COUNCIL OF DEANS
ADMINISTRATIVE BOARD MEETING

Washington Hilton Hotel
Washington, DC

AGENDA

Wednesday June 19, 1985

4:30 pm - 5:30 pm

I. Joint meeting with the Organization of Student Representatives

---Memorandum to COD Board from Dr. Arnold Brown .... 1

---"The Selection of Residents in Difficult Times,"
(Pre-publication copy) Norma E. Wagoner, Ph.D. .... 6

---"The 'Preresidency Syndrome': An Incipient Epidemic of Education Disruption," August G. Swanson, M.D., .... 26

6:00 pm - 7:00 pm

II. Joint meeting with CAS and COTH 27

"The Direction of National Science Policy"

--Speaker: Representative Don Fugua
Chairman, Committee on Science & Technology
U.S. House of Representatives

7:00 pm

Reception & Dinner
Thursday, June 20, 1985
8:00 am - 12:00 pm

I. Call to Order

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   B. Proposed Charge for the AAMC Research Policy Committee
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   C. Health Planning
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---Norma E. Wagoner, Ph.D., Chairman, GSA
     Associate Dean for Student Affairs and
     Educational Resources
     University of Cincinnati College of Medicine

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VII. OSR Report

VIII. Old Business

IX. New Business

X. Adjourn
MEMORANDUM

TO: Members of the COD Administrative Board

FROM: Arnold L. Brown, M.D., Chairman

This is to solicit your thinking on matters which I suspect will be of continuing importance to the AAMC and to the Council of Deans. I hope that we can begin to consider them at our June meeting. They relate to the transition between medical school and residency education, the character, relationship and designation of those experiences, and the nature of our responsibility as medical school deans for the graduate medical education.

You are all familiar with the problems associated with the match both because you experience them at your own institution and because we have discussed them on a number of occasions: some specialties require an early match of students, not yet seniors, for programs they will be entering in their second postgraduate year. This requires decisions which are premature on the student's part, and evaluations from the school which it is not fully prepared to provide. This intrusion in the academic affairs of our own schools has been deplored on numerous occasions, yet, to date we appear powerless to intervene effectively. Perhaps all that need be done is to encourage the LCME to press its guidance on academic counseling and career guidance.

The faculty and the chief academic officer must establish a system to assist students in selecting a future medical career and in developing a strategy for application to residency programs. This system should not permit disruption of a student's curriculum in general medical education by external pressures to make premature application to residency programs. Letters of reference or other credentials should not be provided until the fall of the student's senior year. (p. 14, Functions and Structure of a Medical School, "Academic Counseling and Career Guidance")

This is to the point, but it seems strange that we should, in effect, defer the matter to an accreditation forum.

Similarly, we seem powerless as a council to do more than deplore the situation that Bill Stoneman calls to our attention: the implicit (sometimes explicit) requirement of some program directors that a successful candidate for admission to a particular residency program will have already served an
elective under his direction while still a medical student. Again the LCME speaks to this.

...the same rigorous standards for the content of each year of the program leading to the M.D. degree. The final year should complement and supplement the curriculum of the individual student so that each student will acquire appropriate competence in general medical care regardless of subsequent career specialty.

The curriculum should include elective courses designed to supplement the required courses and to provide opportunities for students to pursue individual academic interests. Faculty advisors must guide students in the choice of elective courses. If students are permitted to take electives at other institutions, there should be a system centralized in the dean’s office to screen the student’s proposed extramural program prior to approval and to ensure the return of a performance appraisal by the host program. (pp. 13-14, Functions and Structure of a Medical School, "Content")

At the COD Spring Meeting in Scottsdale a notion developed at the new deans' open forum that generated a fair amount of enthusiasm and interest. It was that we ought to abandon the practice of referring to medical students as undergraduates and revise our nomenclature to refer to them as graduate students, and to residents as postgraduate students. David Brown has written to seriously urge that we adopt this set of designations. He argues that the majority of students entering medical school have fulfilled the requirements for the baccalaureate degree; their studies are equivalent to the breadth and depth of most graduate programs; that most curriculum expectations are based on the students' development of conceptual thinking and analytic thought processes such as occur in traditional graduate programs; and that residency programs, in their expectation of the mastering of a focused discipline, are analogous to traditional postgraduate experiences. He argues that the change will help students recognize that they are expected to: 1) develop broad conceptual thinking abilities, 2) learn to use scientific data and methods to integrate complex information for hypothesis formation and testing using primary literature sources, and 3) become independent thinkers using scholarly approaches to problem solving. Similarly, he argues that the designation will encourage faculty to set and achieve objectives as described in the GPEP report.

In the context of our discussion of financing graduate medical education, Dan Tosteson suggested that some of these issues, together with matters related to the transition between medical school and residency programs, including the nature of the fourth year medical school experience, could not be suitably resolved in the absence of a better conceptualization of the proper role of the medical school during this crucial period in physician training. The question arises as to how much progress we have made in assuming "corporate responsibility for graduate medical education," or indeed, transforming graduate medical education into a truly academic enterprise. The splintered responsibility for graduate education, which is illustrated by the autonomy of the specialty boards in determining the length of training required, suggest a need for a somewhat greater institutional presence in the process. This is perhaps a long winded lead-in to the question that I would
like to have you reflect on; namely, what role should medical schools and particularly their deans play in graduate medical education?

Finally, while we have each forwarded our own notions to Don Fredrickson of the Howard Hughes Medical Institute on objects of its generosity most efficacious to the achievement of societal good, it occurs to me that it might be useful for the Association to reflect on this matter as a collective. Such deliberation might result in a somewhat less parochial image of the objectives to be served by the use of these funds.

As you recall, we had the idea that the discussion groups established for the COD Spring Meeting, each of which appears to be a microcosm of the Council, might prove to be an interesting channel for the exchange of views. Consequently, I am enclosing a copy of the original list (Tom Meikle's absence and the shifting attendance required adjustment for the meeting itself) for your use in this fashion should you desire to do so. You may also wish to forward this letter or one of your own design to provide the initial contact.

I know you are all either exhausted from, or eagerly anticipating, the '85 commencement exercises. I trust these will go well for you and free your mind to cogitate on what I think are some fascinating questions.
Distribution of COD Among Board Members

Louis J. Kettel
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  Robert U. Massey
  Philip M. Foreman
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Dominick P. Purpura
William E. Laupus
Alton I. Sutnick
J. Ted Hartman
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Abstract of
The Selection of Residents in Difficult Times

Norma E. Wagoner, Ph.D., J. Robert Suriano, Ph.D., and Joseph A. Stoner

A national stratified random sample (405) of graduate medical education program directors was sent a questionnaire asking how they selected their residents. The results from the 237 respondents reaffirm earlier studies which found the interview outcome, overall, was the most important selection variable. This study indicates that the recent increase in competition for residency positions has increased the importance of academic variables. For example, 86% of the 237 respondents stated that they would not rank a candidate who had not passed Part I of the National Boards. Because 86% also stated that they give preference in ranking students who have done well in an elective at the program director's hospital, the senior year is in danger of becoming more of a residency chase at the expense of the "general professional education of the physician." The authors fear that the "preresidency syndrome" may merge with the "premedical syndrome."

Dr. Wagoner is the associate dean for student affairs and educational resources and Mr. Stoner is a research associate for medical education, University of Cincinnati College of Medicine. Dr. Suriano is the associate dean for student affairs/admissions, Wright State University School of Medicine, Dayton, Ohio.
THE SELECTION OF RESIDENTS IN COMPETITIVE TIMES

Norma E. Wagoner, Ph.D., J. Robert Suriano, Ph.D., and Joseph A. Stoner

Within the last five years, there has been a significant change in the ratio of medical school graduates to available residency positions (1). Consequently, many programs have become more competitive and students are beginning to encounter more difficulty in obtaining positions in the program and specialty of choice. Residency directors have an increasing number of applicants from whom to select and, subsequently, an increasing need for useful and valid information from medical schools. This increased competition means that medical students and their career advisors need to be better informed about the selection criteria.

In 1978, Wagoner and Gray (2) surveyed a national random sample of 25% of the program directors in internal medicine, family medicine, surgery, and pediatrics. The program directors were asked to judge the importance of 31 variables in the selection of house officers. A rank ordering of all variables placed interpersonal skills, as demonstrated in the interview, as the single most important selection criterion. In an effort to determine whether significant changes in selection variables have occurred over the past seven years, and to provide advisors and students with some assessment of the current trends in selection, a new survey was developed.

Dr. Wagoner is the associate dean for student affairs and educational resources, and Mr. Stoner is a research associate for medical education, University of Cincinnati College of Medicine. Dr. Suriano is the associate dean for student affairs/admissions, Wright State University School of Medicine, Dayton, Ohio.
LITERATURE SURVEY

Many specialties have begun to assess the selection criteria and the degree to which they provide the most successful resident for that specialty (3,4,5,6). In 1980, Leonard and Harris (3) sought to examine the importance of various types of evidence and criteria used in the selection process, to clarify criteria, and to generate new criteria. A survey of 24 full-time faculty in a primary care internal medicine program at the University of Minnesota gave highest ratings to the following: "good" grades in clinical work, "good" dean's letter, personal interview, "good" letters of recommendation, high NBME Part II internal medicine subscores, high NBME Part II total scores, and knowing the recommending person. When queried about new criteria beyond the rated items, greatest weight was given to personal and interpersonal characteristics. These were felt to be more important than prior academic performance. When asked to list critical attributes in successful residents, the two most commonly cited were qualities needed to get the job done and qualities related to the learning process.

In 1983, Featherstone and Ramsey (4) published an article on the analysis of selection criteria which would yield information on the differences between primary care and traditional selection committees in their choices of important criteria. Based on a limited sample of 17 faculty from one institution, they concluded that for the traditional selection committees, the greatest weight was placed on the student's success in the internal medicine clerkship and on the strength of the letter from the department chairman. In the primary care committees, more emphasis was placed upon the applicant's personal goals, skills, interests, and especially the student's stated career goals. Another factor which appeared important to the traditional selection was the perceived quality of the institution from which the student had received training.

A slightly different approach to viewing selection variables was used by
Clarke and Wigton (5) in the 1984 presentation of an objective rating system which was developed for use in the selection of surgical residents at the Medical College of Pennsylvania. Five attributes were chosen: knowledge, judgment, technical skills, work habits, and interpersonal skills. Twelve faculty members participated in this study and 25 candidates were screened and evaluated. In the opinion of the faculty at the Medical College of Pennsylvania, knowledge represented a third of the weight of assessment and knowledge plus judgment constituted about one half. For sources of information to determine judgment and work habits, approximately equal weight was allotted to dean's letters, the standard letters or evaluations solicited from recommenders, and the interview for personal skills.

In 1984, Tarico et al. (6) at the University of Iowa College of Medicine interviewed 22 senior radiology staff members utilizing a Critical Incident Technique which allowed them to describe the behavior that they would like to see in successful residents. Six categories emerged: knowledge, technical skills and abilities, attitudes toward self, interpersonal skills, conscientiousness, and curiosity.

BACKGROUND

In March of 1984, the authors surveyed program directors in Ohio preliminary to the national survey to determine trends and issues which should be addressed. Surveys were mailed to 216 program directors in sixteen specialty areas. One hundred and twenty-five surveys (58%) were returned. Program directors were asked to select those areas most important in choosing residents for their specialty. The variables were grouped in categories of academics, interviews, and letters of evaluation. By a four to one margin, interviews were rated more important than either academic criteria or information from letters of recommendation. The program directors were then asked to choose the 10 most important variables from all categories and rank order them. The top five
variables were interpersonal skills and communication abilities, maturity and
good attitude toward work, dean's letter, commitment to the specialty, and fund
of medical knowledge. Program directors were encouraged to provide open-ended
comments to help the authors determine whether additional concerns should be
addressed in the national survey. Based on the results of the Ohio survey, the
instrument was revised. A series of yes/no questions was asked to force
choices. Questions were asked about various types of letters of evaluation
because the preliminary survey indicated that they were not all equally
important. The authors feel that it is useful to letter writers, students, and
deans of student affairs to know which letters carried the greatest weight and
which letters the program directors felt contained the best information. Deans
of student affairs have been particularly sensitive about their dean's letters
since the March 17, 1983 article in the New England Journal of Medicine
described dean's letters as a "fantasy land" (7). Because two of the authors
are deans of student affairs, and because the Group on Student Affairs of the
Association of American Medical Colleges has been evaluating methods of
improving dean's letters, more explicit information was sought to improve the
usefulness of dean's letters for program directors. Since previous studies and
the Ohio preliminary survey pointed to the importance of the interview process,
the national survey asked a number of questions pertaining to the interview.

METHOD

Using the American Medical Association 1984–85 Directory of Residency
Training Programs (8), a stratified random sample of programs was selected in
internal medicine, pediatrics, surgery, obstetrics–gynecology, psychiatry,
emergency medicine, family medicine, otolaryngology and orthopedic surgery. The
surveys were mailed to 405 program directors in September 1984. Of the 237
respondents (59%), 45% were program directors; 23% were department chairmen; 15%
were directors of resident education, and the remainder miscellaneous. Within
the category of hospital types; 46% were university based programs; 52% were community based programs, and 2% were Veterans Hospitals. The mean program size was 7.3 positions for PGY 1, 6.0 positions for PGY 2, and 2.4 positions for transitional. The mean number of completed applications for all programs was 215.1, with a median of 150. The mean number of interviewees per program was 85.5 with a median of 60.0.

RESULTS AND DISCUSSION

There are recognized limitations to questionnaire type studies because they are subject to the bias resulting from some individuals returning a questionnaire and some not. In addition, those who do respond may tend to give socially desirable responses. Another limit to the study is the sample size of the smaller specialties. Fifty-nine percent of those surveyed responded, which equals seven to 13% of each specialty in the entire population and 10% overall. Although each specialty is proportionally represented in the combined response group, when this group is broken down by specialty some of the resulting sample sizes may be too small to draw meaningful conclusions. The study also did not inquire about some applicant demographic variables (e.g., age, sex, and race) which have been known to influence the selection process, because the investigators believed the results would be biased by the aforementioned tendency towards socially desirable responses.

With the increased competition for residency positions, there is more emphasis on the applicant's academic record than was reported in 1978 by Wagoner and Gray (2). Table 1 presents the ratings of academic criteria broken down by the six most often selected specialties (9). Since these specialties are offered in the third year of most medical schools, it is not surprising that, overall, program directors rate the grades in the clerkships of their specialty as the most important academic criterion.

To examine the responses from the most competitive specialties, the authors
used the 1985 NRMP U.S. student fill rate to determine competitiveness (9).

Table 2 presents the ratings of academic criteria of respondents representing specialties with more than a 80% U.S. student fill rate. In this group are three specialties which do not usually have junior year curriculum time: emergency medicine, orthopedics, and otolaryngology. The grades in these specialty electives are ranked as high, or higher, in importance than are the grades (if any) in the specialty's clerkship. This causes particular problems for students if these specialties offer PGY 2 positions through their own early match programs. Even worse are those specialties which select junior students for residency positions beginning two and one-half years later. Table 3 presents the ratings of academic criteria of respondents representing specialties with less than an 80% U.S. student fill rate. A comparison of Table 2 and Table 3, shows those specialties with a greater than 80% fill rate place National Boards Part I and II scores, membership in AOA, and class rank standing notably higher (using Student's t-test, p < .04) than do the lower fill specialties.

Although academic ranking was considered important to critical by 86% of the survey's 237 respondents, program directors experience great variation in the information schools provide concerning their student's academic ranking. A personal communication from Grant Miller and Lisa Leiden, of the University of Nevada School of Medicine, stated that 58% of the medical schools who responded to their 1984 national survey did not provide a rank order of the students as part of their dean's letter information. In light of the increased reliance of program director's on academic criteria, the relatively high importance assigned to NBME II scores, especially in the most competitive specialties (Table 2), is not surprising. In the report of the NBME Part II statistics for 1984, approximately 66% of U.S. graduates were taking the examination in September. Perhaps students who are considering the more competitive specialties should be
advised of the importance of taking this examination in the fall.

The investigators were interested in the differences between the ratings of academic criteria by respondents representing university and community hospital programs. However, using Student's t-tests, few statistically significant differences were noted. This is probably because, all else being relatively equal, all program directors desire applicants with strong academic credentials regardless of whether or not they can attract them.

The following responses (N = 237) are rank ordered by the magnitude of agreement or disagreement with a series of yes/no questions about how program directors rank applicants. Unless otherwise noted, there were no statistically significant differences between the university and community hospital groups.

1. 86% gave preference in ranking to students who have done well in an elective in the program directors specialty and hospital.

2. 86% would not rank an applicant who has failed NBME I and was presenting failing scores at the time of interview.

3. 75% would rank a candidate with an NBME I score in the 380-450 range. This breaks down to 66% for university hospitals and 82% for community hospitals (Yates' corrected chi-square [df = 1] = 6.3, p = .01). University hospital specialties for which fewer than 66% of the respondents would rank a candidate with the above scores are orthopedics (33%), otolaryngology (50%), surgery (50%), internal medicine (57%), and obstetrics/gynecology (64%). In the community hospital programs, only orthopedics (33%) and surgery (40%) respondents were in the fewer than 66% group.

4. 55% think that HONORS grades in preclinical courses are more important than NBME I scores.

5. 46% would favor an applicant who had taken and passed Part II of the NBME by the time candidates are ranked.
6. 45% select applicants for the interview primarily on academic records. This breaks down to 54% for university hospitals and 39% for community hospitals (Yates' corrected chi-square [df = 1] = 4.9, p = .03).

Taking an elective in the program director's hospital and specialty seems to be of great importance; however, this should be interpreted cautiously because the yes/no response category did not permit the respondents to indicate uncertainty or indifference. Medical schools are very concerned about the impact of the residency chase on the senior year. Many students are traveling nationwide to take electives because they believe that being seen is critical to obtaining a residency in the most competitive specialties. No national data have been gathered to indicate whether or not students are being denied interviews because they have not done an elective at a particular program director's hospital.

Because writing letters of recommendation is so time consuming, the authors questioned program directors about their use of these letters. Table 4 lists the program directors rating of the importance of various letters of recommendation in their selection process.

Although it is not known how many students obtain a letter of evaluation from a department chairman, Table 4 indicates that program directors, overall, tend to place greater importance on the chairman's letter than on the dean's letter (Student's t-test, p = .001 for combined group). One reason is that someone in the specialty may better understand the unique qualifications necessary for success in that specialty. Another reason is that chairmen are not perceived as needing to act as an advocate for the student; therefore, their reliability is not as potentially compromised. Further, many program directors have developed personal and professional relationships with their colleagues. Although Table 4 indicates that the dean's letter is still important, Table 5
indicates that the importance of the dean's letter would be increased further by the addition of more refined and objective academic information. This might help the dean's letter shed some of its "fantasy land" image (7). Deans of student affairs are struggling with the pressure to provide more and more "cognitive" data although many feel that these data are not always the best indicators for ability and long term success as physicians.

The surprising finding in this section of the survey was the high degree of congruence among the respondents for rating letters of recommendation from members of their own specialty as being much more important than letters from clinicians outside the specialty (Student's t-test, p < .001 for combined group). This may cause deans of student affairs to make different recommendations to their students on the type of letters to seek.

Because the dean's letter is probably the most likely to be influenced by medical school policy, the survey asked the program directors to rate the importance of various types of information which could be included in the dean's letter. One of the major criticisms of dean's letters is that they tend to be bland or extol only the positive virtues of the applicant (7). Table 5 indicates, however, that program directors want the dean's letter to help ferret out the problem student. This raises the issue of whether deans of student affairs should be student advocates or factual reporters. If a letter contains too many negative facts, the student may not match. The confidentiality waiver of letters does not seem to be as important to program directors as it is to admissions personnel in medical schools. As indicated in Table 4, dean's letters were rated less important than letters from clinical faculty in the program director's specialty and hospital. Some students are now doing "mini-residencies" in their specialty of choice in an attempt to obtain these letters at a time when they should be completing a broad educational program (10).
The 1978 study by Wagoner and Gray (2), showed that the interview was considered, overall, the most important selection variable. In the current study, the authors asked more detailed questions about the interview in an attempt to define the interview criteria used by program directors. A comparison of Table 6 with Tables 1 through 5, indicates that the interview related items tend to be rated as more important than academic criteria or letters of recommendation. This is consistent with the studies previously cited. It must be noted, however, that academic criteria and letters of recommendation are very important in determining who gets interviewed. The data do suggest, however, that an applicant who can get interviewed, and does well, may have a better chance to be selected than an academically stronger competitor who does less well in the interview. This is consistent with the findings of Leonard and Harris (3). Compatibility with the program was rated, overall, as the most important variable determined by the interview. Although this is not surprising, it does lead to the question of how compatibility is assessed. The authors would strongly advocate that residency directors define compatibility in terms of their own selection process. The importance of the candidate's maturity, and commitment to hard work (especially for surgery) was also stressed. Again, a determination of how maturity is evaluated in the interview process is important. Medical school admissions committees have been grappling with this criterion for medical school applicants for many years. It may be that to supplement interview observations, program directors are relying either on comments in letters of evaluation or personal observation of the student in an elective at the program director's hospital.

CONCLUSIONS AND RECOMMENDATIONS

It appears that the dramatic increase in competition for residency positions has increased the focus on academic criteria during the seven years since the Wagoner and Gray study of 1978 (2) although the interview remains,
overall, as the most important selection criteria. One result of this is that
the importance assigned to various selection criteria does not differ between
specialties as much as one might have anticipated. The dean of student affairs
today is more frequently placed in the role that premedical advisors have
assumed over the years, i.e., counseling students about the qualifications
necessary to get into certain specialties. Students are now more likely to be
in the position of having to consider more than one specialty option. It would
be helpful for all concerned, students, deans of student affairs, student
advisors, and program directors, if the qualifications that individual programs
were looking for were published and distributed. This may reduce the current
"shotgun" approach to the application process.

The interview process is both time consuming and expensive to students and
program directors. Students need to be aware of the criteria that are most
important during the interview, including a critical self-analysis of their
career goals. Because the competition for residency positions has increased
greatly for many of the specialties, students are applying to far more programs
than they did in the past. This significantly increases the workload for
program directors. Students are reporting that many interviews are being
granted on a first-come first-served basis. This causes the students to apply
earlier than they might otherwise. Pressure from the early match programs has
further heightened anxiety and this anxiety appears to be spreading to other
specialty matches. In order for students to be in a position to do more than a
superficial evaluation of a career area, there is an increasing need to have
earlier elective experiences or be forced to make premature decisions on limited
information. Many schools have made substantial curriculum changes in their
third year in order to meet the demands being placed upon them by program
directors. This tends to compromise the general professional education of the
physician.
During these difficult economic times, the whole area of graduate medical education is under scrutiny and the further reduction of residency positions seems imminent. Until medical school enrollments are also reduced, there may be several years during which the pressure on students to obtain the specialty of their choice will be further heightened. Students are already beginning to assess and seek the specialty they can get into rather than the medical field for which they may be best suited. This would seem certain to create a greater cadre of dissatisfied physicians who are embittered about being caught in a changing system. This may be the time to review the entire resident selection process. Ways should be sought to improve the NRMP match so that all specialties will join. This would provide all students and program directors equal access to each other.

It appears that the "preresidency syndrome" has merged with the "premedical syndrome" to create one long, stressful period in the lives of young people whom we hope will emerge from the process as humane and compassionate physicians. This process must be examined from all aspects to bring some order out of relative chaos.
References


   Directors Regarding Selection Factors in Graduate Medical Education.  

   1980.


5. Clarke, J. R., and Wigton, R. S., Development of an Objective Rating  

   Critical Incident Interviewing in Evaluation of Resident Performance.  


   of Residency Training Programs. Chicago, Illinois: American Medical  


10. Swanson, A. G., Editorial: 'The Preresidency Syndrome': An Incipient  
TABLE 1
Residency Directors' Mean Ratings of the Importance of Academic Criteria in Resident Selection
Broken Down by the Respondent's Specialty - 1984*

<table>
<thead>
<tr>
<th>Academic Criteria</th>
<th>Overall (N = 190)</th>
<th>Family Practice (N = 39)</th>
<th>Internal Medicine (N = 57)</th>
<th>Obstet./Gynecol. (N = 31)</th>
<th>Pediatries (N = 22)</th>
<th>Psychiatry (N = 15)</th>
<th>Surgery (N = 26)</th>
<th>Significance level f ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades in clerkships of program director's specialty</td>
<td>3.98 0.75</td>
<td>3.72 0.76</td>
<td>4.39 0.73</td>
<td>3.87 0.67</td>
<td>3.91 0.81</td>
<td>3.43 0.94</td>
<td>4.00 0.75</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>Grades in electives of program director's specialty</td>
<td>3.60 0.82</td>
<td>3.49 0.94</td>
<td>3.58 0.78</td>
<td>3.68 0.87</td>
<td>3.64 0.73</td>
<td>3.57 0.65</td>
<td>3.69 0.84</td>
<td>p = .9210</td>
</tr>
<tr>
<td>Grades in other clerkships</td>
<td>3.51 0.68</td>
<td>3.36 0.63</td>
<td>3.65 0.69</td>
<td>3.52 0.77</td>
<td>3.50 0.60</td>
<td>3.21 0.80</td>
<td>3.62 0.64</td>
<td>p = .1926</td>
</tr>
<tr>
<td>Rank order in class</td>
<td>3.48 0.86</td>
<td>2.87 0.86</td>
<td>3.81 1.01</td>
<td>3.55 0.77</td>
<td>3.55 0.74</td>
<td>2.71 0.73</td>
<td>3.96 0.72</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>Membership in AOA</td>
<td>3.17 1.11</td>
<td>2.46 0.97</td>
<td>3.70 0.98</td>
<td>2.93 1.16</td>
<td>3.10 1.26</td>
<td>2.14 1.35</td>
<td>3.92 1.23</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>NBME II scores (if available)</td>
<td>3.17 0.86</td>
<td>2.87 0.93</td>
<td>3.16 0.95</td>
<td>3.48 0.85</td>
<td>3.05 0.67</td>
<td>2.36 0.63</td>
<td>3.91 0.73</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>Grades in other electives</td>
<td>3.08 0.71</td>
<td>3.00 0.73</td>
<td>3.18 0.66</td>
<td>3.06 0.77</td>
<td>3.10 0.62</td>
<td>2.93 0.83</td>
<td>3.08 0.74</td>
<td>p = .8253</td>
</tr>
<tr>
<td>NBME I scores</td>
<td>3.02 0.89</td>
<td>2.74 0.99</td>
<td>3.12 0.91</td>
<td>3.32 0.91</td>
<td>2.86 0.79</td>
<td>2.21 0.80</td>
<td>3.42 0.81</td>
<td>p = .0002</td>
</tr>
<tr>
<td>Grades in preclinical courses</td>
<td>2.98 0.72</td>
<td>3.08 0.66</td>
<td>2.93 0.75</td>
<td>3.10 0.76</td>
<td>2.91 0.68</td>
<td>2.71 0.83</td>
<td>3.00 0.63</td>
<td>p = .5543</td>
</tr>
<tr>
<td>Research activities</td>
<td>2.64 0.84</td>
<td>2.45 0.65</td>
<td>2.65 0.90</td>
<td>2.52 0.96</td>
<td>2.55 0.91</td>
<td>2.93 0.80</td>
<td>2.96 0.77</td>
<td>p = .1332</td>
</tr>
</tbody>
</table>

*Key: 1 = unimportant, 2 = some importance, 3 = important, 4 = very important, 5 = critical
<table>
<thead>
<tr>
<th>Academic Criteria</th>
<th>Overall</th>
<th>Emergency Medicine</th>
<th>Obstet./ Gynecol.</th>
<th>Orthopedics</th>
<th>Otolaryngology Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades in clerkships of program</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
</tr>
<tr>
<td>director's specialty</td>
<td>3.91 0.80</td>
<td>3.63 0.52</td>
<td>3.87 0.67</td>
<td>3.93 1.22</td>
<td>4.00 0.71</td>
</tr>
<tr>
<td>Grades in electives of program</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
</tr>
<tr>
<td>director's specialty</td>
<td>3.81 0.91</td>
<td>3.88 0.64</td>
<td>3.68 0.87</td>
<td>4.13 1.19</td>
<td>4.00 0.87</td>
</tr>
<tr>
<td>Rank order in class</td>
<td>3.73 0.78</td>
<td>3.25 1.04</td>
<td>3.55 0.77</td>
<td>3.87 0.74</td>
<td>3.89 0.78</td>
</tr>
<tr>
<td>NBME II scores (if available)</td>
<td>3.64 0.85</td>
<td>3.38 0.74</td>
<td>3.48 0.85</td>
<td>3.60 1.06</td>
<td>3.78 0.83</td>
</tr>
<tr>
<td>Grades in other clerkships</td>
<td>3.55 0.76</td>
<td>3.25 0.46</td>
<td>3.52 0.77</td>
<td>3.47 0.99</td>
<td>3.89 0.78</td>
</tr>
<tr>
<td>NBME I scores</td>
<td>3.44 0.89</td>
<td>3.38 0.74</td>
<td>3.32 0.91</td>
<td>3.53 1.06</td>
<td>3.78 0.83</td>
</tr>
<tr>
<td>Membership in AOA</td>
<td>3.43 1.20</td>
<td>2.88 1.36</td>
<td>2.93 1.16</td>
<td>3.73 1.16</td>
<td>3.56 1.13</td>
</tr>
<tr>
<td>Grades in other electives</td>
<td>3.13 0.82</td>
<td>3.00 0.93</td>
<td>3.06 0.77</td>
<td>3.20 1.01</td>
<td>3.56 0.73</td>
</tr>
<tr>
<td>Grades in preclinical courses</td>
<td>3.10 0.80</td>
<td>2.75 0.89</td>
<td>3.10 0.76</td>
<td>3.27 1.16</td>
<td>3.44 0.53</td>
</tr>
<tr>
<td>Research activities</td>
<td>2.85 0.88</td>
<td>3.13 0.99</td>
<td>2.52 0.96</td>
<td>2.87 0.92</td>
<td>3.44 0.73</td>
</tr>
</tbody>
</table>

*Key: 1 = unimportant, 2 = some importance, 3 = important, 4 = very important, 5 = critical

**Indicates the fill rate (1985 NRMP statistics) for each specialty with U.S. students only.
### TABLE 3

Directors of Residency Specialties with an NRMP U.S. Student Fill Rate of Less Than 80%:

Mean Ratings of the Importance of Academic Criteria in Resident Selection

Broken Down by the Respondent's Specialty - 1984 *

<table>
<thead>
<tr>
<th>Academic Criteria</th>
<th>Overall (N = 133)</th>
<th>Family Practice (N = 39)</th>
<th>Internal Medicine (N = 57)</th>
<th>Pediatrics (N = 22)</th>
<th>Psychiatry (N = 15)</th>
<th>Significance level for ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td></td>
</tr>
<tr>
<td>Grades in clerkships of program director's specialty</td>
<td>4.01 0.77</td>
<td>3.72 0.76</td>
<td>4.39 0.73</td>
<td>3.91 0.81</td>
<td>3.43 0.94</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>Grades in electives of program director's specialty</td>
<td>3.56 0.81</td>
<td>3.49 0.94</td>
<td>3.58 0.78</td>
<td>3.64 0.73</td>
<td>3.57 0.65</td>
<td>p = .9090</td>
</tr>
<tr>
<td>Grades in other clerkships</td>
<td>3.49 0.67</td>
<td>3.36 0.63</td>
<td>3.65 0.69</td>
<td>3.50 0.60</td>
<td>3.21 0.80</td>
<td>p = .0759</td>
</tr>
<tr>
<td>Rank order in class</td>
<td>3.37 0.90</td>
<td>2.87 0.86</td>
<td>3.81 1.01</td>
<td>3.55 0.74</td>
<td>2.71 0.73</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>Grades in other electives</td>
<td>3.08 0.69</td>
<td>3.00 0.73</td>
<td>3.18 0.66</td>
<td>3.10 0.62</td>
<td>2.93 0.83</td>
<td>p = .5194</td>
</tr>
<tr>
<td>Membership in AOA</td>
<td>3.07 1.07</td>
<td>2.46 0.97</td>
<td>3.70 0.98</td>
<td>3.10 1.26</td>
<td>2.14 1.35</td>
<td>p &lt; .0001</td>
</tr>
<tr>
<td>NBME II scores (if available)</td>
<td>2.97 0.88</td>
<td>2.87 0.93</td>
<td>3.16 0.95</td>
<td>3.05 0.67</td>
<td>2.36 0.63</td>
<td>p = .0202</td>
</tr>
<tr>
<td>Grades in preclinical courses</td>
<td>2.95 0.72</td>
<td>3.08 0.66</td>
<td>2.93 0.75</td>
<td>2.91 0.68</td>
<td>2.71 0.83</td>
<td>p = .4280</td>
</tr>
<tr>
<td>NBME I scores</td>
<td>2.87 0.91</td>
<td>2.74 0.99</td>
<td>3.12 0.91</td>
<td>2.86 0.79</td>
<td>2.21 0.80</td>
<td>p = .0075</td>
</tr>
<tr>
<td>Research activities</td>
<td>2.61 0.82</td>
<td>2.45 0.65</td>
<td>2.65 0.90</td>
<td>2.55 0.91</td>
<td>2.93 0.80</td>
<td>p = .2604</td>
</tr>
</tbody>
</table>

*Key: 1 = unimportant, 2 = some importance, 3 = important, 4 = very important, 5 = critical

** Indicates the fill rate (1985 NRMP statistics) for each specialty with U.S. students only
TABLE 4
Residency Directors' Mean Ratings of the Importance of Various Letters of Recommendation for Program Applicants in 1984 Broken Down by Respondent's Specialty

<table>
<thead>
<tr>
<th>Letter Type</th>
<th>Overall (N = 190)</th>
<th>Family Practice (N = 39)</th>
<th>Internal Medicine (N = 57)</th>
<th>Obstet./Gynecol. (N = 31)</th>
<th>Pediatrics (N = 22)</th>
<th>Psychiatry (N = 15)</th>
<th>Surgery (N = 26)</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>Mean S.D.</td>
<td>ANOVA</td>
</tr>
<tr>
<td>Clinical faculty/your hospital/your specialty</td>
<td>3.91 0.85</td>
<td>3.85 0.99</td>
<td>3.86 0.80</td>
<td>4.07 0.92</td>
<td>3.91 0.61</td>
<td>3.79 0.58</td>
<td>4.00 0.98</td>
<td>p = .8553</td>
</tr>
<tr>
<td>Chairman's letter/your specialty</td>
<td>3.90 0.79</td>
<td>3.60 0.98</td>
<td>4.04 0.77</td>
<td>3.94 0.73</td>
<td>3.90 0.70</td>
<td>3.58 0.67</td>
<td>4.15 0.73</td>
<td>p = .0495</td>
</tr>
<tr>
<td>Dean's letter</td>
<td>3.71 1.00</td>
<td>3.67 1.08</td>
<td>3.93 1.00</td>
<td>3.42 0.92</td>
<td>3.73 0.94</td>
<td>3.60 1.12</td>
<td>3.69 0.93</td>
<td>p = .3450</td>
</tr>
<tr>
<td>Clinical letter/your specialty</td>
<td>3.64 0.83</td>
<td>3.50 0.91</td>
<td>3.79 0.70</td>
<td>3.58 0.99</td>
<td>3.67 0.66</td>
<td>3.47 0.74</td>
<td>3.65 0.94</td>
<td>p = .5936</td>
</tr>
<tr>
<td>Clinical letter/other specialty</td>
<td>2.91 0.68</td>
<td>3.06 0.68</td>
<td>2.95 0.59</td>
<td>2.77 0.80</td>
<td>3.14 0.79</td>
<td>3.07 0.59</td>
<td>2.54 0.65</td>
<td>p = .0178</td>
</tr>
</tbody>
</table>

*Key: 1 = unimportant, 2 = some importance, 3 = important, 4 = very important, 5 = critical*
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hints of underlying problems</td>
<td>3.96 0.88</td>
<td>4.00 0.99</td>
<td>4.21 0.77</td>
<td>3.87 0.88</td>
<td>3.82 0.66</td>
<td>3.00 1.00</td>
<td>4.16 1.03</td>
<td>p = .0003</td>
</tr>
<tr>
<td>Consistency of performance</td>
<td>3.86 0.71</td>
<td>3.76 0.75</td>
<td>4.02 0.69</td>
<td>3.77 0.67</td>
<td>3.68 0.72</td>
<td>4.07 0.80</td>
<td>3.81 0.69</td>
<td>p = .2488</td>
</tr>
<tr>
<td>Negative comments</td>
<td>3.84 0.83</td>
<td>3.87 0.81</td>
<td>4.07 0.80</td>
<td>3.71 0.90</td>
<td>3.57 0.75</td>
<td>3.47 0.83</td>
<td>3.85 0.92</td>
<td>p = .0721</td>
</tr>
<tr>
<td>Highly laudatory comments from members of your specialty</td>
<td>3.71 0.88</td>
<td>3.71 0.93</td>
<td>3.58 0.91</td>
<td>3.71 0.94</td>
<td>3.73 0.70</td>
<td>3.93 0.80</td>
<td>3.88 0.86</td>
<td>p = .6618</td>
</tr>
<tr>
<td>Overall bottom line rating based on all students in the class</td>
<td>3.65 0.98</td>
<td>3.43 1.01</td>
<td>3.91 0.90</td>
<td>3.61 0.95</td>
<td>3.52 0.93</td>
<td>3.07 1.03</td>
<td>3.92 1.15</td>
<td>p = .0239</td>
</tr>
<tr>
<td>Narrative description of performance in each rotation</td>
<td>3.39 0.84</td>
<td>3.45 0.89</td>
<td>3.40 0.88</td>
<td>3.39 0.80</td>
<td>3.41 0.67</td>
<td>3.67 0.82</td>
<td>3.12 0.88</td>
<td>p = .5004</td>
</tr>
<tr>
<td>Personal comments re candidate from Dean's letter writer</td>
<td>3.38 0.92</td>
<td>3.45 0.92</td>
<td>3.51 0.87</td>
<td>3.19 0.98</td>
<td>3.19 0.81</td>
<td>3.87 0.83</td>
<td>3.08 1.08</td>
<td>p = .0716</td>
</tr>
<tr>
<td>Completion of curriculum in prescribed time</td>
<td>3.37 0.97</td>
<td>3.42 1.00</td>
<td>3.53 0.84</td>
<td>3.39 1.05</td>
<td>2.82 0.96</td>
<td>3.07 0.70</td>
<td>3.56 1.19</td>
<td>p = .0533</td>
</tr>
<tr>
<td>Delineated rank order of the candidate</td>
<td>3.28 0.94</td>
<td>2.79 0.84</td>
<td>3.49 0.95</td>
<td>3.26 1.03</td>
<td>3.50 0.67</td>
<td>2.60 1.06</td>
<td>3.79 1.10</td>
<td>p = .0001</td>
</tr>
<tr>
<td>Signed waiver indicating student as not viewed the letter</td>
<td>2.26 1.28</td>
<td>2.50 1.11</td>
<td>2.45 1.43</td>
<td>2.26 1.26</td>
<td>1.86 1.04</td>
<td>1.73 1.22</td>
<td>2.16 1.40</td>
<td>p = .2028</td>
</tr>
</tbody>
</table>

*Key: 1 = unimportant, 2 = some importance, 3 = important, 4 = very important, 5 = critical
TABLE 6
Residency Directors' Mean Ratings of the Importance of Interview Criteria in Resident Selection
Broken Down by the Respondent's Specialty - 1984*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatibility with program</td>
<td>4.69 ± 0.47</td>
<td>4.30 ± 0.68</td>
<td>4.55 ± 0.51</td>
<td>4.50 ± 0.74</td>
<td>4.60 ± 0.63</td>
<td>4.35 ± 0.63</td>
<td>4.00 ± 0.76</td>
<td>p = .0398</td>
</tr>
<tr>
<td>Ability to grow in knowledge</td>
<td>4.44 ± 0.68</td>
<td>4.30 ± 0.53</td>
<td>4.36 ± 0.58</td>
<td>4.20 ± 0.77</td>
<td>4.42 ± 0.58</td>
<td>4.12 ± 0.65</td>
<td>4.71 ± 0.46</td>
<td>p = .0595</td>
</tr>
<tr>
<td>Maturity</td>
<td>4.32 ± 0.57</td>
<td>4.35 ± 0.61</td>
<td>4.23 ± 0.53</td>
<td>4.07 ± 0.59</td>
<td>4.12 ± 0.65</td>
<td>4.71 ± 0.46</td>
<td>4.71 ± 0.46</td>
<td>p = .0655</td>
</tr>
<tr>
<td>Commitment to hard work</td>
<td>4.43 ± 0.73</td>
<td>4.43 ± 0.73</td>
<td>4.10 ± 0.61</td>
<td>4.00 ± 0.76</td>
<td>4.71 ± 0.46</td>
<td>4.28 ± 0.61</td>
<td>4.71 ± 0.46</td>
<td>p = .0655</td>
</tr>
<tr>
<td>Fund of knowledge</td>
<td>4.13 ± 0.51</td>
<td>4.17 ± 0.75</td>
<td>4.10 ± 0.68</td>
<td>3.93 ± 0.59</td>
<td>4.28 ± 0.61</td>
<td>4.20 ± 0.58</td>
<td>4.71 ± 0.46</td>
<td>p = .0655</td>
</tr>
<tr>
<td>Ability to solve problems</td>
<td>4.25 ± 0.52</td>
<td>3.73 ± 0.74</td>
<td>4.18 ± 0.66</td>
<td>3.93 ± 0.80</td>
<td>4.20 ± 0.58</td>
<td>4.12 ± 0.59</td>
<td>4.71 ± 0.46</td>
<td>p = .0655</td>
</tr>
<tr>
<td>Willingness to seek help</td>
<td>4.09 ± 0.71</td>
<td>3.87 ± 0.81</td>
<td>4.00 ± 0.62</td>
<td>3.93 ± 0.70</td>
<td>3.92 ± 0.84</td>
<td>3.92 ± 0.84</td>
<td>4.28 ± 0.61</td>
<td>p = .0411</td>
</tr>
<tr>
<td>Ability to articulate thoughts</td>
<td>4.05 ± 0.55</td>
<td>3.87 ± 0.72</td>
<td>4.00 ± 0.69</td>
<td>4.20 ± 0.68</td>
<td>4.12 ± 0.59</td>
<td>4.12 ± 0.59</td>
<td>4.71 ± 0.46</td>
<td>p = .0655</td>
</tr>
<tr>
<td>Sensitivity to other's psychosocial needs</td>
<td>3.84 ± 0.78</td>
<td>3.88 ± 0.83</td>
<td>3.48 ± 0.85</td>
<td>3.81 ± 0.60</td>
<td>4.40 ± 0.63</td>
<td>4.32 ± 0.70</td>
<td>4.28 ± 0.61</td>
<td>p = .0001</td>
</tr>
<tr>
<td>Realistic self appraisal</td>
<td>3.79 ± 0.85</td>
<td>3.77 ± 0.60</td>
<td>3.61 ± 0.99</td>
<td>3.71 ± 0.78</td>
<td>3.67 ± 0.82</td>
<td>3.77 ± 1.03</td>
<td>4.28 ± 0.61</td>
<td>p = .2830</td>
</tr>
<tr>
<td>Personal appearance/ professional style</td>
<td>3.63 ± 0.03</td>
<td>3.63 ± 0.70</td>
<td>3.67 ± 0.64</td>
<td>3.67 ± 0.82</td>
<td>3.92 ± 0.69</td>
<td>3.92 ± 0.69</td>
<td>4.28 ± 0.61</td>
<td>p = .2871</td>
</tr>
<tr>
<td>Ability to listen</td>
<td>3.67 ± 0.64</td>
<td>3.67 ± 0.64</td>
<td>3.52 ± 0.89</td>
<td>3.50 ± 0.60</td>
<td>4.13 ± 0.52</td>
<td>3.58 ± 0.70</td>
<td>4.28 ± 0.61</td>
<td>p = .0002</td>
</tr>
<tr>
<td>Asks relevant questions</td>
<td>3.63 ± 0.79</td>
<td>3.58 ± 0.72</td>
<td>3.27 ± 0.88</td>
<td>3.93 ± 0.59</td>
<td>3.58 ± 0.76</td>
<td>3.58 ± 0.76</td>
<td>4.28 ± 0.61</td>
<td>p = .0670</td>
</tr>
<tr>
<td>Level of confidence</td>
<td>3.54 ± 0.63</td>
<td>3.42 ± 0.76</td>
<td>3.52 ± 0.68</td>
<td>3.33 ± 0.72</td>
<td>3.77 ± 0.71</td>
<td>3.77 ± 0.71</td>
<td>4.28 ± 0.61</td>
<td>p = .3973</td>
</tr>
</tbody>
</table>

*Key: 1 = unimportant, 2 = some importance, 3 = important, 4 = very important, 5 = critical
A "preresidency syndrome," characterized by medical students being excessively preoccupied with gaining a position in a graduate medical education program of their choice, is spreading through the nation's medical schools. There has always been a degree of competition among students for residency positions. Competition can be healthy. It can stimulate students to excel in their studies and thus increase their knowledge and perfect their skills during medical school. However, competition can be disruptive if it diverts students from accomplishing their general professional education.

If disruption is fomented by the faculties that are responsible for students' education, faculty priorities must be questioned. Does filling the positions in residency programs take precedence over providing students time to make reasoned career decisions and the opportunity to complete the educational programs planned by their medical schools? The attitudes and behavior of many residency program directors, most of whom are medical school faculty members, suggest that the answer to this question is yes.

Fifteen years ago there were many more residency positions in all specialties than there were graduates from U.S. medical schools. Program directors competed for graduates to fill the positions in their programs. Now, with the competitive positions reversed, students are being forced to make career decisions by the end of their junior year. Further, many students are using their senior year electives to exhibit themselves at hospitals where they hope to be selected for a residency—often because they are told that only applicants who have taken an elective in a program in that institution will be considered. As a result, these students take electives in the same specialty at several institutions and thus expend much of their senior year in the same specialty in which they will have graduate training. This disrupts the completion of a balanced, general professional education.

Medical faculties' views about these behaviors are paradoxical. On the one hand, they deplore that the senior students at their own institution are "on tour" most of the year, while they encourage students from other schools to visit them. They decry their students having to make premature decisions for residencies, but, in league with the colleagues in their specialty, they devise separate, early matching plans. They criticize the quality of deans' letters of recommendation but set such early deadlines for their receipt that students' senior-year performance cannot be included.

What is to be done? In future, even greater competition for residency positions among medical students can be expected. If faculty members, wearing their program director hats, continue their devil-take-the-hindmost pursuit of students, the preresidency syndrome will become an epidemic, and the general professional education of students will be more and more disrupted. Deans and associate deans, who have ultimate responsibility for their students' education and welfare, could, in concert, inhibit the spread of this plague by refusing to provide letters and transcripts each year until after October 1, a date recommended by the Association of American Medical Colleges' Task Force on Graduate Medical Education in 1981. They could refuse to allow students to take more than one elective in the same specialty, or they could severely limit senior students' elective time. However, when faced with the pleadings of students who fear that their career aspirations may be irrevocably harmed by such rigid policies, most deans are forced to comply with the rules laid down by leagues of specialists who place self-interest before students' welfare.

Those who make the rules for graduate medical education must take the initiative if general professional education in medical school is to be preserved. Is there a forum where these rule-makers can come together to discuss the problems described? There are 24 autonomous, rule-making specialty boards and an equal number of rule-making residency review committees. The American Board of Medical Specialties could provide a forum for the boards, and the Accreditation Council for Graduate Medical Education could provide a forum for the residency review committees. To my knowledge, neither the boards nor the residency review committees have ever considered the recruiting practices of programs in their specialties to be of any consequence. It is time they did!
JOINT ADMINISTRATIVE BOARDS MEETING

"The Direction of National Science Policy"

Guest Speaker
Representative Don Fuqua
Chairman, Committee on Science and Technology
U.S. House of Representatives

Wednesday, June 19, 1985
6:00 p.m. in the Military Room
Washington Hilton Hotel

To be followed by Cocktails in the Map Room and Dinner in the Caucus Room
The House Committee on Science and Technology Policy has established a bipartisan Science Policy Task Force to conduct a two-year study of national science policy. The Task Force is the first major Congressional review of American science policy in nearly twenty years and will focus on the significant changes which have occurred in the science-government relationship and the overall environment for scientific research. Specifically, the Task Force is undertaking an indepth review and examination of government policies in 1) conducting and supporting basic and applied research, and 2) science and engineering education and manpower issues as they are related to graduate and postdoctoral education. An indepth ten-point agenda for the Science Policy Task Force was published in December 1984.

The eighteen member Task Force is under the leadership of the House Committee on Science and Technology Policy Chairman, Don Fuqua (D-FL) and Committee ranking minority member Manuel Lujan, Jr. (R-NM). A long term objective of the Task Force is to achieve a deeper understanding of science policy issues and to examine such issues outside of the conditions of crisis which so often force policy changes. To facilitate this long term objective a number of studies, evaluations of existing programs, and bibliographies have been requested from the Congressional Research Service, the Office of Technology Assessment, and the General Accounting Office. The Task Force has also scheduled an exhaustive series of hearings in 1985 and early 1986. Following the hearings Task Force staff will compile and write a draft of the final report, copies of which will be circulated to the scientific community for comment before the final report is published at the end of September 1986.

The Task Force will examine all of the sciences, including the life sciences. However, since the jurisdiction and background of the parent committee is focused on the physical sciences, space, energy, and environmental research and the National Science Foundation, they have had less contact with the biomedical milieu and policies relevant to the NIH and the medical school environment. Thus the Association, as well as other segments of the biomedical/biobehavioral research community, may have a useful role to play in identifying key policy issues as well as providing resources and data to the Task Force.

The AAMC will be forming an ad hoc Research Policy Committee under the chairmanship of Dr. Edward Brandt, Chancellor of the University of Maryland, to assist it in examining federal biomedical research policy in the context of the work of the Task Force on Science Policy.

Further background information on the Task Force is provided on the following pages:

- Membership of the House Task Force
- Annotated agenda for the Task Force
- Proposed schedule of hearings
- List of commissioned studies
- Introduction to the Task Force Agenda
Chapter IX. Funding Mechanisms ......... 13-16
a representative chapter illustrating the
degree of specificity achieved in this
64-page agenda covering 10 major areas
of science policy
MEMBERSHIP OF THE SCIENCE POLICY TASK FORCE

DEMOCRATS:
  Don Fuqua (FL-2), chairman
  George E. Brown (CA-36)
  Doug Walgren (PA-18)
  Stan Lundine (NY-34)
  Norman Y. Mineta (CA-13)
  Harry M. Reid (NV-1)
  Richard Stallings (ID-2)
  Frederick C. Boucher (VA-9)
  Harold L. Volkmer (MO-9)
  Timothy E. Wirth (CO-2)

REPUBLICANS:
  Manuel Lujan Jr. (NM-1)
  Claudine Schneider (RI-2)
  Ron Packard (CA-43)
  Tom Lewis (FL-12)
  Robert S. Walker (PA-16)
  Sherwood L. Boehlert (NY-25)
  James Sensenbrenner (WI-9)
  Sid Morrison (WA-4)
AGENDA FOR THE HOUSE SCIENCE POLICY TASK FORCE

I. The Goals and Objectives of National Science Policy

Purpose: To examine the goals and objectives of American science policy, the assumptions underlying these goals, and how well they are being achieved.

A. Goals of Federal Science Policy
B. History of American Science and U.S. Science Policy
C. The Future of U.S. Science
D. The Pay-off from Scientific Research
E. Accountability in Research

II. The Institutional Framework of National Science Policy

Purpose: To review the adequacy of research universities, industrial firms, and governmental agencies to meet the future needs and demands of science.

A. The Role of Research Universities
B. The Role of the Governmental Laboratories
C. Basic and Applied Research in Industry
D. Government Responsibility for the Research Infrastructure
E. International Cooperation in Big Science
F. Coordination and Management of Federal Research Programs
G. Role of the National Academies

III. Education and Manpower

Purpose: To examine the issues associated with and the relationships between scientific research, the education and training of scientists at the graduate and post-doctoral levels, and the demands for scientific manpower.

A. The Past, Present, and Future Government Role in Science Education
B. Effects of Long-Range Population Trends on Science Manpower Policy (Including Physicians)
C. The Government's Role in Professional Education (Including Physicians)
D. Equity of Opportunity
E. How Should the Education of Scientists, Doctors, and Engineers be Paid For?
F. Engineering Education
G. New Educational Technologies

IV. Impact of the Information Age on Science

Purpose: To examine the widespread introduction and use of modern information technologies such as telecommunications, electronically stored data bases, and computers on the conduct and scope of scientific research.

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V. Role of the Social and Behavioral Sciences

Purpose: To address the importance of the social sciences, particularly the question of future government support for research programs in these disciplines.

VI. The Regulatory Environment for Scientific Research

Purpose: To consider the relationship of societal values and scientific research, focusing on the conflict between the aims of society and the aims of research, the manner in which these conflicting aims are accommodated, and the development of principles to achieve balance.

VII. Funding Levels

Purpose: To explore the manner in which funds are allocated for scientific research, thus establishing national priorities, by both the government and by other providers.

A. History of Science Funding Since 1945
B. Is There an Optimum Level of Federal Support for Science?
C. The Financial Health of Universities and Medical Research Centers
D. Priorities for Science Funding

VIII. Support of Science by the Mission Agencies

Purpose: To examine the science programs, conducted both in government laboratories and through grants and contracts, of agencies such as the departments of Defense, Energy, and Agriculture, and the National Aeronautics and Space Administration.

IX. Funding Mechanisms

Purpose: To examine the array of funding mechanisms and instruments, such as peer review and grants, used to provide the government's research funds to organizations and individuals.

A. Alternative Systems of Funding Scientific Research
B. The Selection Process and the Role of Peer Experts
C. Styles of Research Support in Different Fields of Science
D. Secondary Effects of Present Funding Mechanisms
E. The Cost of Research

X. The Role of the Congress in Science Policy Making

Purpose: To review the processes of the Congress for dealing with the formation of science policy.

A. Science in the Political Process
B. Priority Setting by the Congress
C. Oversight and Evaluation of Federal Science Programs
D. Multi-Year Funding of Science Programs
E. Review of Science Policy Reports to the Congress
F. Background Materials for Members
# Proposed Schedule for the House Science Policy Task Force

## 1985

<table>
<thead>
<tr>
<th>Month</th>
<th>Meetings</th>
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<tbody>
<tr>
<td>February</td>
<td>Task Force Organizational Meeting&lt;br&gt;Hearing on Goals of Federal Science Policy</td>
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<tr>
<td>March</td>
<td>Hearings on Goals of Federal Science Policy</td>
</tr>
<tr>
<td>May</td>
<td>Hearing on the Future of U.S. Science&lt;br&gt;Hearing on the Nobel Prizes and Science Policy&lt;br&gt;Hearing on Government and the Research Infrastructure</td>
</tr>
<tr>
<td>June</td>
<td>Hearings on International Cooperation in Science&lt;br&gt;Hearings on Science in the Political Process</td>
</tr>
<tr>
<td>July</td>
<td>Hearings on Science and Engineering Education and Manpower</td>
</tr>
<tr>
<td>September</td>
<td>Hearings on the Impact on Science of the Information Age&lt;br&gt;Hearings on the Role of the Social Sciences</td>
</tr>
<tr>
<td>October</td>
<td>Hearings on Science in the Mission Agencies&lt;br&gt;Hearings on Science in Government Laboratories&lt;br&gt;Field Visits to Research Universities, Government Laboratories (tentative)</td>
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## 1986

<table>
<thead>
<tr>
<th>Month</th>
<th>Meetings</th>
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<tr>
<td>February</td>
<td>Hearings on Effects of Long Range Population Trends in Manpower Policy&lt;br&gt;Hearings on the Regulatory Environment for Research</td>
</tr>
<tr>
<td>March</td>
<td>Hearings on the Pay-Off from Scientific Research</td>
</tr>
<tr>
<td>April</td>
<td>Hearings on Funding Mechanisms</td>
</tr>
<tr>
<td>May</td>
<td>Hearings on Funding Levels&lt;br&gt;<strong>FIRST DRAFT OF FINAL REPORT DUE</strong></td>
</tr>
<tr>
<td>June</td>
<td>Hearings on (combined)&lt;br&gt;<strong>First Draft of Final Report</strong>&lt;br&gt;Goals of Federal Research Policy&lt;br&gt;The Role of the Congress in Science Policy Making</td>
</tr>
<tr>
<td>July</td>
<td>Hearing on the Role of the National Academy of Science&lt;br&gt;<strong>TASK FORCE MEETINGS TO EDIT FINAL REPORT</strong></td>
</tr>
<tr>
<td>August</td>
<td><strong>STAFF REWRITE OF FINAL REPORT</strong></td>
</tr>
<tr>
<td>September</td>
<td><strong>TASK FORCE MEETINGS TO REVIEW AND EDIT FINAL REPORT</strong>&lt;br&gt;Final Report to Government Printing Office: 19 September&lt;br&gt;Publication of Final Report: 31 October</td>
</tr>
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### LIST OF STUDIES COMMISSIONED BY THE SCIENCE POLICY TASK FORCE

<table>
<thead>
<tr>
<th>Study</th>
<th>Agency</th>
<th>Due Date in 1985</th>
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</thead>
<tbody>
<tr>
<td>Expertise in the Political Process</td>
<td>CRS</td>
<td>Draft Received</td>
</tr>
<tr>
<td>Nobel Prizes as Indicators of National Strength in Science</td>
<td>CRS</td>
<td>Draft Received</td>
</tr>
<tr>
<td>Compilation of International &quot;Big Science&quot; Facilities</td>
<td>CRS</td>
<td>Late May</td>
</tr>
<tr>
<td>Bibliography of National Academy Reports</td>
<td>CRS</td>
<td>Late May</td>
</tr>
<tr>
<td>Impact on Science of the Information Age</td>
<td>CRS</td>
<td>Late June</td>
</tr>
<tr>
<td>Social and Behavioral Sciences and their Contributions to Society</td>
<td>CRS</td>
<td>July</td>
</tr>
<tr>
<td>Support of Scientific Research by the DOD</td>
<td>CRS</td>
<td>July</td>
</tr>
<tr>
<td>History of Science Policy Since 1945</td>
<td>Staff Fellow</td>
<td></td>
</tr>
<tr>
<td>Alternate Mechanisms of Research Support</td>
<td>GAO</td>
<td>September</td>
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</table>

GAO is asked to examine the array of federal funding mechanisms for science. For example, a preliminary review shows that the diversity of instruments and methods of funding research have been gradually narrowed, and the individual project grant is now the dominant mechanism. GAO is asked to study the relative merits of various funding mechanisms.

### The Regulatory Environment for Scientific Research

This study will explore controls on scientific research and their effects on the quality of science. Recent controversies over research on recombinant DNA, research on humans and animals, and constraints on disclosure of research findings are examples of such controls. The study will outline contemporary attempts to regulate science. It will analyze how the effects of regulation on the quality of science might be measured and how current legislative actions reflect the regulatory climate.

### Analysis of Demographics and Manpower

This study will examine demographic trends and manpower needs over the next 40 years, with particular emphasis on the outlook for U.S. research universities and their students and faculty.

### Science Funding as an Investment

A traditional justification for federal support of science rests on the principle that the search for knowledge is intrinsically valuable. More recently the justification has emerged that science funding is an investment. OTA is asked to examine models for funding high risk long term investments in other contexts and the relevance these have to funding science.
Financial Health of the Universities  GAO  December

GAO is asked to study how scientific research is funded at U.S. research universities, including their medical research centers. The purpose of this analysis is to provide "the broadest possible picture of how Federal funding for research fits into the total financial situation of this group of institutions." The study includes, "an analysis of the total sources of income for these institutions by major categories and includes resources being provided both in the form of money and in kind, an analysis of the extent to which research funds are used to fund both research activities and other institutional activities through various direct and indirect costs and reimbursements, and, conversely, the extent to which other funding sources, i.e., tuition, endowment income, and gifts, are used to support research activities, directly or indirectly." Data will be collected through a questionnaire, which is expected to sample 30 randomly selected universities on the NSF list of the top 100 research universities.
AN AGENDA FOR A STUDY OF GOVERNMENT SCIENCE POLICY

REPORT
PREPARED BY THE
TASK FORCE ON SCIENCE POLICY
TRANSMITTED TO THE
COMMITTEE ON SCIENCE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
NINETY-EIGHTH CONGRESS
SECOND SESSION
Serial MM

DECEMBER 1984

Printed for the use of the Committee on Science and Technology
U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1985

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A. Support of Science by the Department of Defense
B. Support of Science by the Other Mission Agencies

IX. Funding Mechanisms
A. Alternates Systems of Funding Scientific Research
B. The Selection Process and the Role of Peer Experts
C. Styles of Research Support in Different Fields of Science
D. Secondary Effects of Present Funding Mechanisms
E. The Costs of Research
INTRODUCTION

The last major Congressional review of American science policy took place in the mid-sixties, almost twenty years ago. Since that time, the relationship between science and government has undergone a number of significant changes, and there is every indication that further changes in that relationship are in prospect. In addition, the wider environment in which both government and science must function is expected to change in ways that will affect both science and the science-government relationship.

It is therefore timely that the Science and Technology Committee conduct a careful review of American science policy. Such a review will enable the members of the Committee, and the wider membership of the House of Representatives, to discharge their legislative and oversight responsibilities on the basis of a deeper understanding of past policies, present problems, and future needs and choices.

The proposed agenda presented in this report by the Science Policy Task Force represents our recommendations about the ground such a science policy study should cover. In our view, all of the individual items and questions we propose for consideration and study are closely related and together form the fabric of our science policy. We realize that the list of agenda items is long and may be difficult to cover in depth even with the expected two-year duration planned for the study. Nevertheless, the importance of this subject for the future of the country compels us to recommend that the entire subject be given the most careful and thoughtful study so that we can emerge with a deeper understanding and enhanced wisdom about the Federal Government's role in keeping America strong in science.

SCIENCE POLICY AND THE CONGRESS

The Federal Government's role as the principal source of the resources needed to advance science is comparatively new. Prior to 1945 it was limited to peaks of effort in support of major wars and specialized activities by those agencies of government which saw science as a way to accomplish their primary missions such as the Department of Agriculture. This limited role for the Federal Government gave way to a much stronger, ultimately dominant, role in the years following the end of World War II.

During the war years large numbers of scientists performed research directly related to the war effort. Funds were provided through the Manhattan Project for work on the atomic bomb, through the Office of Scientific Research and Development for work on a wide range of other military weapons, techniques, and medical problems, and through the military services to the universities for both training and R&D activities. This resulted in the de-
velopment of a spectacular array of science-based technologies which contributed significantly to the winning of the war. They included, in addition to the atomic bomb, the proximity fuze, radar, mass-produced penicillin, scientific techniques for anti-submarine warfare, and psychological methods for the selection and training of personnel.

As a result, public and Congressional support for the continuation of government support of science was strong, and the view that it should be broadened to include research with potential applications to the civilian sector of society was introduced. A number of new government agencies were created to continue and strengthen the close relationship with the universities. They included the Office of Naval Research and the National Science Foundation. Other established departments and agencies such as the National Institutes of Health and the Department of Agriculture also saw their science programs expanded and strengthened.

In the late Fifties, the launch of the Soviet earth satellite Sputnik, provided further impetus for public and Congressional support of science leading to rapidly growing budget allocations for science. A new emphasis on science education at all levels emerged, based on the need to train more scientists and engineers.

The resulting series of annual budget expansions lasted into the mid-sixties, when a period of uncertainty and abrupt changes began, a period that is still with us. After a series of annual budgets in which the science component was essentially level, there has been a resumption of budget growth. That growth in science expenditures has been at rates equivalent to a doubling time of less than six years. It is unlikely that such rapid increases can be sustained, especially in view of the urgent need to close the deficit gap in the Federal budget.

The shift from a limited government role in providing support for science to a dominant role has of necessity meant a heavier involvement by the Congress in all aspects of that process. The Congress early recognized the importance of science to improved health, technological advance, and economic growth. The Congress has provided the institutional framework of new or augmented government agencies to administer those programs, and has responded to international developments, Executive Branch initiatives, and scientific opportunities with the allocation of substantial and frequent budget increases.

Yet, as in numerous other areas, there has been a strong tendency to make extensive changes in policy only under the conditions of crisis. Absent such conditions, debate on questions of resource allocation is normally restricted to the incremental increases proposed by the President in the annual budget. In our view the Science Policy Study offers a welcome opportunity to stand back in a non-crisis atmosphere and take the measure of our federal science policy in terms of both its relevance to national goals and its effectiveness in allocating sufficient resources to support science.

**Scope of the Study**

The scope of a study of science policy could vary widely, and would be interpreted quite differently depending on the time, the circumstances, and the interests of the individuals involved. The term “science policy” itself is subject to differing interpretations, but in common practice is frequently used to cover policies for government support and encouragement of science and technology, ranging from basic research through applied research, advanced development, concept demonstration, and product development. When interpreted to encompass that broad range of activities, science policy includes such issues as patent policy, anti-trust policy, tax policy, and industrial innovation policy generally.

After a careful consideration of the appropriate scope for the Science Policy Study, and an evaluation of the advantages and disadvantages of a wide scope versus a more circumscribed scope, the Task Force recommends that the scope be limited to the issues of science policy in the narrow sense of government policies for the support of basic and applied research. This means excluding from the present study the issue of technology policy and the many policy questions which fall into that broad category. Our conclusion in this matter of the scope of the Science Policy Study is based on the following considerations.

We believe that any study to be done by the Committee should be of the highest quality. To achieve this will require extensive data gathering, careful probing of many issues and their correlated subjects, and in-depth analysis of each issue. Such a study can only be done if the scope is limited to a manageable number of issues, all of which preferably are related to each other. Science policy in the narrow sense constitutes, we conclude, such a group of issues. Furthermore, many of the issues in the wider interpretation of science policy are themselves as large, or larger than, the more narrowly defined study contemplated here and could therefore easily divert attention from the focus on basic and applied research policy. Consequently, we recommend that the Science Policy Study be limited to the role of the Federal Government in conducting and supporting basic and applied research.

Similar considerations were brought to bear in considering the extent to which the Science Policy Study should cover education and manpower science education. While the Task Force fully recognizes the importance which science and engineering education have at the high school and undergraduate college levels, it was concluded that only those aspects of science and engineering education which are directly related to research activities should be covered in the Study. In part this is due to the fact that several recent reports have dealt with the issues related to pre-graduate science education. In part this is also due to the great scope which a study of all science and engineering education would entail, and the desire of the Task Force to keep the present Study within manageable boundaries. We therefore recommend that the Science Policy Study include science and engineering education and manpower issues as they are related to graduate and post-doctoral education in these fields.

**Bipartisan Approach of the Task Force**

From the time that the idea for a comprehensive science policy study first emerged, there was wide agreement that it should be...
done on a fully bipartisan basis. That was the view of the several members who proposed the initiation of such a study as well as of the Chairman and the Ranking Minority Member of the Science and Technology Committee. We all share the view that the importance of science to the nation’s future is high, and the need, therefore, to provide a strong leadership role by the Federal Government is not in dispute. The composition of our Task Force reflects that view.

A bipartisan approach to the work of the Task Force, and subsequently to the Science Policy Study itself, will not preclude that differences will arise on individual issues which form part of this study. Nevertheless, we recommend that the Science Policy Study be conducted in the same bipartisan manner as the work of the Task Force, an approach that proved workable and which we believe to be in the best interest of the nation.

THE PAST AND THE FUTURE

We recognize that science policy is dynamic, ever-changing, and has a past and a future. That past, although comparatively short, is replete with changes that range from adjustments in the nuances of policy to major redirections in program orientation. Similarly, the future of science policy calls for sensitivity to important, but hardly detectable, emerging developments as well as the anticipation of major trends in the factors affecting science and policy. In the conduct of the Science Policy Study an awareness of historical developments coupled with an acute sensitivity to emerging future needs will be crucial to the achievement of both wise judgments and sensible relevance. The Task Force recognizes that, in designing and conducting the Science Policy Study, a balance should be sought between attention to historical developments in American science policy over the last forty years and awareness of potential developments in science, in science policy, and in society as a whole.

LONGER TERM OBJECTIVE

The Task Force is well aware that studies of important policy issues frequently have as their only result the drafting and publication of a huge report which is read by few and which accomplishes little. We urge therefore that, in the conduct of the Science Policy Study, the longer term objective of achieving a deeper understanding by members of the Committee should be a major objective. This is not to suggest that an over-all report should not be produced, bringing together the conclusions and recommendations arising from the Study. But rather than a voluminous final report written without the active participation of the members of the Committee, we recommend that the Committee’s final report be short and succinct and that it be considered only one of the several end products of the Science Policy Study.

DATA BASED STUDY AND ANALYSIS

A prominent anomaly of past and current science policy making has been the very limited use of quantitative information. Neither the evaluation of past programs nor in the development of new initiatives has the arena of science policy formulation seen the use, to any significant extent, of hard data and quantitative analysis. In this respect science policy differs in a noticeable way from policy-making in such fields as defense policy, social security policy, and many others.

The Task Force believes that in many areas of science policy the data is available and the policy making process could potentially benefit from its use in the associated analysis. We recommend therefore that in the conduct of the Science Policy Study, particular attention be given to the definition of the issues, the formulation of the questions, and the enunciation of the recommendations in a manner which will permit quantitative approaches to be brought to bear when possible. Equally important, a concerted effort should be made to evaluate existing programs with the prominent assistance of such quantitative methods.

We are conscious of the limitations of such quantification, especially in a field of public policy which is characterized by a high degree of uncertainty and a noticeable degree of reliance on individual insight and creativity. Nevertheless, we believe that the time has come to supplement, although certainly not replace, the traditional science policy process with a strong component of quantitative analysis, an approach which has proven so successful in science itself.

STRUCTURE OF AGENDA

In considering the wide range of topics which must be included in the agenda, even under the agreed narrow scope for the Science Policy Study, we have sought to arrive at a reasonable degree of coherence. The topics have therefore been organized under major subject categories and subheadings. However, some duplication was found unavoidable. For example, the focus on accountability in research will be found both in the initial chapter on goals and objectives and in the concluding chapter on the role of the Congress. Where it occurs, such repetition is intentional.
IX. FUNDING MECHANISMS

An array of particular funding mechanisms and instruments, such as peer review and grants, are used to provide the government's research funds to organizations and individuals. These mechanisms have a profound effect on all aspects of the scientific enterprise, and are the focus of continuing discussion and debate. The Task Force recommends that the funding mechanisms used to support science be examined as part of the Science Policy Study.

A. ALTERNATIVE SYSTEMS OF FUNDING SCIENTIFIC RESEARCH

A cursory review of the funding mechanisms used by Federal agencies over the last 20-30 years shows that the diversity of instruments and methods of funding scientific research has been gradually narrowed. The variety of these funding instruments included Senior Investigator Grants, formula grants of various types, and block grants of many varieties. In their place, the project grant has achieved growing prominence as the principal method of providing funds for research.

1. To What Extent Should the Present Dominance of the Project Grant System for the Support of Scientific Research Be Gradually Replaced with a More Pluralistic Form of Support?

The project grant approach has many advantages, chief among which is that it maintains a strong degree of competition. This helps ensure that the available resources are expended on the best projects and that the system is open to new ideas and all researchers. But the system is also under considerable strain. There has long been complaints from scientists that the associated practice of basing project grants on unsolicited proposals involves a disproportionate amount of effort and paperwork. It is also claimed that the practice of judging the relative merits of the proposed projects by means of peer review does not ensure an open system, but introduces instead a strong degree of conservatism and reluctance to support unconventional research ideas. Recently, it has been claimed that the workload required to review proposals and the requirements for disclosures about personal finances have increased to the point that a growing number of scientists, especially among the leading, mature investigators, are declining to serve as reviewers. These points all serve to suggest that the time has come to ask if the trend toward sole reliance on project grants should be reversed in favor of a system which increasingly uses a greater diversity of funding mechanisms that more closely meet the needs of scientific research.
2. What Lessons Can Be Learned from the Mechanisms of Science Support Used in Other Advanced Industrial Countries?

In addition to reviewing alternative funding mechanisms used by various agencies at various times in the United States, it might well be highly useful to determine what funding methods are used in other advanced, industrial countries. While none of these methods may be directly transferable from the particular circumstances found elsewhere, there may be elements of such systems that would be highly useful. We frequently have heard mention, for example, of the Max Planck Institutes in Germany as a form of organizational arrangement outside the university setting which permits high quality research to be conducted. Other modes and practices may be of equal interest and they should all be studied as part of the Science Policy Study.

R. THE SELECTION PROCESS AND THE ROLE OF PEER EXPERTS

Underlying much of the present grant system is the belief that the best results are obtained through competition based principally on potential scientific merit. Because such judgments frequently can be made only by other scientists who are experts in the same field of science, the peer review method of deciding project competitions has become prevalent. But this system also appears to be biased against radical, high-risk research project proposals and against younger investigators. It also suffers from a high degree of centralization and much paperwork. We therefore recommend that the Science Policy Study include on its agenda a careful review of the presently used selection processes for scientific research projects, their advantages and disadvantages, and their relative merits in comparison with other possible selection methods.

I. Should the Present System of Peer Review and Competition Be Modified?

The peer review system operates differently from agency to agency and even within some agencies. Under some operating modes the peers provide their comments by mail and thus never meet face to face, while other systems involve formal meetings and discussions in Washington or elsewhere. As indicated previously, often such comments have surfaced to indicate that the workload of those serving as peer reviewers is trending toward a level where some of the better scientists are reluctant to continue their service as reviewers. On a more general level, concern has been expressed that while this system works well in periods of rapid growth, it may be less well suited to periods where a particular field of science is not growing. On the other hand, many have noted the very great advantage which some form of competition yields in comparison with systems in other countries which involve less, or no, competition. We are also cognizant of the strong attachment which many, but not necessarily all, scientists have to the peer review system. Thus we recommend that one approach to the reduction of the undesirable aspects of the present project selection method that should be considered is the evolution of changes which would modify the system to reduce its weaknesses without eliminating its basic strengths.

II. What Are the Advantages and Faults of Alternative Systems?

A more far-reaching way of rectifying the known problems of the present project selection system would be the adoption, wholly or partly, of quite different methods of providing research support. Such methods might include junior investigator grants and career development grants, involving support for individuals rather than projects, various forms of block or formula funding which would support institutions or groups, or, alternatively, project awards made on the basis of program manager judgments, geographic distribution criteria, or cost considerations. Any of these alternatives are likely to have distinct advantages as well as faults, and we urge that each be carefully weighed on its own merits and in comparison with the present methods as part of the review of the support selection process.

C. STYLES OF RESEARCH SUPPORT IN DIFFERENT FIELDS OF SCIENCE

A review of the variety of modes or styles in which government support for scientific research is provided, suggests that the degree of centralization or decentralization varies greatly. For example, a high degree of decentralization is found in some parts of agricultural research. The Department of Agriculture supports a comprehensive system which involves, in addition to research, extension and teaching activities. Funds for this system are provided through formula grants to the land grant colleges. At the other end of the spectrum, the National Institutes of Health and the National Science Foundation support research chiefly through project grants to individuals. Projects are selected on the basis of nationwide competition and peer review. In recent years, however, competitive grants have been introduced into the agricultural research system to supplement the formula grants. At the National Science Foundation and the National Institutes of Health, small but significant programs of support for limited areas of science such as materials research is being provided in the form of block grants. We recommend that these widely varying styles of research be compared and evaluated as part of the Science Policy Study.

1. Are Differing Styles of Research Support Optimum for Particular Fields of Science?

While we note the wide spectrum of styles used for the support of research in different agencies, little is available to explain why these different styles are being used. Apart from the historical evolution of the program, it is not clear whether certain types of research, for example basic or applied, or certain disciplines, for example biological or physical, thrive better under one style of support or another. In the event a correlation of support style with productivity exists, that should be ascertained and applied more widely.

2. Should Future Funding Systems for Research Mix the Two Styles of Funding?

It appears possible that the optimum mode of supporting scientific research may be a mix of formula or block grants and competi-
tive project grants. The instances where experience with this mixed style of support has been developed should be included in the examination of the effectiveness of the different research support modes.

3. Has One Mode of Research Support a Higher Chance of Yielding Technological Pay-Off?

A basic question in evaluating the various modes of research support is how the different modes contribute to the transfer of research to the users who can apply them in the form of technology or cures for disease. For example, it has long been recognized that the agricultural research system has been highly successful in providing the results of research to the farmer. Whether this is due to the formula mode of research support is not clear. Conversely, the recent lag in technological innovation is often viewed as occurring in areas where research in the physical sciences might have been expected to make major contributions, and these fields of science are largely supported through project grants. The Science Policy Study's review of research support styles should attempt to determine if a relationship exists between such styles and the level of practical application.

D. SECONDARY EFFECTS OF PRESENT FUNDING MECHANISMS

The presently used mechanisms for providing support of scientific research may, on the whole, be achieving the primary aim of advancing science. However, it is becoming evident that these mechanisms also have significant secondary effects on scientists and the institutions in which they do their research. In our view, these secondary effects cannot be neglected. They should be identified, both in terms of the effects produced by the existing support mechanisms and in terms of any proposed new or altered support mechanisms that may emerge from the Science Policy Study.

1. Should the Federal Government Be Concerned about These Secondary Factors?

Many of the secondary effects arising from the presently used research funding mechanisms occur wholly or partly within the research institutions. As such, their impact is chiefly a matter of concern to those institutions. At the same time the funding mechanisms are established by the government, and the government in the long run has an interest in assuring that the research institutions are healthy and viable. The balance between institutional autonomy and government interest should be carefully observed in the view of the Task Force. The cooperative spirit between the government and the research community should, in our view, be preserved and enhanced, and the development of an adversarial relationship should be avoided.

2. Is "Getting Research Grants" Replacing the Actual Conduct of Research as an Incentive for Some University Scientists?

The suggested effect of the present project grant system in its interaction with the universities and their system for rewarding and promoting individual scientists on their faculties is said to be that it has become more important to obtain research grants than to conduct actual research work. The prevalence of this practice should be determined, if feasible, along with its good and bad effects, and the desirability of making adjustments in the funding mechanisms.

3. To What Extent Do the Present Funding Mechanisms Provide Incentives and Disincentives for Research Fund Raising, Industrial Cooperation, Patient Care, and Undergraduate Teaching?

The scientists who are engaged in research at universities, medical research centers, and other institutions have a number of other duties such as patient care and undergraduate teaching. The institutions similarly have duties other than raising research funds from the Federal agencies. These include fund raising from private donors, and cooperation with industrial firms and many other functions. It has been noted that the present mechanisms of providing Federal research funds may in some cases serve as disincentives for carrying out these other activities. This should be reviewed as part of the Science Policy Study, and, if possible, corrective measures should be recommended.

4. Would Growing Institutional Funding Lead to Growing Government Influence in Research Institutions?

Any shift in the use of funding mechanisms which would increase the reliance on funding mechanisms that provide support to institutions rather than to individuals might potentially lead to expanded government influence on the institutions. Past experience with such funding mechanisms should be carefully reviewed in designing new approaches to institutional support research funding.

E. THE COST OF RESEARCH

To a considerable extent the discussions about government funding of university research activities have become centered on a group of technical issues. These are issues having to do with what it costs to carry out research in an institutional setting and how many of the costs less directly related to such research should or should not be borne by the government. Because of their impact on both the financial health of the universities and on the costs to the government, we recommend that these technical issues be included within the scope of the Science Policy Study.

1. What Accounts for the Gradual Increase in Indirect Cost Rates, and Is This Growth Desirable or Undesirable?

For most grants and contracts the direct costs, consisting of salaries, materials, publication costs, etc., are supplemented by the so-called indirect or overhead costs. These presumably pay for such associated costs as building maintenance, heating, and shared clerical support. A slow but steady growth of the indirect cost rate has been noticeable over the last five years. This growth has meant that for every dollar provided to a research institution a smaller and smaller fraction goes to the direct cost of doing research, while a mounting fraction goes to defray general institutional charges. The nature of this shift, if in fact it is widespread, be
ascertained and its longer term implications should be carefully examined.

2. Is It Possible to Replace the Present Complex Indirect Cost System with a Better System?

The present system by which government agencies pay the research institutions for their indirect costs involve the careful and detailed audit of the institution's books after the costs have been incurred. The government auditors must determine whether a given expenditure is allowable under the current rules and how much is allocable to a particular grant. Frequent disagreements occur between the university officials, who seek to recover as much of their costs as possible, and government auditors, who seek to include only those cost items reasonably chargeable to the government projects. Because of differences in institutional accounting practices, the overhead rates vary from institution to institution. It has occasionally been suggested, most recently in a 1984 study by the General Accounting Office, that a fixed overhead be established for all research grants at all institutions. This would eliminate the need for the complex and controversial accounting rules and the extensive auditing needed to ensure compliance with them. However, the research institutions have resisted such an approach, in part because they feel that if the rate were set too low, it would mean a substantial loss of revenue to cover many of their administrative costs. In more general terms, the underlying question is how much of the institutional operating costs should be borne by the agency sponsoring individual research projects at research institutions. Institutional grants for this purpose also have been considered to deal with this question, and we recommend that this entire question be examined as part of the Science Policy Study.

3. Has Cost Sharing Worked in the Past and Is It Feasible in the Future?

In the early postwar years when the Federal Government embarked on an expansion of support for science at American universities, there was a strong belief that this should be done in the form of partial assistance to such research, rather than complete funding. There were concerns that complete funding could lead to undue government interference in the research being done and in the internal operation of the university. There was also a feeling that, while the research being done would benefit the government, it also would benefit the institution and the professor in charge by providing training of graduate students, professional growth for the scientist, and some measure of enhanced status to the university. Based on such considerations, the principle of cost sharing between the government and the university was established for the funding of research. In practice, however, this principle is not widely used. In some cases cost sharing is less than one percent, and it may well have lost both its actual and symbolic effects. We recommend that the principle and practice of cost sharing be reviewed as part of the Science Policy Study and that a clear-cut policy for this practice be sought.
I. Call to Order

The meeting was called to order at 8:05 a.m.
II. Report of the Chairman

Dr. Brown noted the very positive reception given to the initiation of small group discussions at the COD Spring Meeting and suggested that this format be continued in future meetings. He urged Board members to keep in contact with those in their discussion group to secure their views on agenda items before the Board, and thereby, increase the sense of participation of the Council members at large.

Dr. Brown next reported on the meeting between the executive committees of the AAMC and AAHC. The first issue discussed was that of financing graduate medical education. The AAHC's position on this is yet to be established. The committee charged with developing policy recommendations has not reported; nevertheless, the AAMC was assured that the AAHC's position was very likely to be entirely compatible with the AAMC. Regarding the NIH reauthorization proposals and the IOM Report on the NIH Organizational Structures, the AAHC was content to let AAMC play the lead role. The AAHC felt similarly regarding the issues surrounding the use of animals in research.

The subject of animals in research stimulated a brief discussion on the Brown-Dole bill. Dr. Thomas J. Kennedy indicated that AAMC staff have already provided comments on the bill to Representative Brown's staff. It is the sense of Brown's assistants that pushing for too many changes in favor of animal experimentation at this time will likely result in the animal rights activists insisting on having the legislation authorize "standing" for their organizations to enforce its provisions in court. It appeared to Dr. Kennedy that the Brown-Dole bill was as favorable a bill as we can hope for, and he concurred with the judgment of other groups active with us on this issue that it is time for the AAMC to get behind a bill.

Dr. Bowles joined in that assessment, but opined that the sensitivity of medical schools to their local situations will be as critical in the future as this national legislation. Dr. Clawson indicated that he was planning to meet with Senator Dole's staff that morning. He was prepared to say it was a "good" bill and asked whether he could convey that as the sense of the Board members. There was no objection to this portrayal of their views.

Studies of clinical faculty practice were also discussed by the AAMC and AAHC Executive Committees. In addition to the AAMC survey of issues, they discussed an expression of interest in undertaking an extensive study of this subject forwarded by Dr. Fred Munson and a group at the University of Michigan. This group had just completed a study on university hospital governance. The sense of that discussion was that the AAHC and AAMC should defer any commitment to another study. A preferred strategy would be to convene a group first to review the subject, to define the objectives to be accomplished by any further efforts and, if appropriate, to prepare an RFP inviting interested investigators to compete in the
design of any studies beyond the capacity of the AAMC staff to conduct.

Dr. Brown also summarized the meeting of the AAMC Executive Committee which took place that morning. The operating budget for 1985 is $10.5 million dollars and is projected to increase by only $10,000 in 1986. Considerable discussion took place on the 1985 Annual Meeting. Dr. Sherman Mellinkoff, Dean, UCLA School of Medicine, will be speaking on "Coggeshall Revisited". Senator Lowell Weicker will also give an address. Dr. Cooper will give the first John A.D. Cooper lecture. The second afternoon will feature a session devoted to medical manpower issues and the "doctor glut." Other speakers have not been committed at this time.

The Executive Committee next reviewed four bills prepared by Representative Claude Pepper to deal with the problems of fraudulent medical credentials. The first of such bills, HR.128, would have empowered the Secretary of HHS to prohibit Medicare funds for education and training to those institutions that do not meet federally defined requirements for acceptable residency programs. This bill had drawn such vociferous opposition that it was never introduced; it was successful in underlining the seriousness with which Rep. Pepper viewed the problem. HR.129 makes it a federal crime to obtain a position as a staff physician or resident in a hospital receiving federal funds by using fraudulent credentials or cheating on licensing exams. HR.130 prohibits federal loans or loan guarantees to students enrolled in a foreign medical school that is not accredited. Accreditation, in turn, would only be available to institutions in which 75 percent of the students enrolled were citizens of the country in which the school is located. The AAMC response to this is that accreditation is not logistically feasible and that the Congressional goal would be accomplished simply by enforcing the 75 percent requirement as a condition of eligibility. That suggestion will be forwarded to Rep. Pepper's office. Finally, HR.131 would increase the penalties for mail fraud. Dr. Brown suggested that these bills are another manifestation of the concerns which are leading state licensing boards to prescribe curriculum requirements which have intruded on the academic prerogatives of accredited U.S. medical schools.

III. Approval of the Minutes

The minutes from the January 24, 1985 COD Administrative Board meeting were approved without change.

IV. Action Items

A. MCAT Fee Increase

The group considered a recommendation by the Executive Committee to increase MCAT fees $10 per year for FY86 through FY90. The current financial plan calls for a $5 increase per year. Discussion of
this issue drew questions regarding the reasons for these increases, the reasons for committing to a five-year plan of increases at this time, and the extent of AAMC dependence on MCAT revenues. Dr. Brown noted that the operating budget reviewed by the Executive Committee listed $1.3 million in MCAT revenues, which is approximately 13 percent of the budget. Mr. Keyes stated his recollection that, in an annual financial statement mandated by law to the state of California, the AAMC reported this past year an excess of income over expenses for the MCAT program of $127,000. (The correct figure is $170,000.) Since these figures were not obviously reconciled with the fact that nearly 50,000 examinations are administered at a cost of $55 per examination, the group decided to defer discussion until Dr. Cooper and Mr. Deufel, Director of Administration and Finance, could be present to clarify the financial issues. Mr. Deufel joined the group and reported that the $1.3 million listed as MCAT revenues was net of contract expenses to the American College Testing Program, which administers the test and collects all fees. These expenses run approximately 50 cents on each dollar collected, with the remainder transferred to AAMC accounts. This revenue, listed in the operating budget, is offset by expenses for test development, contributions to an MCAT reserve fund for future development activities such as occurred prior to the 1977 test revision, legal expenses, and AAMC MCAT program staff expenses. The net is what was reported to the state of California. Dr. Cooper, who had joined the group, emphasized that the current excess is a very fragile margin which could easily disappear with a further drop of as few as 2000-3000 examinees, such as occurred the previous year.

Despite the small current excess, there was a continuing concern that MCAT proceeds will be too heavily depended upon in the future for the fiscal survival of the AAMC. Some characterize this as unseemly and a conflict of interest. The financial integrity of the AAMC should rest on an appropriate dues structure. Dr. Stremmler emphasized that the major problem is the appearance of a conflict of interest. Are we in a position to ask "hard" questions about the exam given its role in the financial plan? There was some sentiment expressed for supporting a one-year increase with a further review in following years. However, Dr. Janeway urged sensitivity to the importance of an appropriate financial plan for Association activities. The motion approving the recommendation of the Executive Committee was voted on and carried, with the understanding that an annual report of the financial status of the MCAT program be made to the Administrative Board.

B. LCME Accreditation Standards

Dr. Robert Buchanan, Chairman of the LCME, joined the Board to present the final draft of the LCME Standards for Accreditation - Functions and Structure of a Medical School. He described the extensive process, begun in 1980, of drafting and reviewing, which has produced the current version. He asked the deans for their approval of the document. Dr. Buchanan clarified the meaning of the language used in several parts of the document in response to
questions. Mr. Sanchez reported the OSR's approval of the document. A motion for the Board to approve the document was made and passed unanimously.

C. Addition to the General Requirements for Graduate Medical Education

The Board considered a statement for inclusion in the General Requirements Section of the Essentials of Accredited Residencies that had been approved by the Accreditation Council for Graduate Medical Education (ACGME). Ratification required approval by each of the five sponsoring organizations including the AAMC. The statement indicates that each accredited residency program should be responsible for assessing the clinical skills of each resident during the first year of the program, those that are found deficient should be assisted in remedying deficiencies during the early part of the PGYI year, and those residents who have not shown improvement in clinical skills should be dismissed from the program before the completion of the first year. The genesis of this action relates to the concerns raised by the AAMC in 1981 about the clinical skills of graduates of medical schools not accredited by the LCME. The Association had urged that the clinical skills of graduates of non-LCME accredited medical schools be evaluated by direct observation before being permitted to enroll in graduate medical education programs accredited by the ACGME. In the discussion of this item, the Board members were clearly in favor of the stronger action urged by the AAMC in 1981. However, some members expressed their difficulty in voting against the statement as it stood, since it clearly provided for a program of evaluation desirable in any residency program. Dr. Swanson was of the opinion that if this statement were approved it would relieve pressure on the ACGME to effect the AAMC recommendation. A motion was made to reject the ACGME statement on the grounds that it was an insufficient response to the problem highlighted by the AAMC. The motion was seconded and approved unanimously. The Board urged that the AAMC continue to press for the development of the "hands-on" clinical skills examination by which graduates of non-LCME accredited schools can be evaluated for competence to undertake residency training.

D. NIH Reauthorization Legislation

The Board next considered an AAMC position on NIH Reauthorization Legislation in the 99th Congress. Dr. Kennedy reviewed for the group the history of this legislation, particularly S. 540 which was passed by the 98th Congress in its last week but later vetoed by President Reagan. While S. 540 contained a number of items that made it objectionable, for example, development of a Nursing Institute as well as one on Arthritis and Musculoskeletal and Skin Diseases, it was significantly less intrusive than other bills introduced in the House. No NIH renewal bill has yet to be introduced in either chamber, but several sons-of S. 540 are expected soon. Any proposed legislation is expected to move fast and proponents of a S. 540-like bill are confident that they can muster the votes to override a Presidential veto. Points of action by the
AAMC are limited; one most likely is to encourage a Presidential veto and to work to encourage delegations to sustain the veto. It is at that point that Congress may be willing to hear AAMC arguments against the detailed prescriptions outlined in the bill. The Board concluded by endorsing the staff recommendation to continue to oppose NIH reauthorization legislation that diverges from traditional AAMC policy.

E. OMB Proposal to Reduce Research Project Grants

The issue discussed was whether the AAMC should specifically endorse legislative or other proposals for restoring the 6,500 research grant level at NIH and 583 grant level at ADAMHA for FY 1985 or specify a compromise grant level. Dr. Kennedy reported that, at the request of Senator Weiker, the Comptroller General has studied the legality of the Administration's proposed action. He has issued an opinion that, in the absence of a specific Congressional directive, NIH does not have the authority to make multi-year awards in such a fashion. OMB reportedly views the GAO opinion as representing shoddy legal reasoning and may pursue the issue further by getting the Justice Department to intervene. Dr. Kennedy sees the OMB as looking at alternative ways to implement its agenda, while developing "fall back" positions and areas of compromise. Congress appears to be waiting to see how the debate on the 1986 budget comes out. The extent to which Congress will compromise on this issue probably depends upon how successful they are in negotiating a budget in accord with its wishes. In a brief discussion, it was pointed out that the delay in fighting for complete restoration of funds may eventually cost us more than a compromise secured quickly. Dr. Naughton reflected the concerns of New York schools on this issue, noting that 18% of the federal dollars involved would be going to New York schools. The Board approved the staff recommendation to push for complete restoration but cautioned that a compromise at some point may serve the schools' interests.

F. Proposed Department of Science

The Board considered a staff analysis pointing to increased public discussion about proposals to create a cabinet-level Department of Science. While this idea is not new in Washington, it has received impetus by the White House Office of Science and Technology Policy and the President's Commission on Industrial Competitiveness. The details of proposals vary; however, NIH would be one agency targeted for inclusion. AAMC staff analysis of this issue indicates that any serious proposal in this regard would have to overcome significant obstacles. Creation of a Department of Science does not appear to be a top priority of the Administration and any Administration proposal to reorganize federal science policy is likely to run into the buzzsaw of Congressional jurisdiction. The staff recommendation that the AAMC continue to disapprove any proposal to include the Public Health Service in a reorganization of federal research programs into a Department of Science was supported.
V. Discussion Items:

A. Report of the Group on Medical Education

In what he described as an historic event, Dr. Brown introduced Paula Stillman, M.D., chairperson of the Group on Medical Education (GME), to report on that group's activities. This was responsive to a suggestion made at the October 31 Administrative Board meeting that the deans interact more closely with various Groups that the AAMC sponsors. Dr. Stillman expressed her pleasure at being invited to speak to the Board and to attend the previous evening's COD/CAS discussion of GPEP. She described the GME membership as consisting of five appointments from each medical school in the areas of undergraduate medical education, graduate medical education, continuing medical education, research and evaluation, and instructional resource development. The dean appoints correspondents to the Group in each area. Other appointments are made by society presidents and hospital administrators. Currently, 550 members have been identified by deans, 150 from the CAS, and 950 from COTH, but the heaviest involvement is by the medical school representatives. The mission of the GME is to improve medical education by helping members manage and solve problems primarily through sharing of information and resources. Mechanisms used to accomplish this include skill development workshops, the Innovation in Medical Education (IME) exhibits, and the Research in Medical Education (RIME) Conference at the Annual Meeting. Over 1100 Annual Meeting attendees last year reported an interest in attending GME programs. Regional meetings of the GME are also held in the spring which permit more in-depth discussion and interaction. Separate task forces have been appointed to address specific issues. Dr. Stillman noted that one of the COD Board members, Tom Bowles, is a former GME chairman.

In the discussion which followed, the deans expressed interest in the degree of involvement of department faculty in GME activities in contrast to professionals in the field of education. Their concern was that the former are key to educational change and that professional educators are sometimes viewed with suspicion and skepticism by line faculty. Dr. Bowles indicated that this was, in his experience, a continuing concern of the GME. It would like to increase the level of faculty participation. The status of professional educators and their relationships to faculty varies markedly among schools. The discussion also focused on the need for a separate Group on Student Affairs (GSA) and a GME, since many individuals within schools have overlapping functions and membership in both groups. The distinguishing characteristics were clarified by Dr. Bowles and Dr. Leavell. GSA represents very specific, required activities of the dean's office, e.g., admissions, financial aid, counseling for career choices, and improving the quality of student life. Information within medical schools about GSA activities is high. On the other hand, GME represents special interests of various people within the medical center and, given its focus on the teaching and evaluation skills of faculty, has the potential to
be more threatening. Dr. Brown thanked Dr. Stillman for her informative report.

B. Certification and GME

The Board discussed a report from Robert Heyssel, M.D., president, The Johns Hopkins Hospital, on the Invitational Conference on the Impact of the Certification Process on Graduate Medical Education sponsored by the American Board of Medical Specialties (ABMS). Dr. Heyssel was the one AAMC representative selected to attend that meeting. The conference came about after discussion of an AAMC resolution to amend the ABMS by-laws. The amendment would have required member boards to have the approval of ABMS for changes in educational requirements that have a significant impact upon the resources that must be provided by teaching hospitals for their graduate programs and that impinge upon the educational resources of programs in other specialties. Along with the AAMC suggestion, two others were considered: 1) to require an "impact" document on any changes in educational requirements through the ACCME; and, 2) to use the COCERF forum, that is the subcommittee on certification and re-certification of the ABMS, to hold public hearings on any suggested lengthening of training programs. The result of discussions at the conference produced support for the latter two suggestions. The ABMS will probably go to a system of open hearings, publication of hearings, and discussion of the pros and cons related to lengthening or otherwise changing the content of specialty programs. Dr. Cooper stated that, while the conference did not support the AAMC resolution, the resolution had a positive effect in drawing ABMS attention to the problem.

C. Financing Graduate Medical Education

The most recent statement of issues by the AAMC Committee on Financing Graduate Medical Education was made available to Board members. Dr. Cooper took the opportunity to update the Board on Congressional activities. There have been two recent Congressional hearings. One was chaired by Senator Quayle, the other by Representative Waxman. Dr. Cooper anticipated a one-year freeze on direct medical education payments under Medicare. Congress appears to be providing that year in order for the medical schools through the AAMC to develop a proposal. There is also some sentiment for reducing the current 11.45% indirect medical education adjustment. Dr. Janeway stated that it would be difficult for us to defend the current level and that new data analyses by HCFA would probably suggest an adjustment more in the area of nine percent. Dr. Butler recounted his visit with Senator Bentsen and his Congressional staff. Senator Bentsen urged that the AAMC develop a strong coalition on this issue with an agreement on areas of compromise.

D. Changes in NBME Examination Policies

Board member Dr. Tom Bowles, who is also a member of the Executive Board of the NBME, reported on policy changes enacted at a recent meeting of that group. The National Board endorsed continued
development of its computer-based examination project which has been ongoing for nearly 15 years. Based on the recommendations of a committee charged to reexamine Parts I and II of the NBME examination sequence, The National Board has also decided to change the examinations along the following lines. New examinations will be constructed that are designed to be comprehensive rather than disciplinary-oriented. The number of questions will be reduced and there will be no commitment to achieving a specified disciplinary equality in examination content. This will allow for the possibility of introducing new content domains into the examination as they are judged relevant. The reduced number of questions also allows more time for questions tapping higher-level cognitive skills. Discipline scores will no longer be reported to students. However, faculty will be given an opportunity to assess the performance of their students through the reporting of school means by discipline and a keyword feedback scheme. The latter provides performance data on specific topic areas. The subject examination program will continue. Dr. Bowles noted that the NBME constituency is as heterogeneous as the AAMC constituency and that it is difficult to get consensus on policy changes. The new policies represent a compromise among those holding quite divergent views. Dr. Bowles expressed his belief that the NBME is open to closer interaction with the AAMC.

Dr. Swanson expressed his disappointment with the NBME policy change. He viewed it as a change in purpose for the examinations. Since 1915, the NBME has had as its purpose the provision of an examination that could be used for licensing. The recent changes, in his view, move the examination closer to a comprehensive achievement examination and away from a licensing examination. While the withdrawal of reporting disciplinary scores to students was a positive step, and one consonant with the GPEP recommendations, it was offset by retention of a policy to report mean disciplinary scores to schools for program evaluation.

Dr. Stemmler, a member of the National Board, offered a more positive view of changes, which he had expressed at the NBME meeting. He saw the breakdown of the disciplinary structure in the examination as playing to the school's own interest in breaking down disciplinary barriers in their instruction of students. Also by preparing a comprehensive examination on the one hand while maintaining subject examinations seemed to put a fork in the road between having an examination for licensure and other examinations to assess achievement. His view on the score reporting is that it was important for faculties to decide how to use scores. Withholding score information is not the answer; we need to teach faculty how to use scores appropriately. Dr. Stemmler also emphasized that it was imperative for schools to be aided in preparing students for the new computer-based examinations. The investment in technology that would be required by any one school to accomplish this would be expensive. The National Board should consider this as a future venture.
Dr. Janeway, also a member of the National Board, stated that while he found himself more in agreement on this issue with Dr. Stemmler than Dr. Swanson, he saw an inconsistency in reporting mean disciplinary scores to schools, but not reporting disciplinary scores to individuals. In his view, this was pedagogically unsound and a policy that may tend to drive the curriculum more. Mr. Sanchez reported that the OSR was in agreement with Dr. Swanson on this issue. Dr. Brown suggested that the issue be placed on the agenda for the next Administrative Board Meeting.

E. Faculty Practice Plans

Further discussion took place on directions for AAMC involvement in studies of faculty practice plans. Dr. Brown had earlier reported on the outcome of the AAMC/AAHC meeting on this subject. It was reiterated that the AAMC should not at this time move forward with the Munson project. The survey of faculty practice issues, which the Administrative Board had commissioned staff to conduct, was in process and a report due for the June Administrative Board meeting. Until this report could be discussed, it was seen as premature to commission any further studies at this time. What will probably be needed is a task force to consider directions for further studies and actions by the AAMC.

VI. OSR Report

Mr. Sanchez reported that the OSR had a productive meeting the evening before in which the main topic of discussion was a plan for Annual Meeting activities. The theme of that meeting will be "From Apathy to Panic and Beyond: Actions to Help Shape a Better Medical Education." The OSR is planning to invite Dr. Arnold Relman as a keynote speaker. At its meeting the OSR also reviewed its "issues" paper and discussed strategies to improve its effectiveness in influencing legislative activities.

VII. New Business

Dr. Stemmler reported a chance meeting he had with Dr. Donald Frederikson, currently the president of the Howard Hughes Medical Institute. Dr. Frederikson is especially interested in input from deans about how to spend the $150 million for which he is responsible. While a letter in this regard was distributed to the deans at their Spring Meeting, he had asked Dr. Stemmler to urge deans to respond with suggestions. Each dean can and should respond to Dr. Frederikson individually; however, a further question is whether or not the Administrative Board, as a group, should make recommendations in this regard. A deadline for their decision was fast approaching and it was imperative for any action to be taken quickly. Dr. Stemmler agreed to speak to Dr. Frederikson about a possible extension of his deadline, in order for proposals to be discussed at the June Administrative Board meeting. It was also recommended that staff mail the Frederikson letter to all deans to cover those not present at the Spring Meeting.
VIII. Adjournment

- The meeting adjourned at 12:06pm
1987 COD SPRING MEETING LOCATION

It is the staff recommendation based on site visits, contact with hotel staff and other meeting professionals, that the COD Administrative Board elect the Stouffer's Wailea Beach Resort for the COD Spring Meeting.

The outstanding characteristics of the Stouffer Wailea Beach Resort include: smallness in size, allowing the deans exclusiveness and intimacy; its location is close to restaurants, shops, beaches and airport; sleeping rooms are excellent with complimentary continental breakfast served daily to the rooms; magnificent ambiance on the resort and the surrounding area; the resort is off the tourist track, but within a thirty minute scenic drive to the popular attractions of Maui; and finally, the Stouffer staff proves to be accommodating and very efficient in providing quality service to its guests.

RECOMMENDATION: That the COD Administrative Board select a meeting site based on the relevant information provided by staff.
<table>
<thead>
<tr>
<th>FEATURES</th>
<th>Stouffer's Wailea Beach Resort</th>
<th>Inter-Continental Wailea Resort</th>
<th>Maui Surf Resort</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACCESSIBILITY</strong></td>
<td>Located 25 minutes from Kahului Jet Airport (Maui); 20 minutes by jet from Honolulu Airport; located on the leeward shore of Maui at the base of Mount Haleakala.</td>
<td>Located 30 minutes from Kahului Jet Airport (Maui); 20 minutes by jet from Honolulu Airport; located on the leeward shore of Maui.</td>
<td>Located 30 minutes from Kahului Airport (Maui); 20 minutes by jet from Honolulu Airport; located on the Kaanapali Beach Resort.</td>
</tr>
<tr>
<td><strong>LIMO SERVICE</strong></td>
<td>Kahului Airport- $8.50/one-way/limo, $23.00/taxi</td>
<td>Kahului Airport - $8.50/one-way/limo, $23.00/taxi</td>
<td>Kahului Airport - $10.50/one-way, $30.00/one-way/limo</td>
</tr>
<tr>
<td><strong>ACCOMMODATIONS</strong></td>
<td>350 guest rooms--with ocean, garden mountain and beachfront view; surrounded by beach and a 15 acre tropical garden; meeting facilities accommodate up to 400</td>
<td>600 guest rooms--with both ocean and mountain views; amidst ocean-front gardens and beaches</td>
<td>550 guest rooms--majority of the rooms oceanview; surrounded by beaches and tropical gardens</td>
</tr>
<tr>
<td><strong>AMENITIES</strong></td>
<td>Two-18 hole golf courses; 14 tennis courts; pool; sailing; snorkeling; windsurf; scuba diving; bicycling; fitness trails; horseback riding; jacuzzi; aerobic exercise class.</td>
<td>Two-18 hole golf courses; 14 tennis courts incl. 3 grass courts; two pools; sailing; snorkeling; scuba diving; bicycling; horseback riding.</td>
<td>Two-18 hole golf courses; 3 tennis courts; two pools; sailing; snorkeling; scuba diving; bicycling and fitness trails.</td>
</tr>
<tr>
<td><strong>RESTAURANTS</strong></td>
<td>Three at resort - gourmet/casual; six add'l in walking distance; snack shops; lounges and room service daily</td>
<td>Four at resort - gourmet/casual; six add'l in walking distance; lounges; snack shops; and room service.</td>
<td>Five at resort - three gourmet, two breakfast and lunch only; three lounges; snack shops; and room service.</td>
</tr>
<tr>
<td><strong>LOCAL ACTIVITIES</strong></td>
<td>Cruises of islands; nature excursions to mountains/volcanos; deep sea fishing; skiing; shopping; whale-watching; windsurfing; sunset cruises.</td>
<td>Nature hikes; island cruises to the tropical gardens and volcano parks; deep sea fishing; skiing; shopping; whale-watching.</td>
<td>Tours by glassbottom boats; island cruises of mountains and tropical gardens; whale-watching; fishing; shopping at arcade; helicopter tour.</td>
</tr>
<tr>
<td><strong>STATUS</strong></td>
<td>Tentatively holding rooms for March 31-April 4 &amp; April 4-8.</td>
<td>Tentatively holding rooms for March 31 - April 4.</td>
<td>Hotel sold 1/85--no longer holding rooms.</td>
</tr>
<tr>
<td>FEATURES</td>
<td>Hyatt Regency Maui Lahaina, Maui</td>
<td>Royal Lahaina Resort Lahaina, Maui</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------</td>
<td>-----------------------------------</td>
<td></td>
</tr>
<tr>
<td>ACCESSIBILITY</td>
<td>Located 40 minutes from Kahului Jet Airport (Maui); 35 minutes by jet from Honolulu Airport; located on the Kaanapali Beach Resort</td>
<td>Located 35 minutes from Kahului Jet Airport (Maui); 35 minutes by jet from Honolulu Airport; located on the Kaanapali Beach Resort</td>
<td></td>
</tr>
<tr>
<td>LIMO SERVICE</td>
<td>Kahului Airport - $10.50/one-way/limo $30.00/ &quot; &quot; /taxi</td>
<td>Kahului Airport - $10.50/one-way/limo $30.00/ &quot; &quot; /taxi</td>
<td></td>
</tr>
<tr>
<td>ACCOMMODATIONS</td>
<td>815 guest rooms--with ocean, golf course, mountain and garden views; covers 18-acres of prime, beachfront land and gardens; meeting facilities accommodate 2,500</td>
<td>514 guest rooms--with ocean and mountain views; covers 15-acres of beachfront land and gardens; meeting facilities accommodate 600</td>
<td></td>
</tr>
<tr>
<td>AMENITIES</td>
<td>Two-18 hole golf courses; five tennis courts; pool covering half-acre; scuba diving; Regency Health Club; sailing; snorkeling; game room</td>
<td>Two-18 hole golf courses; ten tennis courts w/ night play; three outdoor pools; jacuzzi; sailing; snorkeling; scuba diving; wind surfing</td>
<td></td>
</tr>
<tr>
<td>RESTAURANTS</td>
<td>Five at resort - gourmet/casual; four add'l in walking distance; snack shops; lounges; nightclub; and room service daily</td>
<td>Three at resort - gourmet/casual; several within walking distance; snack shops; four lounges and room service daily</td>
<td></td>
</tr>
<tr>
<td>LOCAL ACTIVITIES</td>
<td>Nature excursions to mountains/volcanos; deep sea fishing; whale-watching; shopping; sunset cruises</td>
<td>Tours by fishing vessels, catamarans, and glassbottom boats; whale-watching; shopping; windsurfing; nature hikes</td>
<td></td>
</tr>
<tr>
<td>STATUS</td>
<td>Tentatively holding rooms for March 7-14</td>
<td>Tentatively holding rooms for March 31 - April 4</td>
<td></td>
</tr>
</tbody>
</table>
The Expanding Role of the GSA

The impetus for the formation of the Group on Student Affairs (GSA) came from the 1956 AAMC teaching institute on admissions and the 1957 institute on the ecology of the medical student. The advantages of improved communication and cooperative effort in the areas of admissions and student affairs were evident to the nearly 100 representatives at these institutes. Accordingly, a Continuing Group on Student Affairs (CGSA) was authorized in November 1956, and activated during 1957. Of ninety-four medical school representatives attending the 1956 institute, only nine had titles specifically designating responsibility for admissions or student affairs. By 1960, each of the 86 medical schools had at least one administrative officer designated as a member of CGSA. In 1964 the name CGSA was changed to Group on Student Affairs, reflecting the permanent status of this growing group. GSA membership rose to 263 in 1970, 503 in 1980, and now (1985) rests at 634, a clear indication of the increasing complexity and expanding roles of the student affairs office.

The basic purpose of the GSA during its 28 years of existence has been the advancement of medical education, particularly in the area of student affairs. The function of the GSA is to facilitate interaction of the AAMC staff with institutional representatives charged with responsibility in admissions, student affairs, student records and information systems, financial aid, and minority affairs and to provide a communication system among institutions in these five areas of responsibility.

Typical functions of a contemporary Student Affairs office include recruitment, relations with colleges and applicants, admissions, orientation, registration, psychological testing, academic advisement, externships and preceptorships, academic reinforcement, student evaluation, student honors and awards, financial aid, housing, counseling, health service, student activities, residency planning/NRMP, graduation, and alumni affairs. Further, many of these responsibilities are arranged in cross section for identifiable groups of students with special support needs - minority students, women, handicapped students, and married and older students.

GSA - A Generative Force

The GSA has been a strong generative force within the AAMC over its 28 year life, responsible for or participating in the development of many conferences, studies, and publications; giving rise to a number of organizations in medical education; and devising a number of the structures of medical education which set it apart from the other professions.

For many years the GSA furnished the organizational support for premedical advisors through its regional meetings and through publication of the Advisor (1962-1972) and of the Premedical Advisors Directory, both now subsumed by the National Association of Advisors for the Health Professions (NAAHP). The GSA also encouraged the formation of the Group on Medical Education and sponsored the National Student Meeting (1970) which gave rise to the Organization of Student Representatives (OSR), giving over to that group the responsibility of AAMC-medical student liaison.
All of the early AAMC efforts in support of minority student admission, retention, and graduation grew out of the GSA Committee on Medical Education of Minority Group Students (1968). That committee grew into the Minority Affairs Section of the GSA (1978), an important part of the AAMC structure. In association with the AAMC Office of Minority Affairs, this GSA committee developed MED-MAR (Medical Minority Applicant Registry) and MSOUSMS (Minority Student Opportunities in U.S. Medical Schools), supported the AAMC Task Forces (1970, 1978) on Minority Students in Medical Education, supported the development of the Simulated Minority Admissions Exercise (SMAE), took the leadership in gaining approval of the 1970 AAMC Policy Statement on Minorities, and generated the concept funded first by OEO, which evolved into the Health Careers Opportunity Program (HCOP).

It is instructive to note that the Group on Student Affairs still holds its regional meetings with the groups it has helped birth, including the NAAHP, OSR, GSA-MAS, GME (in some regions) and more recently, the Women's Liaison Officers (WLO).

GSA and the Student Affairs Office

Moving from organizations in medical education to functions of the student affairs office, three major roles of GSA Professionals are worth noting along with some examples of GSA involvement in these areas. The three are financial aid, admissions, and student support systems.

The first active involvement of the GSA in financial aid was with the development and administration of a comprehensive financial aid questionnaire to members of the 1959 graduating class. That was followed immediately by the formation in 1960 of the GSA Standing Committee on Financial Problems of Medical Students. That questionnaire was a precursor to our current Graduation Questionnaire (1977) and to section I-B (financial aid) of the current LCME annual questionnaire, both important elements of AAMC data bases. The committee formed in 1960 was the precursor of our present GSA Committee on Student Financial Assistance (COSFA).

Through this committee structure, and through the involvement of financial aid officers in the generation of supporting data, the GSA has played an active role in federal legislation on loans, scholarships, and health manpower, and has assisted in a variety of studies on medical student financing and medical student indebtedness. More recently, the Committee on Student Financial Assistance has produced and the AAMC has published two important guides: Financial Planning and Management Manual for U.S. Medical Students, and Satisfactory Academic Progress for Receipt of Title IV Student Aid: A Guide for Medical Schools.

The role of medical admissions has been central to the GSA since its inception. The informal get-togethers of student affairs officers from 1948 to 1955 resulted in the publication in 1950 of the first Medical School Admission Requirements handbook (MSAR). Another early and important effort was the development of the "Recommended Acceptance Procedures", often called the "Traffic Rules", which were approved by the Executive Council in 1960. This was followed by the development of AMCAS (1967), COTRANS (1973, now MSKP), the Early Decision Plan (EDP), and significant involvement in the development of the New MCAT (1977). One can note
from these highlights on admissions that the efforts of GSA were again
central to the development of a uniform student and applicant data base,
first recommended by the GSA in 1974, and now extant as the Student
and Applicant Information Management System (SAIMS).

Finally, a word about continuity of support of medical students is appropriate.
From recruitment and admissions to Dean's letters, NRMP, graduation
and career development; from financial aid and academic support to counseling
and alumni relations, the most important role of the GSA professional
may well be the continuity and the quality of the personal interactions
with each medical student. As Jack Caughey (1974 Flexner Award; founder,
and first national chairman of GSA) stated in a 1974 address to a GSA
Planning Conference:

"There is today a great deal of talk about Primary Patient
Care characterized by continuity of the patient-physician
relationship and the comprehensiveness of the responsibility
the primary care physician is willing to accept in helping
the patient understand and cope with his problems. There
are many opportunities for the GSA member to serve as a model
for this kind of physician performance, if he deals with his
students in the way he hopes they will care for their patients
in their practice of Medicine. It would be a worthy objective
for the GSA to enhance the effectiveness of its members in this
educational role directed not toward augmentation of biomedical
knowledge, but toward the attitudes, values, and professional
behavior of our graduates."

As the GSA and its membership looks toward the future with continuing
concern about minority enrollments, a decreasing applicant pool, increasing
student indebtedness, and the many changes taking place in graduate
medical education and in the practice of medicine, it will be more
important than ever to remember the value of that educational role.
NATIONAL BOARD OF MEDICAL EXAMINERS' CHANGE TO COMPREHENSIVE PART I AND PART II EXAMINATIONS

By way of follow-up to the discussion at the last COD Administrative Board meeting regarding the action of the NBME at its Annual Meeting in March, Dr. Edithe J. Levit, president of the National Board, was contacted for the purpose of obtaining appropriate background materials for further Board discussions of these matters.

The attached materials include a letter from Dr. Levit, and as enclosures, the Report of NBME Study Committee to Review Part I and Part II, an excerpt from Summary of Actions of National Board Annual Meeting, and a sample letter to Ad Hoc Planning Group. Please note Dr. Levit invites any comments or suggestions that might emerge from the Board's consideration of this matter. She would also welcome an opportunity to present specific issues to the COD at its next meeting in order to obtain the advice, suggestions, and reactions of the membership.

By way of further background for the COD of discussions of this matter, the following excerpt from the 1983-84 Curriculum Directory is provided:

Use of National Board of Medical Examiners' Certification Examinations in 127 U.S. Medical Schools, 1983-84

<table>
<thead>
<tr>
<th>Use by Schools</th>
<th>Part I Examination</th>
<th>Part II Examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional</td>
<td>29</td>
<td>36</td>
</tr>
<tr>
<td>Student must record score</td>
<td>35</td>
<td>41</td>
</tr>
<tr>
<td>Student must record passing total score</td>
<td>59</td>
<td>-</td>
</tr>
<tr>
<td>Student must record passing score</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>in each section</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student must record passing score</td>
<td>-</td>
<td>48</td>
</tr>
<tr>
<td>to graduate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To determine final course grades</td>
<td>18</td>
<td>16</td>
</tr>
</tbody>
</table>


RECOMMENDATION:

That the COD Administrative Board consider the impact of the NBME certification examinations and the proposed changes in Parts I and II on the education of medical students.
May 23, 1985

Joseph A. Keyes, Jr.
Director
Department of Institutional Development
Association of American Medical Colleges
One Dupont Circle, N.W., Suite 200
Washington, DC 20036

Dear Joe:

I appreciated having the opportunity to talk with you yesterday regarding the Report of the NBME Study Committee to Review Part I and Part II, which was presented to our Board at the time of its Annual Meeting in March 1985, and to discuss with you the actions taken and activities planned relative to the recommendations endorsed by the Board.

In response to your request, we are pleased to share with the Administrative Board of the Council of Deans copy of this committee report as provided to our Board in the agenda materials for our Annual Meeting. In order that the Administrative Board may have an understanding of the discussions and actions of our Board relative to the report, I am enclosing a copy of an excerpt from the Summary of Actions of the Board meeting. This summary highlights the key issues discussed by the Board as well as the formal action taken to endorse the Committee's two recommendations, one relative to the concept of developing comprehensive examinations and the other relative to developing special expanded subject examinations.

In taking this action to endorse the Study Committee's recommendations, the Board explicitly recognized the need to assure that the proposed examinations are acceptable to those agencies and institutions served by these examinations. In this regard, the Board also took action to delegate to the Executive Board the responsibility for assuring that all necessary issues are appropriately addressed as this effort moves forward over the next several years.

As a first step in this process, an Ad Hoc Planning Group has recently been appointed to consider and make recommendations concerning four major issues as set forth in the Planning Group's charge. A sample letter of appointment including membership and charge of the Planning Group is attached.

I trust that this letter and the enclosed materials will be useful for the information of the Administrative Board, and am pleased to provide them for distribution in the agenda for your forthcoming meeting. Please do let me know if you wish any further information on this subject, or if there are any questions that arise wherein we might be helpful. We would of course, be interested in any suggestions or comments that may evolve from the Administrative Board's consideration of this matter...
Additionally, as the Planning Group moves forward over the next several months in addressing its charge, we would very much welcome an early opportunity to present specific issues to the Council of Deans at its regularly scheduled meeting in order to obtain the advice, suggestions, and reactions of the membership.

Sincerely,

Edithe J. Levit, M.D.
President

Enclosures:
1. Report of NBME Study Committee to Review Part I and Part II
2. Excerpt from Summary of Actions of National Board Annual Meeting
3. Sample letter to Ad Hoc Planning Group
Report and Recommendations of the Study Committee to Review Part I and Part II

The National Board of Medical Examiners at its Annual Meeting on March 24, 1983, took formal action to establish a Study Committee to Review Part I and Part II. The concept of the Study Committee evolved from recommendations made by the NBME test committee chairmen, the NBME Executive Board, and from discussion by the full Board membership at its 1982 Annual Meeting. The committee was appointed and charged by the Chairman of the Board in August 1983. A list of the Study Committee membership and the charge to the Committee are included on pages 9-11.

The Study Committee has had several meetings over the course of the past year and a half, provided a progress report to the Board at the 1984 Annual Meeting, and reviewed its preliminary report with the Test Committee Chairmen at their July 1984 Retreat and with the Executive Board at its October 1984 meeting.

At the January 1985 meeting of the Executive Board, following review and discussion, the Executive Board took action to endorse the final report of the Study Committee including the following recommendations:

1. That the NBME undertake the design and development of Part I and Part II comprehensive examinations as described in this report, and

2. That subject examinations as described in the report, be developed that would be directly focused on assessing academic achievement in specific content areas.

The report of the Study Committee to Review Part I and Part II, including elaboration of the above recommendations, is included on the following pages for the review and discussion of the Board.

FOR ACTION:

Recognizing that the Board will wish to assure that the proposed comprehensive examinations, as well as the recommendations concerning subject examinations, are acceptable to those agencies and institutions served by these examinations, and recognizing that plans and studies requisite for implementation will require several years, the Board is requested to:

1. Endorse the above recommendations of the Study Committee, and

2. Delegate to the Executive Board responsibility for assuring that all necessary issues are appropriately addressed in relation to implementation with the understanding that the Board will be kept advised of plans and progress as this effort moves forward over the next several years.
The Study Committee to Review Part I and Part II was appointed and charged by C. William Daeschner, Jr., M.D., Chairman of the Board, in the Fall of 1983; Robert L. Volle, Ph.D., accepted appointment as Chairman. Nominations for membership were solicited from the full Board, and selection of members followed the guidelines recommended by the full Board at the March 1983 meeting. A list of the membership of the Committee and the charge are included on pages 9-11.

The full Study Committee has met four times, in November 1983, and in February, June, and October of 1984. At the recommendation of the Committee, a subcommittee was appointed by Dr. Volle to explore certain topics in depth and report to the full Committee at subsequent meetings. This subcommittee had two meetings (January and April, 1984).

Background Information Provided to the Study Committee

The Study Committee received extensive background material as it began its deliberations. These materials included information on the historical evolution of the organization of the content of the Part I and Part II examinations, the use of the examinations over time by licensing bodies and schools of medicine, the final draft and subsequently the final report of the AAMC-GPEP committee, as well as concerns expressed about specific content and the overall quality of the exams during the last five years. Additionally, a complete overview of the current roles and responsibilities of the test committees and chairmen was provided. The Committee was given a comprehensive briefing on the current process of test design, item development, scoring, analysis, standard setting, and reporting of examination results. They were also offered the opportunity to review the most recent Part I and Part II examinations.

Study Committee Discussions

The Study Committee agreed, considering their charge, that their purpose was to make recommendations to improve the design of the Part I and Part II examinations so that they better serve the needs of the academic community and the licensing bodies. The committee concluded that a "comprehensive" examination design, one that encompasses more than the current six or seven academic disciplines, would best meet the goals of the National Board. The reasons for this conclusion were:

The committee agreed that the design of the Comprehensive Part I and II examinations should reflect the scientific principles and basic medical knowledge that a student should understand for subsequent educational experiences in the continuum of medical education, and for further learning as a physician.
The Committee agreed that, based on the information available, it would be desirable to build more flexibility into the design of the examinations to respond more readily to the changing world of medicine, both in relation to content per se and the level of sophistication of the reasoning and analytic skills required of student physicians assessed by the examinations. These examinations should contain a certain number of items that assess new content domains not covered in the subjects currently on Parts I and II.

Students must be able to demonstrate the ability to apply knowledge and process information in a problem-solving manner. The examinations should test a candidate's knowledge at higher cognitive levels; to demonstrate this ability, the NBME must attempt to increase the proportion of questions that test higher reasoning skills.

The committee agreed that the current testing time for Parts I and II (2 days each) should not be expanded. If a large number of test items that focus on reasoning skills is included in the examinations, students would have difficulty completing 900 items in the allotted time. Therefore, the committee recommended that the total number of items in the examinations be reduced so that committees could write more searching, higher cognitive level items that require application, analysis and synthesis skills.

With regard to the criteria for determining the weight of current and new content areas, the Study Committee agreed that the essence of the design of the new comprehensive examinations should be flexibility to permit continuous reappraisal of the specifications in light of revision in emphasis of various scientific areas. The organization of the comprehensives should facilitate multidimensional content specifications. While each current subject should be allocated a minimum number of items, all subjects would not be allotted an equal number of items.

The committee readily concurred that subject examinations, currently provided from the most recent administration of the Part examinations, are an important service to the medical schools. They agreed that their use as academic achievement examinations could be improved by allowing them to be developed relatively independently of the comprehensive examinations. The current discipline committees should be free to define the specifications, including the number of items, for these examinations. These examinations would contain test material from the comprehensive examinations as well as test items developed exclusively for the subject examination.

The historical background of the methodology by which the current Parts I and II performance standards are set was reviewed. After considerable discussion, the Study Committee felt that it was difficult to derive a totally acceptable rationale for changing the current standard-setting practices. The Study Committee suggested that further discussion of this issue await the development of the new comprehensive examinations at which time it would be germane to open the question again.
The issues related to the reporting of student scores and the cognitive level of the examinations referred to in the AAMC-GPEP report are positively addressed in the Study Committee's specific recommendations regarding the comprehensive examinations.

In light of all of its deliberations, the Study Committee at its meeting on October 5-6, 1984 adopted the proposal that Parts I and II be designed and developed as "comprehensive" examinations. The proposal which follows on pages 4-7 includes the committee's recommendations concerning the characteristics of the comprehensive examinations, the role and composition of the proposed Comprehensive Committees, and the process for examination development and score reporting. Based upon this concept of comprehensive examinations, the committee recognized that it would no longer be possible to derive subject examinations in Parts I and II as has been done in the past. To meet the continued interests and needs of medical schools for such evaluation services, the Study Committee adopted a proposal related to the continued provision of subject examinations by the NBME, which is detailed on page 8.
Proposal re: Part I and Part II Comprehensive Examinations

Preamble:
Within the limits of that which is measurable by written examinations, the National Board of Medical Examiners should strive to create, and describe the specifications for, an evaluation system that will have the following characteristics:

I. Characteristics of the Comprehensive Examinations

A. Content specifications for the Comprehensive Part I and Part II examinations should reflect the scientific principles, basic medical knowledge, and problem-solving skills students should have acquired for subsequent educational experiences in the continuum of medical education and further learning as a physician.

B. For each Comprehensive Part, detailed multidimensional content specifications, including new content domains, would be developed. These content specifications would not be simply the sum of the current subject outlines.

C. Criteria for inclusion of new content domains should be defined and specific content specifications developed for each new area. Some new areas may be incorporated into current subject committee content specifications; others may be assigned to special task forces for content development.

D. In order to allow time for more items that test reasoning skills, the total number of items in the Comprehensive Parts should be reduced from that which is currently administered.

E. The total number of test items, total testing time and the relative weights for current subjects would be developed for each Comprehensive Part. Each of the current subjects would have a certain minimum number of items.

II. Role and Composition of the Comprehensive Committee

A. A Comprehensive Committee would be established for each Part and would have responsibility for:

(1) definition of the content specifications for the respective "Comprehensive;"

(2) review and approval of the "Comprehensives" constructed from the blocks of test material generated by the various test material development groups (subject committees and task forces); and
(3) constructive feedback to these groups regarding the quality, quantity, and specifications of test material required. The detailed examination specifications to be defined by the Comprehensive Committees would include:

1. Overall multidimensional content specifications for each Comprehensive Part;
2. Designation of multidisciplinary areas for review;
3. New content areas to be included;
4. Total number of items on each Comprehensive Part;
5. Number of items for each content area; and
6. Recommended percentages for higher cognitive level items.

B. Each Comprehensive Part I and Part II committee would consist of 8-10 persons including individuals from some of the subject committees, the alternate Part Comprehensive Committee, and from fields germane to each Comprehensive Part examination.

III. Process for Developing Comprehensive Part Examinations (See chart on page 7)

A. The Comprehensive Committee for each Part would assign content specifications to subject committees. Subject committees would use specifications for subjects, as they currently exist, in conjunction with multidimensional comprehensive specifications to develop items for the Comprehensive examinations.

B. The Comprehensive Committees would designate special task forces to develop content specifications for multidisciplinary subjects and new content areas.

Task Forces for multidisciplinary topics would review several examinations from previous years to ascertain how well the topic is covered by current subjects. They would develop recommendations for additional items and designate which current committee, if any, may be able to provide the items.

Task Forces dealing with new content areas would develop content specifications for each new domain consistent with instructions received from the Comprehensive Committee. They would also develop test material according to these specifications which would be appropriate for inclusion in the Comprehensive Part examination.

C. Chairs of the subject test committees and special task forces would meet to review items to be submitted to the respective Comprehensive Committee. At this time they would also validate the cognitive level classification of the items.
D. Comprehensive Committees would approve final drafts of Parts I and II examinations for compliance with specifications and internal integration. The Comprehensive Committee will not rewrite or revise test items that have been approved by the subject committees and task forces.

E. Comprehensive Committees would provide feedback to subject committees and task forces regarding the degree to which the specifications were met.

IV. Reporting and Feedback Systems

A. Medical schools would receive the Comprehensive Part total score for each student, group mean scores for current subjects and other content areas, and, if requested, item analysis data with keyword phrases for each item.

B. Students would receive an overall score for the Comprehensive Part and a designation of Pass or Fail. No subject scores would be provided for individual students.

To assist students in identifying areas of academic deficiency, keyword phrase feedback for test items answered incorrectly would be provided to students on request. Mechanisms would be developed to provide keyword reports to failing students automatically.
COMMITTEE ROLES AND RELATIONSHIPS

SUBJECT COMMITTEES

- Recommend content specifications for comprehensives
- Develop and review items for comprehensive Part
- Determine content specifications for subject exams
- Develop, review and approve subject exams

COMPREHENSIVE PART COMMITTEE

- Determine examination specifications
- Determine assignments for Subject Committees and Task Forces
- Approve Examination
- Provide feedback to Test Committees re quality of test material vis-a-vis examination specifications

SUBJECT COMMITTEE AND TASK FORCE CHAIRMEN

Review and recommend test items for submission to Comprehensive Committee

MULTIDISCIPLINARY AND NEW CONTENT TASK FORCES

- Recommend content specifications
- Review available material
- Develop and review items, as requested
Proposal Regarding Subject Examinations

The Study Committee recognized the importance of NBME subject examinations as academic achievement tests, and further that the implementation of Comprehensive Part I and Part II examinations would preclude subject examinations derived wholly from the Part examinations.

They agreed that a new plan for subject examinations should be developed that would be directly focused on the needs of medical schools for assessing academic achievement.

These examinations would allow the subject committee more flexibility to define content specification related to the depth and breadth of the medical curriculum. They would require fewer constraints on the number of items, would provide additional feedback benefits, and would maintain national standards for comparison.

Characteristics of the subject examinations would include:

A. Subject committees would have responsibility for, and authority to determine, the content specifications and length of subject exams used for "intramural" evaluation purposes by medical schools.

B. Subject examinations would contain test material that has been included in the Comprehensive Part exam as well as material that has not been included in the Comprehensive Part.

C. Schools would receive group mean scores for subject examinations as well as individual student scores. Schools could request keyword phrase feedback reports for students taking subject exams. Item analysis reports would be available to schools on request.
STUDY COMMITTEE TO REVIEW PART I AND PART II

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West Virginia University

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Chairman and Charles Slaughter
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University of Virginia
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Department of Surgery
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Laurence Finberg, M.D.
Professor and Chairman
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Hamilton College
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of Medical Education
University of Illinois

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University of Kentucky

Truman G. Schnabel, Jr., M.D.
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University of Pennsylvania
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STUDY COMMITTEE TO REVIEW PART I AND PART II

(Continued)

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(Resource Consultant)
Resident and Clinical Fellow
in Obstetrics and Gynecology
Brigham and Women's Hospital
Harvard Medical School

Ex Officio

Kenneth I. Berns, M.D., Ph.D.
Chairman
National Board of Medical Examiners
Test Committee Chairman (7/84-7/85)

John R. Marshall, M.D.
Immediate Past Chairman
National Board of Medical Examiners
Test Committee Chairman (7/83-7/84)

C. William Daeschner, Jr., M.D.
Chairman of the Board
National Board of Medical Examiners

Edith J. Levit, M.D.
President
National Board of Medical Examiners

3/13/85
The National Board of Medical Examiners at its Annual Meeting on March 24, 1983, took formal action to establish a Study Committee to Review Part I and Part II. The concept of this Study Committee has evolved from recommendations made by the NBME Test Committee Chairmen, the NBME Executive Board, and from discussions by the full Board membership at its 1982 Annual Meeting. The general and specific issues under consideration within the Board are delineated within the following statement of the charge for the Study Committee.

The Study Committee is charged to review and evaluate the content and organization of the NBME Part I and Part II Examinations and to make recommendations to the National Board regarding:

1. The addition, deletion, or integration of content of the examinations;
2. The allocation of content emphasis among the content domains and disciplines of the examinations;
3. Organizational and other matters related to maintaining and enhancing the quality of Parts I and II;
4. The validity of different standards for Part I and Part II.

In the pursuit of its charge, the Study Committee will be expected to review the discussion of these issues by the Test Committee Chairmen as documented in reports made between 1980 and 1983, the summary of the special discussion sessions of the full Board membership during its 1982 Annual Meeting, as well as all other relevant background material provided.

The committee, in its review of the content and examination development process, should consider the evaluative objectives of the examinations, as well as the complex interrelationships among the various disciplines and content areas in medical education.

The Study Committee will be expected to submit an interim report to the National Board by March 1984, and a final report by late 1984 for consideration by the Executive Board, and subsequent consideration by the full Board at its Annual Meeting in March 1985. In its final report, the committee is requested to include a recommendation regarding the need for continuing review and evaluation of the Part I and Part II Examinations.

16 June 1983
Report and Recommendations of the Study Committee

to Review Part I and Part II

Dr. Volle, Chairman of the Study Committee to Review Part I and Part II, summarized the recommendations of the Study Committee. He reported on the background information provided to the Study Committee and the process used by the Study Committee in considering its charge. Dr. Volle presented the key characteristics of the comprehensive examinations being recommended, reviewed the role and composition of the comprehensive committees, presented an overview of the process for developing the comprehensive part examination and addressed the reporting and feedback systems being proposed. Following his presentation on the proposed comprehensive examinations for NBME certification leading to licensure, he further presented a proposal regarding subject examinations to be directly focused on the needs of medical schools for assessing academic achievement. Following Dr. Volle's presentation, the Chairman reviewed a process for consideration of the committee's proposals.

ACTION: On motion made, seconded, and passed, THE BOARD AUTHORIZED INFORMAL CONSIDERATION OF THE COMMITTEE'S REPORT.

In informal discussion, the following individuals, as members of a panel, commented upon the committee's proposal: Karen R. Hitchcock, M.D. from the perspective of a basic science faculty member, former NBME test committee member, and member of the Study Committee; John R. Marshall, M.D. from the perspective of the chairman of the Test Committee; Edward J. Stemmler, M.D. from his perspective as a dean of a medical school; August G. Swanson, M.D. from his perspective as project director of the Association of American Medical Colleges' GPEP Study and Report; and David S. Citron, M.D. from his perspective as a member of a licensing board and of the Federation of State Medical Boards.

Extensive discussion followed with regard to the proposed changes. It was noted that it would be critically important that the licensing authorities continue to accept National Board examinations. Dr. Citron responded that each state was autonomous and therefore no precise answer could be given, but that his personal view was that the proposals would make the NBME examinations even more acceptable to the states. Dr. BurRoss, noting that he was a member of the Federation of State Medical Board and the Texas State Board, one of the states not currently recognizing National Board examinations, commented that he felt these changes would go a long way toward alleviating the concerns of the Texas Board with regard to the current examination.
Dr. Bowles, as chairman of the earlier Committee on Use of National Board Examinations (CUE), noted that the CUE Committee had spent time discussing the issue of reporting data from NBME examinations and had recommended continuing to report such data. He noted that the Study Committee's recommendation to continue to report data on individual scores for the comprehensive examination, but not reporting subject scores was a good compromise. Extensive discussion followed regarding the issue of reporting scores. Comment was made that residency program directors utilize the individual subject data extensively in considering applicants for graduate training programs. Debate then followed with regard to the appropriateness of using scores on NBME examinations for the admissions process to graduate training programs. Comments were made that the NBME should just report pass/fail rather than a numeric score to avoid the misuse of the examinations. Others commented that this was unrealistic and that many schools appropriately use the data and it should not be withheld. Suggestion was made that perhaps the NBME should design and develop examinations for use in graduate program admissions. Additional comment was made that the NBME examinations represent the best efforts of many individuals from a broad base of medical schools and represent a valuable asset nationally as standardized examinations.

Following additional discussion Dr. Levit noted that the issue of reporting scores was one which had been debated by the National Board for years and would continue to be discussed. The question with regard to reporting, however, should not preclude proceeding with the design and development of the comprehensive examination as proposed by the Study Committee.

Dr. Volle moved the Board's endorsement of the recommendations of the Study Committee. A suggestion was made to modify the motion to call for reporting to the Board in 1986 with Dr. Volle accepting the change.

ACTION: On motion made, seconded, and passed, THE BOARD ENDORSED THE RECOMMENDATIONS OF THE STUDY COMMITTEE:

(1) THAT THE NBME UNDERTAKE THE DESIGN AND DEVELOPMENT OF PART I AND PART II COMPREHENSIVE EXAMINATIONS AS DESCRIBED IN THE REPORT OF THE STUDY COMMITTEE;

(2) THAT THE SUBJECT EXAMINATIONS AS DESCRIBED IN THE REPORT BE DEVELOPED THAT WOULD BE DIRECTLY FOCUSED ON ASSESSING ACADEMIC ACHIEVEMENT IN SPECIFIC CONTENT AREAS; AND

(3) THAT THE BOARD DELEGATE TO THE EXECUTIVE BOARD THE RESPONSIBILITY FOR ASSURING THAT ALL NECESSARY ISSUES ARE APPROPRIATELY ADDRESSED IN RELATION TO IMPLEMENTATION OF THIS REPORT IN THE INTERIM BEFORE THE 1986 BOARD MEETING, AND REPORT PROGRESS AND MAKE FURTHER SPECIFIC RECOMMENDATIONS REGARDING IMPLEMENTATION STRATEGIES AT THE 1986 BOARD MEETING.
May 23, 1985

Sample Letter Sent to Each Member of the
Ad Hoc Planning Group for the Comprehensive Examinations

William H. Luginbuhl, M.D.
Dean
Division of Health Sciences
University of Vermont
College of Medicine
Given Building – E109
Burlington, VT 05405

Dear Bill:

I was pleased to learn from Dax Taylor of your willingness to serve as a member of the Ad Hoc Planning Group for the Comprehensive Examinations.

As you know, the recommendations of the Study Committee to Review Part I and Part II were endorsed and approved by the full Board of the NBME at its Annual Meeting in March of this year. The Board also delegated to the Executive Board "the responsibility for assuring that all necessary issues are appropriately addressed in relation to implementation." The establishment of the Ad Hoc Planning Group represents the important first step toward implementation.

The charge to the Ad Hoc Planning Group is to consider four major issues relative to implementation and to develop recommendations with respect to each:

1) a charge to the Comprehensive Committee for Part I and the Comprehensive Committee for Part II;

2) the composition of each of the Comprehensive Committees in terms of disciplinary and geographic representation;

3) a process for seeking nominations/recommendations for membership of the Comprehensive Committees; and

4) NBME communications and/or interactions concerning the new Comprehensive Examinations during the process of their development.

In order that these recommendations can be considered by the Executive Board at its fall meeting, it is hoped that the Planning Group can submit a report by early October.

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It is anticipated that the Ad Hoc Planning Group can accomplish its charge with a one-day meeting in July or August, with any subsequent activities being carried out through correspondence. Staff is currently working to schedule the summer meeting and will contact you with further information as soon as a date is established. A list of the membership of the Ad Hoc Planning Group is enclosed for your information.

The NBME will reimburse all expenses related to meeting attendance, including travel expenses for coach class airfare, hotel and meals, and will provide an honorarium of $200 per day for meeting attendance. Though most Ad Hoc Planning Group members are familiar with NBME policy and procedures concerning these administrative aspects of membership, I am enclosing for your information the standard materials provided to all new task force members.

Primary NBME staff support for the work of the Ad Hoc Planning Group will be provided by D. Dax Taylor, M.D. and I. Kathryn Hill, M.Ed. If you desire further information or would like to discuss questions or concerns, please feel free to contact either Dax or Kate.

We hope that you share the sense of challenge posed by this opportunity to lay the foundations for the future of the Part I and Part II examinations. We look forward to your valuable contributions to this important effort.

Sincerely,

Edithe J. Levit, M.D.
President

Attachments:
1) Membership list, Ad Hoc Planning Group
2) Administrative and Policy Information sheets

cc: D. Dax Taylor, M.D.
I. Kathryn Hill, M.Ed.
NATIONAL BOARD OF MEDICAL EXAMINERS

Ad Hoc Planning Group for the Comprehensive Examinations

1985

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5/23/85
COMMENTARY ON THE GPEP REPORT

Subsequent to the joint meeting of the Council of Deans and Council of Academic Societies Administrative Boards to discuss the GPEP Report on April 3, 1985, the working groups of both boards held a combined meeting. The commentary on the following pages evolved from the discussion at that meeting and subsequent editorial revisions by members of both groups.

Recommendation:

That the Council of Deans and Council of Academic Societies Administrative Boards critically review the commentary and consider whether it should be sent for information to the membership of the two Councils or presented to the Executive Council as an Association response to the GPEP Report.
INTRODUCTION

In September 1984, the AAMC Executive Council commended the GPEP report, Physicians for the Twenty-First Century, to AAMC's membership as an "extraordinarily useful agenda of issues to be considered by each faculty." The report has already stimulated many medical faculties to undertake reassessments of the educational programs they provide for medical students. It is not prescriptive and serves well as a stimulus for discussion. In its brevity, however, it lacks guidelines or specific solutions that faculties might adopt.

Convinced that the GPEP report would benefit from a commentary on its five conclusions and the accompanying recommendations, the Administrative Boards of the Council of Academic Societies (CAS) and the Council of Deans (COD) appointed working groups to study the document. The commentary that follows is based upon the deliberations of the combined working group of these two councils.

The members of the combined working group believe that most of the conclusions and some of the recommendations of the GPEP panel, if implemented, would change significantly how medical students are educated in North America. There is no doubt that the steps called for in this implementation would be difficult. How medical schools will proceed to capitalize upon the recommendations of this report to enhance the individual educational programs of each school cannot be determined by those external to those programs. Recognizing and appreciating the distinctly unique character of each institution, the combined working group did not fashion a commentary that would presume to preempt the local prerogatives of these complex institutions.

*Draft prepared for discussion by the Administrative Boards of both councils June 1985.
COMBINED WORKING GROUP

Council of Academic Societies Administrative Board Members

DOUGLAS E. KELLY, PH.D., Cochairman; Representative, Association of Anatomy Chairmen; and Chairman, Department of Anatomy and Cell Biology, University of Southern California School of Medicine

PHILIP C. ANDERSON, M.D., Representative, Association of Professors of Dermatology, Inc.; and Chairman, Department of Dermatology, University of Missouri, Columbia, School of Medicine

DAVID H. COHEN, PH.D., Representative, Society for Neuroscience; and Professor of Neurobiology, State University of New York, Stony Brook, School of Medicine

JACK L. KOSTYO, PH.D., Representative, American Physiological Society; and Chairman, Department of Physiology, University of Michigan Medical School

FRANK G. MOODY, M.D., Representative, Society of Surgical Chairmen; and Chairman, Department of Surgery, University of Texas, Houston, Medical School

Council of Deans Administrative Board Members

EDWARD J. STEMMLER, M.D., Cochairman; Dean, University of Pennsylvania School of Medicine

ARNOLD L. BROWN, M.D., Dean, University of Wisconsin Medical School

JOHN E. CHAPMAN, M.D., Dean, Vanderbilt University School of Medicine

RICHARD H. MOY, M.D., Dean and Provost, Southern Illinois University School of Medicine

RICARDO SANCHEZ, Chairman, Organization of Student Representatives; and Fourth-Year Medical Student, Brown University Program in Medicine

COMMENTARY ON CONCLUSION 1

This general conclusion relates to a need for emphasis on skills, values, and attitudes in medical education; a reduction in the volume of factual information medical students are expected to commit to memory; better enunciation of the levels of knowledge required at each step in medical education; changes in educational settings; and the need for an emphasis on the responsibility of physicians to patients and communities.

The combined working group notes that this conclusion has been viewed by some as antiscience, but it is convinced that this was probably not the intent...
of the GPEP panel. Medical education must always have a balanced emphasis between the scientific and humanitarian aspects of medicine. Medical students must be well prepared to use the scientific method and to apply analytical skills. They must understand the creation and flow of knowledge and the relevance of scientific concepts to patient care. Understanding and applying the scientific method are essential skills for both basic scientists and clinicians. Students must be educated to function as physicians with current, scientific insight and logic, and they must develop analytical skills that are effective in clinical contexts.

The responsibility for fostering the effective use of the scientific method and analytical skills lies with both basic scientists and clinicians, working together in a coordinated plan. In their scholarly function, involving both education and research, they should seek to preserve a balance between scientific and humanitarian values and develop them to increasing levels of sophistication and effectiveness throughout medical education.

The combined working group interprets the phrase "essential knowledge" to mean the concepts and principles necessary for continued intellectual growth and learning that all physicians must have as they embark upon their graduate medical education. It is not simply a minimal collection of relevant facts to be memorized as the "core knowledge" all physicians should have.

**COMMENTARY ON CONCLUSION 2**

The working group commends the recommendations of this conclusion as properly calling for breadth and rigor in baccalaureate education. A broad range of course work is also recommended to improve writing and communication skills and to assess the analytical skills and capabilities for independent learning of students applying to medical school. The combined working group views these aspects as constructive. Unfortunately, the conclusion specifically
recommends also that science course requirements be reduced to the core courses required of all undergraduate college students without characterizing such courses.

While it is agreed that an arbitrary quantity of baccalaureate science work will not ensure adequate preparation for the study of medicine, the combined group noted that physicians must be skilled in the biological sciences. They stressed that aspirants must experience and demonstrate an aptitude for science and that there is a need for improved quality and sophistication in baccalaureate science education, particularly in biology. The combined working group believes this goal can be accomplished without sacrificing educational breadth. It recommends that AAMC provide general advocacy for the achievement of a baccalaureate degree before students enter medical school. AAMC might also initiate a collaborative effort, shared by the major associations of higher education, to achieve the basic purposes of this recommendation, that is, the kind of preparation in the sciences that should be attained by an educated public.

There is presently no adequate substitute for the Medical College Admission Test (MCAT) as a guide in the admissions process. There is a need, however, for the AAMC to conduct continuing reviews of the test to determine its adequacy in meeting the objectives for which it has been devised. It is also necessary that admissions officers and members of medical school admissions committees be trained in the proper interpretation of the MCAT scores.

**COMMENTARY ON CONCLUSION 3**

The recommendations of this conclusion are aimed largely at the modes of presentation of instruction during the medical school years, particularly those devoted to the basic sciences. Medical school faculties are urged to set attainable educational objectives, allow more unscheduled time in the
curriculum, reduce dependency on lectures as the principal method of teaching, and increase activities that will enhance independent learning and capability for problem solving. This section of the GPEP report has disappointed a number of basic and clinical scientists who feel that the GPEP panel failed to address many aspects of the problems currently encountered in the early phases of medical education, particularly the loading of additional courses into the preclinical phase.

It is essential that curricular schedules be developed with an awareness of reasonable student workloads. It is probably not advisable to require more than 20 to 25 hours of organized sessions per week. Nor is it advisable to schedule more than five simultaneous courses into this weekly effort.

Curricula should be organized around central concepts that are articulated in "sequential prioritization." In this approach, concepts and principles are the objectives of a given course. The concepts are introduced early in a given discussion, and detailed, factual information is limited to that which effectively serves to establish and illustrate each concept. Sequential prioritization involves a careful determination of those courses of study that are fundamental to others arranged in a logical, progressive sequence. In developing sequential prioritization, curriculum designers must heed to reasonable student loads that will lead to students' mastery of basic concepts at a level that will ensure their future resourcefulness in continued learning.

It is agreed that independent learning and the development of resourcefulness are very important in medical education. In the early years of medical school the basic sciences should foster these capabilities by less reliance on factual information not specifically related to fundamental concepts or to essential scientific language development.

Educational programs based on students being independent, problem-solving learners will increase faculty involvement with students, and the time devoted to teaching and learning by both faculty members and
students will increase commensurately. Although training faculty members to
guide students in independent learning may be difficult and costly initially,
long-term costs are unlikely to exceed those of a conventional lecture-based
program. New, sophisticated evaluation mechanisms must be established to aug-
ment faculty members' judgments of students' analytical skills.

This conclusion will likely be best effected by teaching fewer courses
simultaneously, exploring them more deeply, and targeting them toward conceptual
understanding.

COMMENTARY ON CONCLUSION 4

The recommendations of this conclusion relate largely to the clinical
clerkship years. They call for more accurate specification of the clinical
knowledge, skills, and values that are required; the adaptation to new clinical
settings; the need for faculty guidance and supervision of students during
clerkships; the evaluation of students according to specific prescribed cri-
teria; a better integration of basic science and clinical education; and the
need for an emphasis, during the clinical years, on general preparation rather
than following procedures deemed necessary to gain a specialty residency. The
working group agrees generally with the articulation of the problems and goals
that need to be anticipated in a changing clinical environment: solutions are
difficult, not readily apparent, and need continuous assessment.

The full four years available for medical study prior to award of the
M.D. degree should be dedicated primarily to a broad and thorough general
preparation emphasizing the aspects outlined in GPEP and in this commentary.
Too early and too intensive a concentration on a specialty is detrimental to
an orderly and reasonable pursuit of that process. The timing and the process
of resident selection should not encroach on the effective utilization of all
four years of students' general preparation.
The working group recommends that those in medical schools responsible for the educational merit of students' elective programs develop and use explicit criteria for the senior year programs so that students accomplish their general professional education and are protected from the intrusiveness of the recruiting practices of residency program directors.

**COMMENTARY ON CONCLUSION 5**

The recommendations of this conclusion are aimed at enhancing faculty dedication to and involvement with the educational functions of each medical school. They encourage a better educational organization, a defined budget for education, the establishment of a mentor function between faculty and students, less highly specialized teaching roles, and a high degree of recognition and reward for effective teaching. This conclusion is perceived to contain many laudable goals whose achievement will require overcoming serious obstacles inherent in past and present practices of the academic environment.

The working group recognizes that a real impediment to educational development in many medical schools has been a lack of direction, focus, and, above all, leadership in curricular design and execution. The group believes that medical school deans and departmental chairmen must provide leadership for the educational functions of their schools and set a tone to ensure that the direction and proper design of programs of medical student education are high priorities. To foster this goal, the group believes it is desirable that the major committee concerned with educational policy and goals be composed of departmental chairmen who are charged with the responsibility for the overall design and coordination of the curriculum. Detailed scheduling and implementing of the curricular function can be accomplished by interdisciplinary committees and individual faculty members operating in a coordinated and up-to-date fashion.
Deans and departmental chairmen should also provide visibility, reward, and advancement to outstanding faculty members who are characterized by carrying innovative and effective leadership responsibilities in the teaching of either basic science or clinical science while at the same time maintaining productive programs of quality research. The working group makes this recommendation fully recognizing that, in most medical school settings, quality teaching requires firsthand experience with the frontiers of research and/or expanding innovative avenues of health care delivery.

All faculty members who teach medical students must be engaged in scholarly endeavors that are intellectually challenging. Within each medical school, some faculty members will be more involved with medical students than others. Faculty members who carry major responsibility for the curricular functions of a school should not be exempt from other scholarly requirements. However, they will often be forced to absorb some sacrifice in the quantity or rate of their research contributions due to competitive pressures on their professional time. They must not sacrifice the quality of their scholarly contributions. In view of the difficulty such members may encounter in acquiring support for excellent, but modest, research activities, institutions and foundations should be encouraged to develop mechanisms to assist them.

The working group acknowledges that identifying a specific budget for the education of medical students may seem to emphasize the reward for teaching. It believes, however, that defining a budget for the entire cost of the educational program is not practical.

The working group agrees that closer relationships between faculty members and students are desirable and that faculties should be encouraged to serve as mentors by working with students in small groups. How much faculties should be expected to encompass in this role, both within and beyond their disciplines, must be resolved. Faculties must know also how their contributions fit within the overall educational plan of their institutions.
The GPEP report is stimulating medical school faculties to reconsider the educational concepts and principles upon which medical students' education has been based during this century. The panel grounded its conclusions and recommendations on two major assumptions. First, biomedical knowledge relevant to the care of patients will continue to expand rapidly. Second, the nation's health care system will change toward medical services being provided by large organizations. To prepare physicians who will practice under different and more complex conditions in the twenty-first century will require more than minor tinkering. We have provided this commentary to assist and encourage deans and faculties to reorient their educational programs in a direction that will be consistent with the demands that physicians will face in the future.
Dr. Arnold Brown, Chairman
Council of Deans
University of Wisconsin
Medical School
1300 University Avenue
Madison, WI 53706

Dear Bud:

I write to report the slate recommended by the Nominating Committee of the Council of Deans for the year 1985-1986. As you know, the committee consisted of Harry S. Jonas, Leonard M. Napolitano, James A. Pittman, Robert E. Tranquada and me.

The committee enthusiastically support the nomination of Dr. Edward Stemmler for the position of Chairman-Elect of the Assembly and I will reflect this support in the meeting of the AAMC Nominating Committee.

For the position of Chairman-Elect of the Council of Deans, the committee nominates Dr. Louis Kettel.

For the two positions of Representatives from the Council of Deans to the Executive Council, the committee nominates Drs. William Deal and Richard Ross.

For the positions of Members-At-Large of the Administrative Board of the Council of Deans, the committee nominates Drs. Walter Leavell, John Eckstein and Fairfield Goodale.

The committee found its task to be a very difficult one because the number of outstanding and able individuals highly qualified to serve considerably exceeded the number of positions available. The committee regrets that it could not nominate all interested and able individuals and it urges the Council to find appropriate ways to involve as many others as possible.

Sincerely,

Stuart Bondurant, M.D.
Consistent with the one year old tradition of a COD Sunday afternoon program and a Sunday evening social event at the Annual Meeting, Dr. Brown has appointed the following members of the COD to join him as a planning committee to design these activities:

L. Thompson Bowles, M.D.
Thomas A. Bruce, M.D.
D. Kay Clawson, M.D.
Richard H. Schwarz, M.D.
Alton I. Sutnick, M.D.

The Committee will meet by telephone conference call on the afternoon of June 11th.

In advance of the telephone meeting, the Committee will have been provided a copy of Dr. Brown’s memorandum dated, May 22, 1985, a copy of the summary of small group discussions conducted at the COD Spring Meeting, the letter from the Society for Health and Human Values, and several letters from the COD membership suggesting ideas for the Annual Meeting program.

The Committee will also have been provided the results of the staff investigations of the following potential sites for the social event on Sunday evening:

The Smithsonian Museums
The Phillips Gallery
The Calvert Collection
The Heurich House: Columbia Historical Society Museum
The National Academy of Sciences
The Kennedy Center
The Woodrow Wilson House