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Highlights of the Year 1973

A Challenge for Change

That the examinations and examination services of the National Board of Medical Examiners should adapt to and be responsive to the needs of medical education has been so often reiterated as to become almost axiomatic. Nevertheless this axiom has been in doubt in many quarters during the past year.

At its Annual Meeting in March 1973, the Board received the report of a Committee that for over two years had been studying present and projected changes in medical education and qualification for medical practice. Some changes were clearly seen as already upon us; others were viewed as predictable in the years ahead. Therefore, recognizing the fact of change, the Board accepted a necessary and responsible obligation to reassess the needs of evaluation in relation to what has happened and what may be thought likely to happen in the complex evolutionary sequence of medical education, certification and licensure.

As the study proceeded, the Board's Committee, the Committee on Goals and Priorities, met on several occasions not only with members of its Executive Committee and test committees, but also with many others in positions of responsibility in medical schools, state boards, specialty boards and the federal health establishment. In June 1973 a Conference was held for workshop discussion of the Committee's report entitled, "Evaluation in the Continuum of Medical Education." To be sure, the Conference was scheduled for only one day, but a much longer conference would still have been too short for full review and discussion of the far-reaching conclusions and recommendations of the G&P Committee. Following the Conference, the report has been widely distributed. Requests for copies far exceeded expectations. As of present writing, the report is in a second printing with a distribution of about 10,000 copies.*

As interest in the report has increased, so have the reactions to its recommendations. Medical schools, state licensing boards, specialty boards and related groups and organizations have met informally and formally to take positions on one or another of its proposals. Reports of these deliberations come to the National Board in the form of letters, resolutions and public statements. And as they accumulate they reflect one overriding misconception, namely that the National Board has given an all-encompassing approval to the report and is proceeding forthwith to implement its recommendations. Not so. At its Annual Meeting last March the Board placed in the

* Additional copies are available on request to the National Board of Medical Examiners at $2.50 each.

(Continued on page 4)

Examination for Physician's Assistants

The first national Certifying Examination for Primary Care Physician's Assistants was administered on December 12, 1973 to 880 candidates in thirty-eight test centers across the country. Sixty-two percent of these candidates received their training in physician's assistant programs, 29 percent in Medex training programs, and 9 percent in nurse practitioner programs.

The 1973 examination program consisted of a one-day written examination divided into two sections. The morning section contained multiple-choice and other objective format questions presented in printed and pictorial form. Items on this section of the examination were designed to assess the candidate's knowledge and skill in applying knowledge related to high priority health care functions that a primary care physician's assistant should be skilled in performing. These items covered materials in the following broad areas of competence: a) the identification and classification of physical findings, b) patient management, c) patient counseling and instruction, and d) knowledge related to clinical procedures (e.g., wound care, fracture management, cardiopulmonary resuscitation, electrocardiograms).

The afternoon section of the examination consisted of patient management problems in which the candidate was presented with simulated clinical cases and asked to make decisions regarding the appropriate diagnostic work-up and management of the patient as he would in an actual clinical setting. These problems were designed to assess the candidate's skill in gathering pertinent information about patients and in making appropriate management decisions. Clinical cases were presented in both adult and pediatric medicine, and included emergency as well as non-emergency problems.

A statistical analysis of the examination indicates that the overall reliability of the total examination was .89. The mean difficulty level of the morning session was .64 (range for other National Board examinations is .60-.65). The mean difficulty level of the patient management problems was .79 (range for other examinations is .75-.85).

In order to conduct a further analysis of the examination performance of all candidates, certain demographic data were collected on each examinee at the time the examination was administered. These data are being analyzed along with the results of the examination in order to determine the extent to which examination performance may vary as a function of the type of training program from which an examinee has graduated, length of post-graduate clinical experience, and experience in

(Continued on page 2)

Physician's Assistants *(Continued from page 1)*

health care delivery prior to entering a physician's assistant program.

In addition to a full statistical analysis of the internal properties of the examination, external validation studies of this examination are also being conducted. These studies are being undertaken to provide data regarding the extent to which examination scores correlate with faculty ratings of clinical competence, and the extent to which the examination can distinguish between examinees who have completed formal training and those who are just beginning training.

Although eligibility for the 1973 examination was limited to graduates of formal training programs, eligibility for the 1974 examination will be expanded to include individuals who qualify through work experience. The development of criteria and mechanisms for evaluating the work experience of these informally trained applicants is now nearing completion. Under these criteria an applicant must have acquired a certain length of work experience as a physician's assistant and be performing health care functions related to the role and responsibilities of a physician's assistant which are verified by the applicant's supervising physician.

In addition to the ongoing development of a written examination, research and development studies are continuing in order to develop new evaluation techniques that can be used to assess those aspects of clinical competence which are not amenable to evaluation by existing examination techniques. The focus of R&D studies to date has been the development of techniques for assessing patient interviewing and counseling skills, physical examination skills, and skills in performing certain clinical procedures, such as cast application, obtaining electrocardiograms, and wound care including suturing lacerations.

The Interpersonal Skills Committee has developed an operational definition of interviewing and counseling skills. Standardized observation forms are being developed which will permit the observation and analysis of interaction between the patient and physician's assistant during interviewing and counseling sessions. Once the validity and reliability of these observation forms have been established, an individual's interpersonal skills profile as evaluated by this technique will be compared to assessments of his interviewing and counseling skills using indirect and simulation techniques.

The 1973 Certifying Examination contained materials designed to assess candidates' interviewing and counseling skills. These examination materials will be analyzed to determine their effectiveness as test items. Additional written test materials will be prepared, and studies will be conducted in order to compare an individual's performance on these written test materials with his actual skill in interviewing and counseling patients. In addition, a mechanical, interactive audiovisual simulation system is being developed to permit the interviewing and counseling of patients utilizing videotape presentations of the patient during which examinees can ask questions and make comments as they would in an actual clinical setting. The ultimate purposes of this research and development study will be to identify evaluation techniques that can accurately and reliably assess interpersonal skills, and to identify the combination of evaluation techniques that provides the most valid assessment of patient counseling and interviewing.

Field studies are also being conducted using standardized observation forms to assess physical examination and clinical procedures skills. A components analysis has been undertaken to identify the performance criteria that should be used in evaluating a candidate's skill in performing a physical examination and other clinical procedures. These performance criteria have been used as the basis for developing the standardized observation forms. The validity and reliability of these observation forms are currently being assessed in field studies conducted with the cooperation of physician's assistant programs throughout the country. Preliminary data from these studies indicate that accurate and reliable observations can be made of actual clinical performance using these standardized forms. Additional field tests are under way in order to broaden the sample and to estimate the stability of the statistics obtained thus far.

A further study is under way involving a comparison of norm-referenced procedures and criterion-referenced procedures for setting examination standards. Norm-referenced procedures involve the establishment of pass-fail levels as a function of how well examinees actually perform on an examination, while criterion-referenced procedures involve the establishment of a pass-fail level in relation to a standard set without reference to comparisons of performance among examinees. Thus, by using criterion-referenced procedures an examinee's performance is evaluated in terms of the extent to which it meets a standard, rather than the way in which it compares with the performance of others who sat for the same examination.

A variety of criterion-referenced procedures exists, most of which involve the use of expert groups whose judgments form the basis for the examination standard. The purposes of this standard-setting study are to determine: a) whether different groups of expert judges formulate different examination standards when they use the same criterion-referenced procedures, b) whether different criterion-referenced procedures produce different examination standards, and c) the extent to which examination standards set by criterion-referenced procedures resemble examination standards set by norm-referenced procedures.

Examinations and Examination Services

During 1973 there were further increases in the number of National Board certifying examinations (Parts I, II and III) and the examination services for medical schools, specialty boards, self-assessment programs, in-training programs and other certifying agencies (FLEX, ECFMG and the Medical Council of Canada) and for the newly established program for certification of assistants to primary-care physicians.

Table I shows the number of examinations administered by these various programs over the last three years. As compared with 1972, substantial increases in number of examinations occurred in all three Parts of the National Board Examinations, particularly in those groups taking these tests for purposes of certification (candidates). For Part II, the increase is due in part to the introduction of a second administration of the test. (In 1973, Part II was offered in April and September, whereas previously it had been given only in April.) However, in 1973 an increase of approximately 1450 occurred in the number of individuals taking the Part I examination for certification purposes. A more detailed account of the results of Part

I and Part II examinations in 1973 is to be found in the February 1974 *National Board Examiner*.

The number of examinations developed from the National Board pool of previously tested and calibrated questions continues as a major feature of the Board's examination services. In this category are examinations provided at the request of individual medical school departments for purposes of evaluation of educational achievement, the Minitest that continues to be a useful method of tracking the gain in students' knowledge from year to year, examinations for the FLEX program, the ECFMG (continuing in massive numbers) and the Medical Council of Canada.

Also during 1973 interest of specialty societies in self-assessment examinations remained high. Six programs were completed during the year: one for the Allergy Foundation of America, two for the American College of Obstetricians and Gynecologists (Clinical Obstetrics and Clinical Gynecology), and three for the American College of Radiology (Genitourinary Tract Disorders, Gastrointestinal Tract Diseases and Head and Neck Disorders). Over 26,000 physicians registered for these self-assessment programs, increasing to 106,000 the total number of practitioners who have participated in programs developed at the National Board since the inception of self-assessment and self-learning by the American College of Physicians in 1968. To date, 41,000 physicians, or more than one-third of those receiving materials, have submitted answer sheets for scoring and peer group analysis.

Additional activity in self-assessment programs has been in early phases of development of the American College of Physicians' Medical Knowledge Self-Assessment Program #III (MKSAP #III) and the American College of Surgeons' Surgical Education and Self-Assessment Program #II (SESAP #II). Also, test committees for the American College of Radiology were busy formulating self-evaluation programs in Pediatric Diseases, Nuclear Radiology and Radiation Biology and Pathology for distribution in 1974.

One interesting facet of self-assessment which appears to be evolving is a "tie-in" between self-assessment and recertification. The American College of Physicians, as a part of its MKSAP #III, developed a syllabus dealing with recent advances in the nine subspecialty areas covered in the self-assessment program. The syllabus with accompanying references was distributed in January 1974 to all registrants for the program. In June each registrant will receive his self-assessment examination, a total of 720 questions, the majority of which are based on material contained in the syllabus. Three months after receiving the self-assessment examination, and before the answer sheets are scored, all those who wish to do so may voluntarily take a recertification examination developed by the American Board of Internal Medicine. This examination will be derived from test items used in MKSAP #III together with some questions from the ABIM pool. By this cooperative arrangement the specialty society focuses its attention on the physicians' continuing education, while the specialty board periodically re-evaluates the competence of its diplomates.

Because of the widespread interest in the recommendation of the Committee on Goals and Priorities that National Board examinations should not continue to serve the two purposes of educational achievement assessment and qualification, the practice of medical schools in requiring Part I or Part II or both Parts is tabulated in Table 2. (This tabulation is based upon the information contained in the AAMC Curriculum Directory 1973-74.)

Table 1

	1971	*1972*	*1973*
National Board Examinations			
PART I			
CANDIDATES:			
2nd year or later	7,475	8,913	10,346
1st year	115	302	316
NON-CANDIDATES:			
2nd year or later	1,606	2,041	2,170
1st year	413	362	298
Students in foreign schools including COTRANS	684	965	1,233
TOTAL PART I	10,293	12,583	14,363
PART II			
CANDIDATES:			
4th year or later	5,985	5,960	9,036
3rd year or earlier	1,114	1,722	1,360
NON-CANDIDATES:			
4th year or later	1,063	1,048	1,537
3rd year or earlier	73	501	453
Students in foreign schools	45	6	6
TOTAL PART II	8,280	9,237	12,392
PART III			
CANDIDATES	5,526	6,309	6,961
TOTAL I, II, AND III	24,099	28,129	33,716
PHYSICIAN'S ASSISTANT PROGRAM	—	—	880
Examinations Developed from National Board Test Material			
MEDICAL SCHOOLS (departmental)	12,063	16,016	14,260
MINITEST	4,336	2,966	2,688
LICENSING AUTHORITIES:			
FLEX	8,993	13,255	15,930
Other State Boards	1,248	563	—
Medical Council of Canada	2,429	2,699	2,459
ECFMG	31,033	32,072	37,023
OTHER	150	1,606	902
	60,252	69,177	73,262
Examination Services			
SPECIALTY BOARDS	11,245	18,020	16,856
ABMS BASIC SURGERY EXAMINATION	—	2,646	—
SPECIALTY SOCIETIES:			
Self-Assessment programs	6,122	16,387	8,013
Other	2,262	1,462	3,936
	19,629	38,515	28,805
GRAND TOTAL	103,980	135,821	136,663

Table 2

Schools Requiring National Board Examinations

		TOTAL NUMBER*	REQUIRE NBME EXAMS *Number*	*Per Cent*
Part I:	1973	108	68	63
	1974	112	78	70
Part II:	1973	97	63	65
	1974	102	77	75

* For Part I, schools with a second-year class; for Part II, schools with a class eligible for receiving the M.D. degree.

NOTE: In 1973, 59 schools required both Parts I and II, while 13 others required one or the other Part; thus 72 schools (67%) required I or II or both.

In 1974, 71 schools required both Parts, while 13 others required one or the other Part; thus 84 schools (75%) required I or II or both.

A Challenge for Change *(Continued from page 1)*

hands of its Executive Committee the task of continuing to study the Committee's proposals and to move forward in the new directions in relation to the development of the predicted trends.

Priority has been given to one of the recommendations on which there was wide agreement. Better ways must be developed to assess objectively the competence and performance of the physician. The Committee set before the Board specific goals for priority effort in the field of research and development: (1) identification of performance characteristics necessary for the physician to discharge his responsibilities in providing patient care; and (2) creation and perfection of instruments that measure or predict essential performance characteristics of the physician. A blue ribbon panel has been named and has met with the staff to review the Board's current program in R and D and to move toward the achievement of the stated objectives. The November-December issue of the *National Board Examiner* contains a summary of the Board's achievements in R and D and its plans for the future with the advice of its newly created Advisory Committee.

Secondly, agreement has been reached that a small but widely representative committee—possibly later to be called a Council—should be appointed to advise on the intricate problems related to evaluation at the undergraduate level. This Committee, not yet named, will deal with the many and much debated issues relating to the use of National Board examinations. While, on the one hand, National Board examinations are viewed as a useful guide to medical school faculties in providing extramural impartial assessment of educational achievement, on the other hand, the very schools that require their students to take and pass them criticize the examinations as inhibitors of curriculum change and experimentation. Thus, while there is one examination system with the dual function of medical achievement during medical school and qualifying examinations at the end of medical school, there is also the issue of two examination systems serving one purpose: FLEX and National Board examinations, both drawn from the same test material, both pegged to the same standard and both universally accepted by state licensing authorities in assessing qualification for the practice of medicine.

At the graduate level of evaluation, in respect to the proposal that certification by the specialty boards would be an appropriate time and signal for full licensure by the state boards, neither the G&P Committee nor the National Board has had any notion that this proposal could be implemented until the medical establishment, governmental licensing authorities and state legislatures have digested this concept and have deemed it worthy of support.

A further response to the challenge for change has been the planning for a Conference—the Annual Invitational Conference of the National Board of Medical Examiners on March 22, 1974. The theme of this Conference is "Reactions to the Recommendations of the Committee on Goals and Priorities." A morning session will provide a timely opportunity to hear from agencies that have taken positions on one or another aspect of the proposed changes and have urged more discussion and thought before implementation of the proposed changes. A case in point is a "Commentary" received from the New York State Board for Medicine which has been forwarded to the National Board and distributed to the Federation of State Medical Boards, individual state licensing boards and the deans of the medical colleges in New York State. "The New York State Board for Medicine," as quoted directly from the concluding paragraph of its Commentary, "appreciates the opportunity to file its opinions on this very important document, which we feel will have a profound impact on medical education, licensure, professional competence assessment and the quality of health care in the United States. The philosophy and goals embodied in these recommendations are, in general, exceedingly worthwhile, and we urge the National Board of Medical Examiners and our colleagues in other state licensing boards to continue to give a maximum effort to adopt those recommendations which are acceptable and to revise those recommendations which need further modification."

During the afternoon of the Conference, the discussion will be on evaluation at the undergraduate level. One question that will undoubtedly come to the fore is: Should Part I continue as a requirement for National Board certification? The issue has arisen within medical school faculties and within the Group on Medical Education of the AAMC. Requests have been made both formally and informally to the National Board to hear representative opinions of all interested groups. A panel to lead the discussion will include representation from basic science and clinical faculties, from a state board and from the Group on Medical Education.

We look forward to a lively and informative day, the purpose of which is to bring to the National Board further insight and direction as it meets the challenge for change.

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