studied; for the USMLE Part 1, the average score was 79.3, and for the USMLE Part 2, the average was 78.2. Both numbers were well below the fiftieth percentile score of 82 for all test takers (U.S. medical graduates and IMGs combined).

We then considered the time and expense required to review these applications. We calculated that even the most experienced program administrator requires a minimum of five minutes to log in and screen each application, the equivalent of $1.80 per application. Twenty percent of the applications were subsequently passed on to the program director for additional review, which consumed two minutes per application at a cost of about $3.50. We estimated the cost of all the time required to process and review applications from IMGs this year to have been at least $5,802.

On top of these initial costs were the costs in time and effort to handle post-match calls, which totalled 1,323 in the 24 hours after the 1997 match results were announced. Handling the calls consumed the efforts of five secretaries virtually full-time for two days. They also had to handle another 500 to 600 calls that came into the Office of Medical Education in the two weeks following the match announcements.

It has been estimated that between 8,000 and 10,000 IMGs enter the applicant pool each year, roughly the equivalent of applications from 55 additional medical schools beyond the 125 accredited U.S. allopathic schools and 17 osteopathic schools. If this is the case, then 23–29% of all IMG applicants in 1997 applied to the medical programs at Berkshire Medical Center. Of the 2,321 IMG applicants to our program, only one matched to a preliminary residency slot; the remaining ten slots were matched to U.S. medical graduates (USMGs). If the ratio of number of applicants to positions filled had been the same for USMGs, we would have had to screen the entire pool of USMG applicants—and we would have been one of the most competitive educational institutions in the world!

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Abstract Length and the Dissemination of Knowledge

We wish to question the strict limitations on abstract length imposed by some leading scientific and biomedical journals. Various electronic bibliographic databases have set rather generous limitations on the size of the abstract field. MEDLINE, the National Library of Medicine's database, for example, sets an upper limit of 250 words. Longer abstracts appear incomplete, along with a "truncated at 250 words" message. Many scientific and biomedical journals, however, have much stricter length requirements. *Science*, for example, limits abstract length to 50–100 words for articles and 100 words for reports. *Nature* limits abstract length for articles to a mere 80 words. In contrast, *The New England Journal of Medicine*, *Annals of Internal Medicine*, *Circulation*, and other journals allow 250-word abstracts for articles.

The question of abstract length may seem, at first, insignificant. However, abstracts as they appear in electronic databases have an enormous impact on the dissemination of knowledge throughout the scientific community. In the present age of electronic storage and retrieval, the title, abstract, and keywords of a manuscript are probably the most important factors in spreading new knowledge. Most researchers read regularly only a handful of periodicals, primarily relying on structured searches of electronic bibliographic databases to retrieve relevant citations. Only a fraction of the large number of articles whose abstracts are reviewed are later read in full.

We urge editorial boards to reconsider the strict limitations currently imposed on abstract length. Allowing longer abstracts would benefit both contributors and readers, and would result in broader dissemination of published scientific work.

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Alleviating Students' Anxieties about PBL

I first encountered problem-based learning (PBL) when I and two colleagues visited McMaster University in the early 1970s to sample the new approach to medical education. We joined a group of students to observe and participate in the PBL process. I had the opportunity to talk to the McMaster students and gain their impressions of the program. Most impressions were positive, but one negative aspect emerged. The students told me that in their first encounters with PBL, they became very anxious because they were not given clear guidance with regard to how detailed their learning issues for each case should be, whether the objective was a definite diagnosis of the case, or how deeply should they go into the basic science underlying the case. As the students progressed in the program they

came to terms with their uncertainties and settled on a level of goals and objectives for learning appropriate to beginning medical students. However, the initial anxieties had obviously made a deep impression.

About ten years later I visited the then-new medical school in Newcastle, New South Wales, Australia, which also had a PBL curriculum. The students here told us how deeply anxious they had been in the first part of the program, when they were not given guidance about the extent and depth of knowledge they were supposed to acquire on their own. They too eventually settled on appropriate expectations for themselves as beginning medical students. I returned to Newcastle 15 years later and learned that nothing had changed. The students were still beset by anxiety in the first part of the program. That such initial anxiety is probably universal was suggested by the Public Broadcasting television program about the modified Harvard curriculum, which incorporated PBL principles. The Harvard students complained about a lack of structure and guidance in the early portion of their medical studies.

The time-honored process for learning and teaching in medical school and medical practice is "see one, do one, teach one." What is missing in the PBL programs I have observed is the first step—see one. Is there any virtue in making new students find out for themselves what their learning objectives should be? Would demonstrating the PBL process be counterproductive? Would it be worth giving up the advantages of self-discovery to alleviate or even eliminate the anxiety generated by uncertainty?

If I were initiating a PBL program I would begin by showing the students what the PBL process is like. This could be done through a demonstration by tutors, a few videotapes of PBL sessions, or having the new students witness experienced students in a PBL session. Such demonstrations of PBL could take place in a large-class setting or in small groups. The latter would be preferable because the issues bound to be raised by the demonstrations could be discussed more openly in a small group. I would predict that such displays of PBL techniques would help alleviate students' anxieties and thus would facilitate their acceptance of the PBL process.

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Israel's Unique Approach to Licensing Immigrant Physicians

The migration of physicians affects patients' health, the practice of medicine, and the nature of the medical profession in many countries worldwide. In order to prevent potentially negative results for patient care, many countries require immigrant physicians to pass a language proficiency test in addition to a medical licensing examination administered in the local language.

In Israel, recent large-scale immigration has resulted in the unusual situation where the majority of medical licensure candidates are not native Hebrew speakers. In particular, since 1989 Israel has welcomed a large wave of Jewish immigrants from the former Soviet Union, a disproportionally large percentage of whom are physicians. As an extension of its welcoming attitude toward immigrants, Israel's policy regarding medical licensing is unique. All immigrant physicians are entitled to a six-month retraining program in medicine as well as free instruction in both general and medical Hebrew. The qualifying examination is administered in the candidate's native tongue, in order that medical knowledge and competence can be assessed independent of language proficiency.

The outcomes of this two-pronged approach for preparing immigrant physicians are encouraging. When we looked at data on Russian-speaking newcomers, we found that a clear majority (72%) passed the qualifying examination after one or more attempts,[1] and about 70% of the newly licensed physicians are practicing medicine or working in related health professions.[2] Another study found a correlation between the Russian immigrants' medical knowledge (as tested in Russian) and their proficiency in professional medical Hebrew.[3] This last finding suggests that intensifying Hebrew language instruction and increasing the immigrants' medical language proficiency will enable more immigrant physicians to successfully practice medicine in Israel, and would allow immigrant physicians to integrate more successfully into Israeli society without compromising the country's prevailing high medical standards.

It appears that immigrant physicians will more easily acquire and update medical knowledge if they are proficient in the language used by colleagues and patients in their new country. Other countries might wish to consider Israel's approach, in which teaching professional Hebrew to non–Hebrew-speaking immigrant physicians is an essential component of retraining programs.

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