure the test's effectiveness. In this discussion we will concentrate on Content Validity and Predictive Validity.

- a. Content Validity - The content of the New MCAT, that was first administered in 1977, was determined by an extensive process of science topic selection followed by a rating of the importance of each topic by medical school faculty, residents and students. The topics were rated on (1) the degree to which mastery of the medical school curriculum would be impaired by lack of knowledge of the topic at matriculation to a school of medicine and (2) the degree to which the topic is useful in actions and decisions of medical practice. In order to insure the continuing relevance of the MCAT science content to the study and practice of medicine, a review of the science content was conducted during the 1981-82 academic year. A total of 278 medical school faculty and students representing 63 schools of medicine and 7 academic societies evaluated the continuing appropriateness of the MCAT science topics and also suggested additional topics that are becoming relevant as prerequisites to medical education because of recent developments in their disciplines. This was followed by a survey of undergraduate college faculty to insure that the MCAT science topics remain generally a part of the first year introductory course in each of the disciplines. A total of 427 undergraduate college faculty representing 92 four-year and 54 two-year schools participated in the survey.

The results of the medical school faculty survey indicate that the major MCAT topics in science continue to be judged as

necessary prerequisites to the study and practice of medicine. However, at the subtopic level, some variations from the 1975 survey occurred. Medical school faculty judged areas such as comparative anatomy, behavioral relationships (vertebrate) and electrochemistry as becoming less important. On the other hand, areas such as the atomic nucleus, genetics, DNA replication, and principles of the endocrine system were rated as having greater future importance. The results of the review will be incorporated into the testing program in 1984 following appropriate announcements and revisions to the MCAT Student Manual.

- b. Predictive Validity - The MCAT Interpretive Studies Program was developed by the AAMC with two primary objectives: 1) to facilitate local research on the MCAT, the results of which will assist in the interpretation and use of MCAT score information in those settings; and 2) to develop national statistics that are necessary for an overall appreciation of the value of MCAT scores in medical school admissions.

Thirty schools of medicine, or about one-fourth of the AAMC's membership, are participating in the program. At each of these schools, performance data are being collected on two classes of students as they progress through the various phases of their medical education career. AAMC staff provide statistical and computer support to the schools to study the predictive value of MCAT scores in relation to these various local measures of performance.

Activity thus far in the program has necessarily involved the study of performance in the first two years of medical school. Criterion measures generally available during this period include course grades and NBME-Part I scores. The summary analyses performed to date have used multiple and individual Pearson product-moment correlation coefficients as validity indices. Those displayed in Tables 1 and 2 provide preliminary answers to three common validity questions:

1. How does the predictive value of MCAT scores in relation to performance in the basic sciences compare to that of the undergraduate academic record?
2. Does the MCAT contain unique information, not already provided by undergraduate GPA, that aids in the prediction of students' performance? To what degree?
3. What is the relative value of the various individual MCAT scores in predicting overall performance in the basic sciences?

The answer to the first question varies with the criterion considered. When the criteria are medical school course grades, MCAT scores in combination are comparable to undergraduate grades in predictive value (Table 1), although no single MCAT score correlates as highly as undergraduate science GPA (Table 2). When the criteria are NBME-Part 1 scores, MCAT scores in combination (Table 1) and several MCAT scores separately (Table 2)

are substantially better predictors of performance.

The degree to which MCAT scores provide unique and useful information to the admissions process is shown by the multiple correlation values in Table 1. These are consistently higher when based on a combination of MCAT scores and undergraduate GPA than those based on either predictor group separately. The increase in the average multiple correlation when MCAT is added to GPA, is 11-16 points when course grades are the criteria and 27 points when NBME scores are the criteria. These comparisons are usually expressed as the "proportion of variance explained" (the multiple correlation values squared). In these terms, MCAT scores improve predictability by 65 percent with course grades as the criteria and nearly 300 percent with NBME Scores.

2. Performance Change on Repeated Administrations - The issues under this topic include: a) changes in scores on a second taking of the test without an intervening formal experience, b) changes in scores following participation in a commercial review course, c) implications of the magnitude and pattern of both types of changes. Specifically, the questions, "How much of the change is real?" and "How is the validity of the test affected?" will be addressed.

In considering these issues it is critical to bear in mind that the MCAT consists of two different kind of scores. The Skills Analysis: Reading and the Skills Analysis: Quantitative scores form one set and the science scores form the other set. The skills scores are measures of characteristics developed over longer periods of time and less amenable to sudden dramatic improvement. The science scores are measures of achievement in biology, chemistry, and physics that are not only amenable to change over much shorter periods but, to be valid, must reflect a corresponding change in learning or educational accomplishment, regardless of the cause.

In Figures 1A to 1F are depicted the average performance gains of the most common group of test repeaters, first-time spring examinees who retake the test the following fall. The data cover five different repeater samples, 1977-1981, with gains reported separately for participants and non-participants in commercial review or "coaching" courses occurring during the interim between test administrations.

Data for the "uncoached" group show general effects associated with repeating the test. Their average performance gains for SA:Reading and SA: Quantitative are similar, on the order of one quarter to three quarters of a scale score point. These are systematically lower than their average gains in the four science areas of assessment, which range from one-half to one scale score point. This difference, between the skills and science areas of assessment, reflects the fact that given sufficient ability it is possible to study and review, and improve one's achievement in a relatively short time in content-based subject matter examinations, such as the science subtests. Two other components can be hypothesized to explain at least partially the performance gains in each area of assessment, including SA:Reading and SA:Quantitative. Part of the gain might be attributed to a general "practice" effect. Another part is due to

to the disproportionate presence of examinees who for various reasons scored lower initially than the level of their true ability.

An additional or incremental gain for those taking "coaching" courses also varies by MCAT subtests. In SA:Reading, it is non-existent, while in SA:Quantitative it is on the order of .2 to .3 of a scale score point. The incremental gains in the science areas of assessment are more on the order of one-half of a scale score point. The pattern of these results should all but eliminate concerns that test validity is jeopardized by examinee's participation in these courses. Advance exposure to test questions or training in test-taking strategies designed to "beat" the exam are two potential validity concerns presumed to be a part of the "coaching" experience. Since the effect of these should be equal across areas of the examination, the failure to find incremental gains in SA:Reading casts doubt on their impact. The fact that the incremental gains are concentrated in the sciences suggests again that the structured preparation of some review courses can enhance performance in those areas. The small but distinguishable incremental gains in SA:Quantitative may reflect an opportunity to review the basic mathematical and statistical concepts required by the test. A related and interesting observation from more detailed review of these data is that the incremental gains in the sciences found for "coached" examinees were much lower for those whose skills scores were low. These results are consistent with the hypothesis that the eight-week review process, typical of major "coaching" courses, is too short a time span to be taken advantage of by those with less well developed thinking and interpretation skills.

3. Test Security - The primary issue is the potential threat to the validity of test scores from the availability of advance information about test questions. If the magnitude of the problem were such that either the predictability of the scores were affected or their meaning as measures of academic achievement were no longer viable, a serious matter of validity would exist.

In an effort to monitor the threat to program integrity, the AAMC and its contractor, AIR, regularly take certain steps to minimize the preceding risks. These procedures include:

- a. monitoring the various study guides and review systems
- b. analyzing performance changes for repeating examinees
- c. comparing performance of different item sets

While these procedures have confirmed that some similarities exist between marketed study materials and past MCAT questions, current provisions seem adequate, based on available evidence for avoiding the problems previously identified.

4. Special Projects - The Association of American Medical Colleges (AAMC) in association with the American Institutes for Research (AIR) is in the process of upgrading its existing procedures for detecting item bias. To do this systematically, a study has been undertaken to evaluate the effectiveness of the present review mechanism and suggest

more analytical techniques. More specifically, the investigation expects: 1) to identify items that exhibit a performance disadvantage and quantify the magnitude for particular MCAT examinee subgroups, 2) to identify characteristics of the items that are related to such performance differences and ascertain whether these item characteristics are valid or invalid (biased) with respect to the assessment of applicants, and 3) to develop the necessary item writing guide, editorial standards, review procedures and statistical screening procedures that can serve to eliminate or prevent such biased items from entering the MCAT item bank. The study will be completed in May 1983. The progress of the study will also be monitored by the AAMC's team of external program consultants. Two of the consultants, Drs. Lorrie Shepard and Robert Linn are recognized national authorities in the area of item bias.

## 5. New Proposals

- a. Diagnostic Services Program - We have recently been studying an additional mechanism for assisting college students who are considering a career in medicine. The specific purpose of the program, tentatively named the MCAT Diagnostic Services Program (DSP) is to provide a detailed assessment of strengths and weaknesses of candidates in those areas of academic preparation tested in the MCAT. The information will be presented in a manner that will provide facts important for general counseling about a career in medicine and also for more specific academic counseling. That is, the participant and his or her advisor will be provided data that will describe the current status of his or her relevant academic accomplishment, and in addition specify areas of weakness and even provide guidance for remediation.

As currently envisioned, the DSP will consist of a series of separate test modules that correspond to the content areas and skills measured by the MCAT. The program will be designed to operate in conjunction with a local premedical advisor if available. The participant need subscribe only to the services associated with the assessment area of current interest. The participant will receive the module(s) requested and corresponding response forms together with instructions for completing and returning the necessary materials. The responses will be analyzed and individualized feedback will be provided consisting of:

1. the record of questions incorrectly answered,
2. the correct answers to the questions missed, together with a rationale for these correct answers,
3. an analysis of weaknesses in terms of topics and subtopics as found in MCAT content outline in the MCAT Student Manual,
4. guidance to specific sections of commonly available texts for additional information, and
5. a comparison of the participants' performance profile with others considering a career in medicine.

Some questions are compromised in the normal course of operating

a secure program. Those, together with others no longer usable in future forms, provide the source for the questions in the test modules. With rare exceptions it will not be necessary to change the questions in the test modules and would obviously not be in the interest of the DSP participant to obtain information about the specific questions prior to completing a module. We plan to prepare one or two modules initially and introduce them experimentally as a way of evaluating the program and its impact on the current status of medical school admissions.

- b. MCAT Essay Section - This proposal has surfaced in various forms several times in the past. In essence, the idea is to require every examinee to write one or more essays as a response to a carefully structured stimulus on a topic that does not require specialized knowledge. The purpose of the exercise is to obtain evidence about the candidate's ability to organize and express his or her thoughts about a topic of general interest.

No attempt would be made centrally to place any evaluation on the submission. The pertinent materials would be duplicated and forwarded with the test score report. The various admissions committees would be free to use the materials as they saw fit. Meanwhile, research might be undertaken at the national level on various approaches to evaluating and using the materials generated by the examinee to supplement and support local practice.

This point in the history of the MCAT Program seems to be particularly appropriate to explore this proposal since it might be coupled with a study of the possibilities for reducing test length without sacrificing the quality or quantity of information currently provided.



Table 1  
Medians and Ranges of Multiple Correlations with  
Basic Science Grades and NBME-Part I Total

	<u>Classes/Schools*</u>	<u>GPA Composite†</u>	<u>MCAT Composite</u>	<u>GPA and MCAT</u>
First Year Grades	21/11	<sup>.42</sup> (.16 - .54)	<sup>.41</sup> (.19 - .70)	<sup>.54</sup> (.37 - .73)
Second Year Grades	17/9	<sup>.37</sup> (.04 - .52)	<sup>.39</sup> (.12 - .63)	<sup>.53</sup> (.33 - .68)
First Two Years Combined	17/9	<sup>.43</sup> (.10 - .52)	<sup>.41</sup> (.14 - .65)	<sup>.54</sup> (.35 - .71)
NBME-Part I Total	14/7	<sup>.29</sup> (.07 - .64)	<sup>.54</sup> (.33 - .82)	<sup>.56</sup> (.39 - .91)

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\*Median class sizes for the four groups range from 98 - 105  
†science GPA and non-science GPA

Table 2

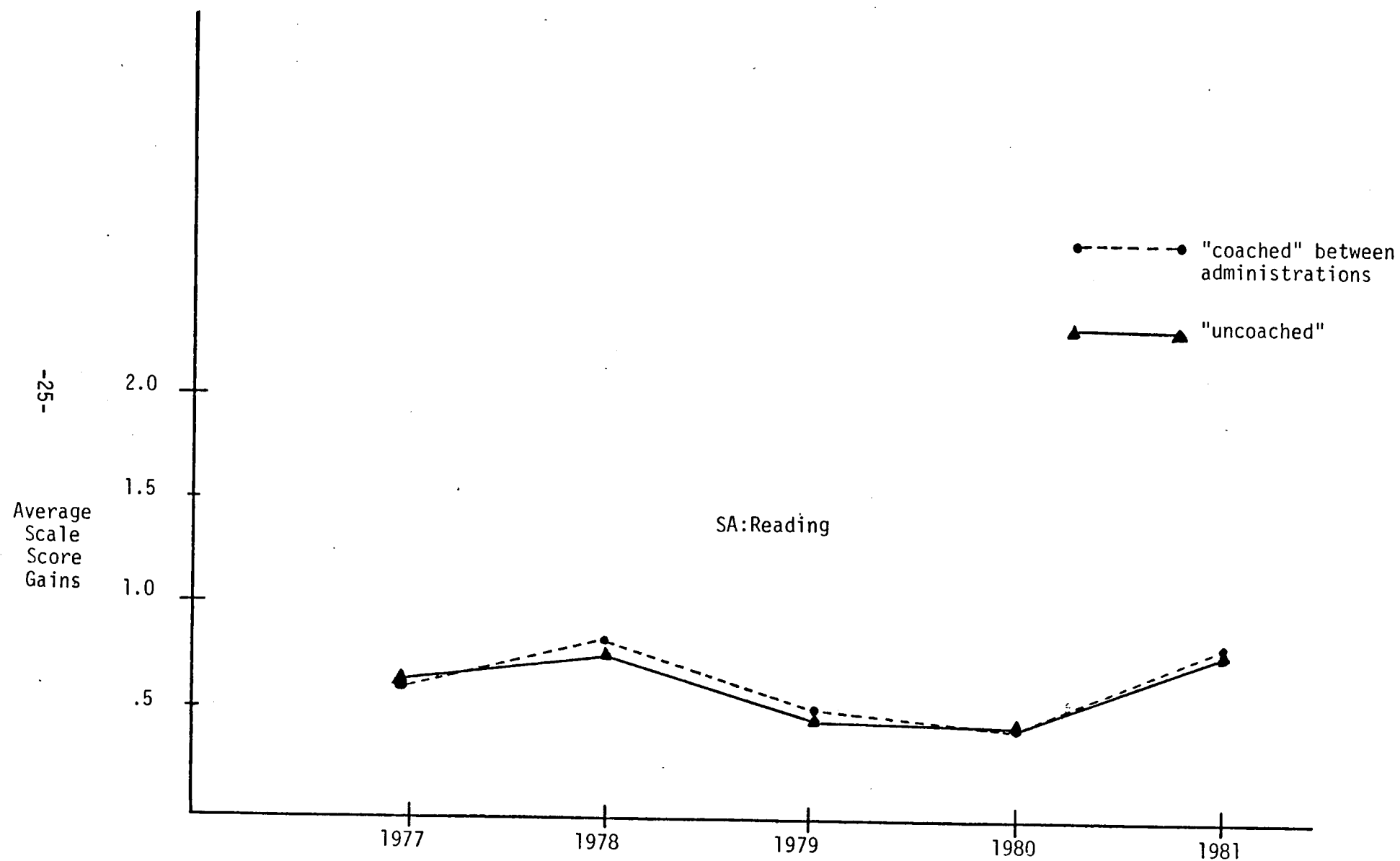
Median Individual Correlations of MCAT Scores  
and Undergraduate GPA with  
First-Year Grades and NBME-Part I Total

<u>Undergraduate GPA</u>	Median Correlations*			
	<u>First Year Grades</u>		<u>NBME-Part I Total</u>	
	<u>observed</u>	<u>corrected†</u>	<u>observed</u>	<u>corrected†</u>
Science	.41	.53	.28	.39
Non-Science	.21	.26	.10	.12
Total	.37	.47	.24	.37
<u>MCAT</u>				
Biology	.27	.36	.39	.50
Chemistry	.30	.38	.43	.55
Physics	.25	.27	.28	.34
Science Problems	.31	.37	.40	.50
SA:Reading	.21	.27	.23	.30
SA:Quantitative	.21	.27	.29	.35

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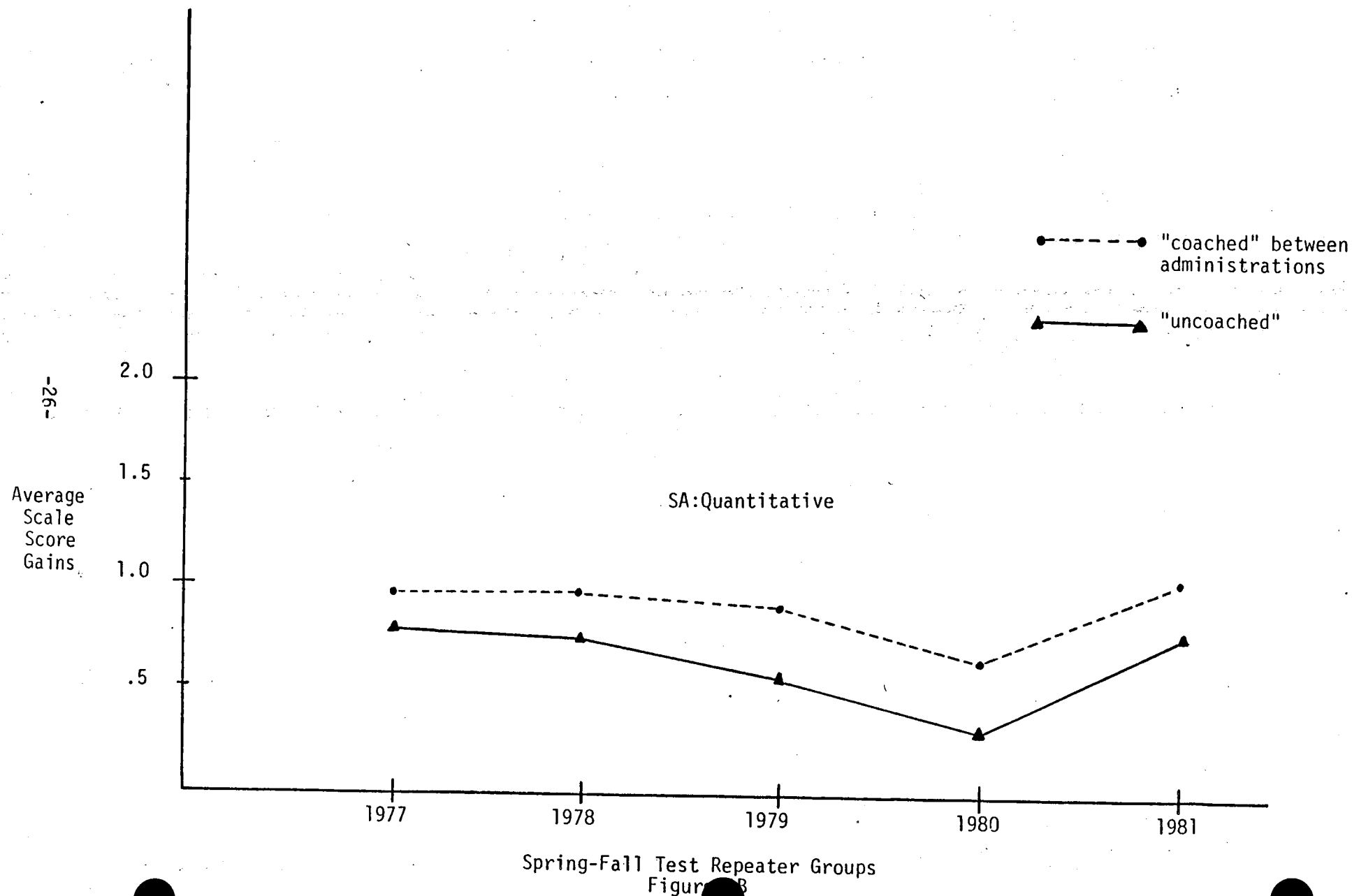
\*correlations for first year grades are based on 25 classes at 15 schools. Median class size is 128. Correlations with NBME are based on 21 classes at 12 schools. Median class size is 119. The larger number of samples than in Table 1 reflects the availability of individual correlations from published studies.

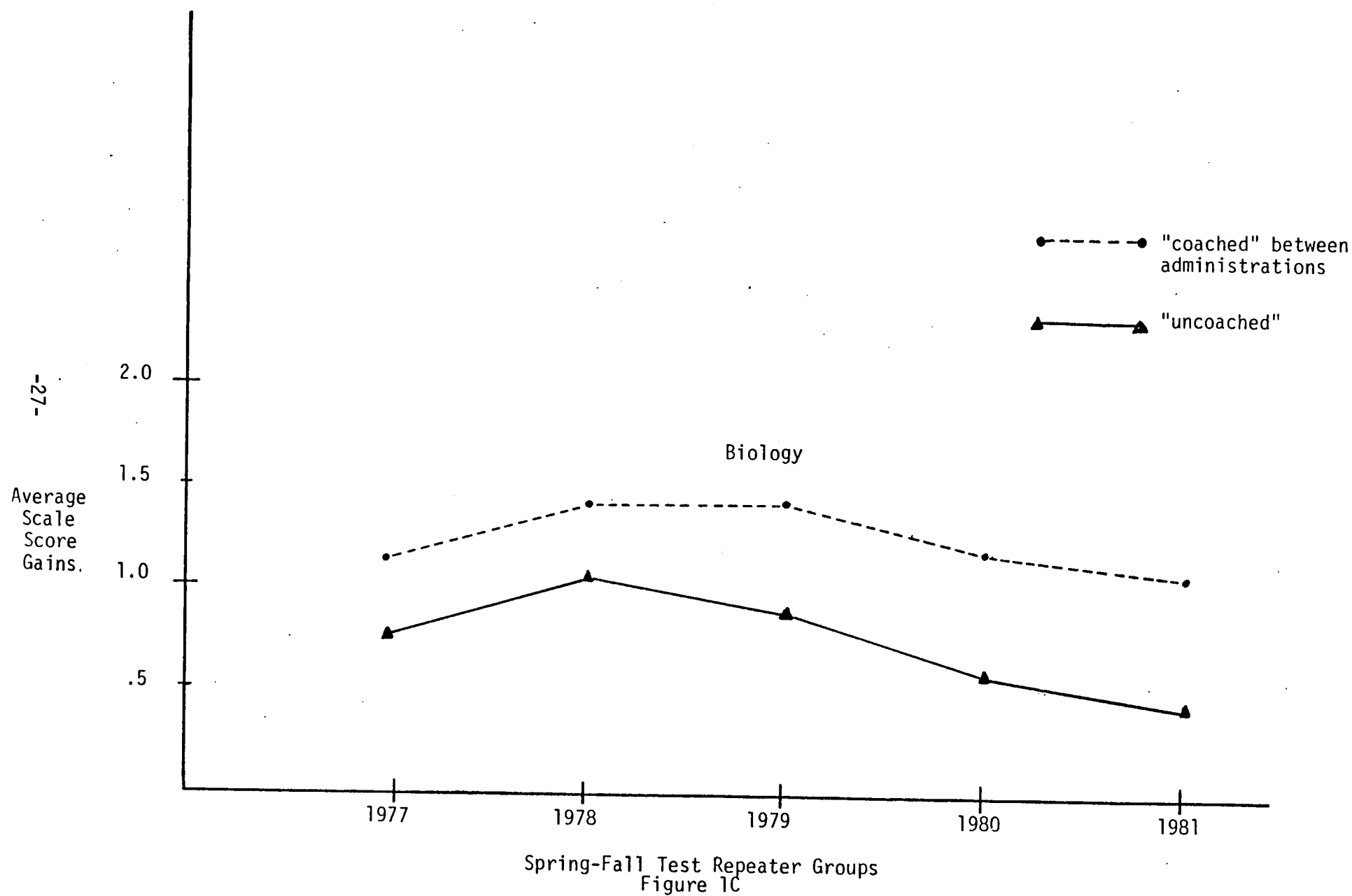
†corrected for restriction of range.

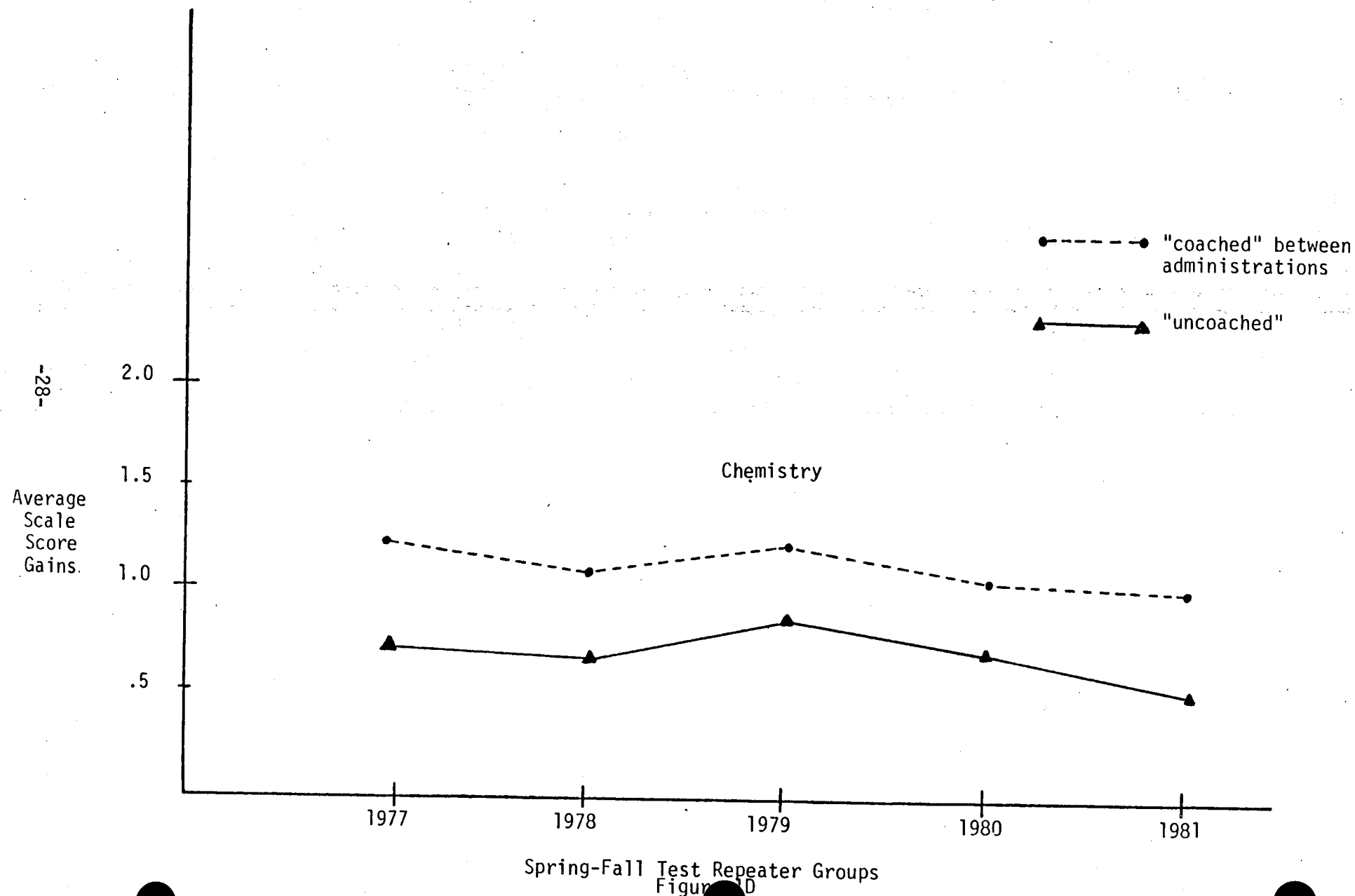


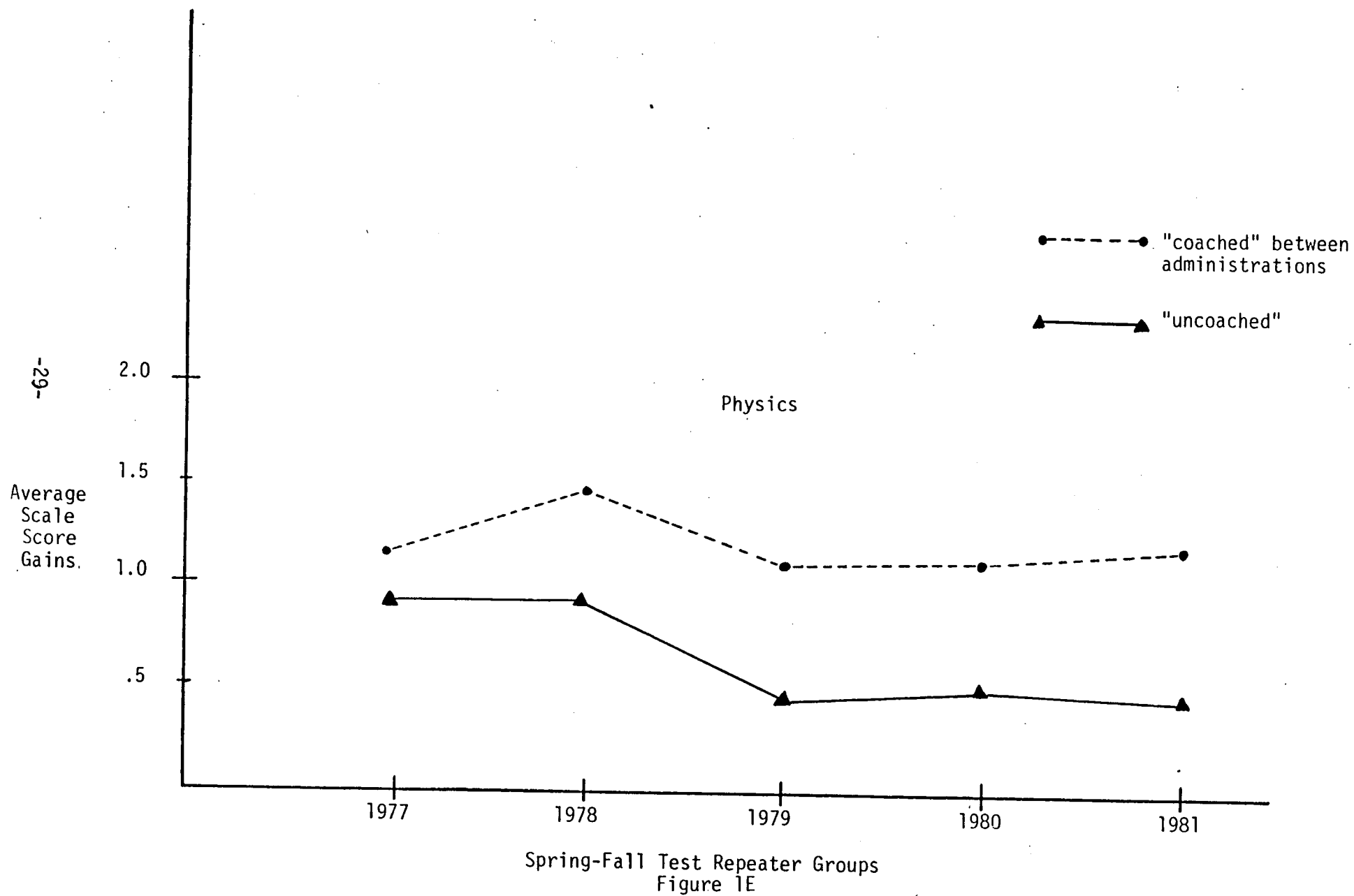
Spring-Fall Test Repeater Groups

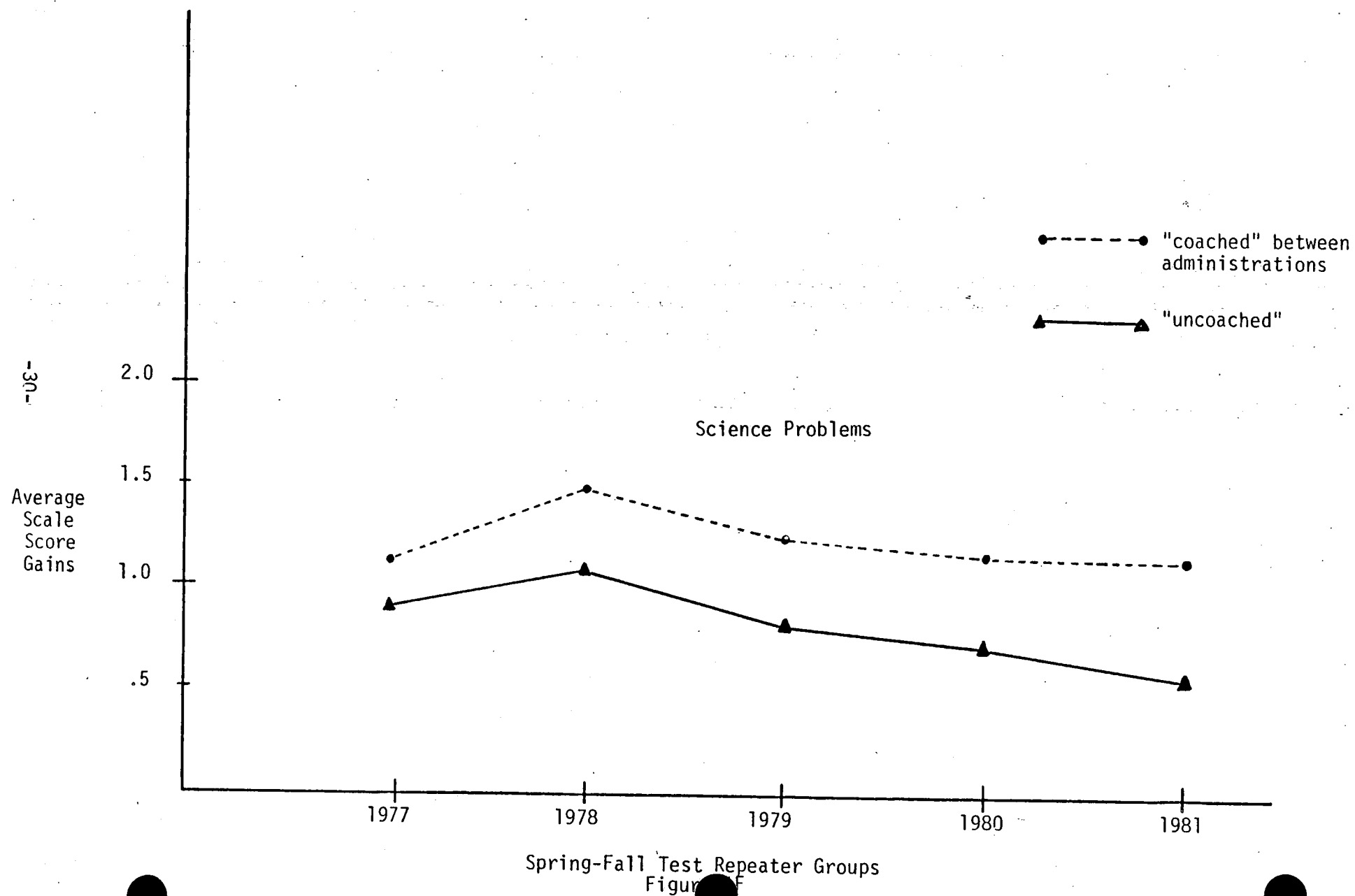
Figure 1A













# Baylor College of Medicine

OFFICE OF THE PRESIDENT • 713 790-4400



June 22, 1982

William H. Luginbuhl, M.D.  
Dean  
University of Vermont College of Medicine  
Given Building  
Burlington, Vermont 05405

Dear Bill:

This letter constitutes my report as Chairman of the Council of Deans' Nominating Committee to you as Chairman of the Council of Deans. The Committee met at 2:30 p.m., EDT, on June 3, 1982, by telephone conference call. At that time, we had available to us the tallies of the advisory ballots submitted by members of the Council.

The Nominating Committee was cognizant of the COD rules and regulations, as well as the AAMC bylaws. For the offices to be filled by vote of the Council of Deans, your Nominating Committee proposes the following slate:

Chairman-Elect of the Council of Deans

Edward J. Stemmler, M.D.

Dean

University of Pennsylvania School of Medicine

Members-at-Large of the Council of Deans

Arnold L. Brown, M.D.

Dean

University of Wisconsin Medical School

D. Kay Clawson, M.D.

Dean

University of Kentucky College of Medicine

William B. Deal, M.D.

Dean

University of Florida College of Medicine

Other offices are filled by election of the Assembly. A slate will be proposed for the Assembly's consideration by the AAMC Nominating Committee of which I am a member. The Committee that I chair has been asked to submit names in the form of recommendations to that Committee.

William H. Luginbuhl, M.D.  
June 22, 1982  
Page 2

On the basis of our deliberations, our committee will recommend as follows:

Council of Deans Representatives to the Executive Council  
Fairfield Goodale, M.D.

Dean  
Medical College of Georgia School of Medicine

Louis J. Kettel, M.D.  
Dean  
University of Arizona College of Medicine

Chairman-Elect of the Assembly  
Robert M. Heyssel, M.D.  
Executive Vice President & Director  
The Johns Hopkins Hospital

These nominations, I believe, accurately reflect the wishes of the members of the Council of Deans. I am confident that we have a slate which will contribute to the work of the Association.

Thank you for the opportunity to serve as Chairman of this Committee.

Sincerely yours,



William T. Butler, M.D.  
President  
Baylor College of Medicine

WTB:hd

xc: Members of the Nominating Committee

Ransom J. Arthur, M.D., University of Oregon School of Medicine  
John A. Gronvall, M.D., University of Michigan School of Medicine  
Alton I. Sutnick, M.D., Medical College of Pennsylvania  
James Eckenhoff, M.D., Northwestern University Medical School  
Joseph A. Keyes, J.D.