purely quantitative but also involves what physicians are doing now and will do in the future (for example, more cardiovascular surgery and less care of tuberculosis or poliomyelitis), and the efficiency with which they can perform their functions.

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The accelerated M.D. program for Ph.D.'s at the University of Miami School of Medicine represents a historical turning point and should be highly commended.

Every printed commentary on medical education and the crisis in medicine makes allusion to pre- and post-Flexnerian periods. Perhaps we are still too close to the revolution wrought by Flexner's so-called reforms to fully appreciate their significance. It has been tacitly assumed that medical schools are for the purpose of producing doctors. Flexner's reforms wedded doctors to science. The real product of the modern university medical school was a growth in medical science; the scientific doctor, the Oslerian generalist, was merely a by-product.

The crisis in our medical care system has now forced a challenge upon the Flexner-model medical school, with the clear implication that the modern medical school fails somehow to fulfill its role.

Our understanding of the role of the medical school might better be clarified if we reexamine the concept of the doctor. Anyone who has gone through medical school and gets an M.D. degree is automatically a doctor. Although pundits like to remind us that the word "doctor" has its derivation in the noble title of "teacher," it has little meaning in reality. An identity is assumed between the M.D. who goes into private practice and gradually degenerates to the level of a technician and the academician who never has a private practice but goes on to become a great educator and ends his career with accolades and honorary awards.

One answer to this confusing game of concepts and roles is to consider medical schools as centers of medical learning and research and to forget about "doctors." Medical schools should be open to a great variety of students, with a great variety of ultimate goals. The field of health care alone embraces a variety of workers with an as yet untabulated number of roles.

Harrington's article suggests that giving an M.D. to a Ph.D. in medical science will alleviate the shortage of practicing physicians. Giving an M.D. to a Ph.D. isn't going to change his colors, and I fail to see how it is going to free some other M.D. who is actually a Ph.D. without the title, but doing research.

The history of medical science makes it quite clear that an expanding cadre of workers in research will be needed just as vitally as an expanding army of health care workers.

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Cancer Conquest Program

President Nixon, in this year's State of the Union speech and in his health message, called for a new intensified attack on cancer and stated that he was asking the Congress for an extra $100 million for expanded research and development efforts. He called for commitments to a national program for the conquest of cancer. The Congress appropriated this sum as well as an increased regular appropriation and thereby laid the foundation for the initation of such a program.

A national planning effort is under way in which representative members of the biomedical community who are engaged in all aspects of cancer research will contribute to the formulation of a national cancer plan. This plan will include strategies for both research and operations and will serve as the basis for the Cancer Conquest Program.

Based on discussions with the National Advisory Cancer Council, the advisory committee to the Director of the National Institutes of Health, and several other groups, it was determined that the basis for the planning effort should be a clear statement of program objectives, expressed in broad terms understandable to laymen; a bridge can thus be formed between the scientific efforts and the kinds of problems in the cancer field that the public wants solved. The following are the seven objectives of the Cancer Conquest Program.

1) To reduce the effectiveness with which external agents increase the probabilities of the development of cancers in existing individuals or in individuals of subsequent generations.

2) To modify individuals (for example, by vaccination) to decrease the likelihood of cancer development, both

in the current generation and in subsequent offspring.

3) To prevent conversions of cells to those capable of forming cancers (that is, to block or interfere with the proximate step, or steps, involved in the conversion to cells capable of forming cancers).

4) To prevent the establishment of tumors from cells already capable of forming cancers (for example, transformed cells, cells constituting precancerous tissues, and so forth).

5) To achieve an accurate assessment of the presence, extent, and probable course of cancer risks in population groups (including attention to precancerous lesions) and of cancers in individuals (diagnosis) and in groups (detection) as an aid to prevention, cure, or prognosis.

6) To cure as many patients as possible and to maintain maximum control of the cancerous process in patients not cured.

7) To restore patients who have residual deficits that have resulted from their disease or treatment to as nearly a normal functioning state as possible.

It is important that members of the entire scientific community have the opportunity to contribute to the formulation of a national cancer plan. I am therefore, as Director of the National Cancer Institute, inviting the scientists of this country who will not be participating directly in the scheduled planning sessions to provide their ideas for a Cancer Conquest Program.

All letters should be sent to Dr. Abraham Cantarow, Office of the Director, National Cancer Institute, National Institutes of Health, Bethesda, Maryland 20014. Dr. Cantarow is emeritus professor of biochemistry at Jefferson Medical College, former president of the American Association for Cancer Research, and a member of my immediate staff. We will attempt to acknowledge every letter, and, as the comprehensive research plan is formulated, all ideas that relate to the cancer program will be considered.

I am confident that with the participation of scientists from the cancer research community and the entire scientific community, we will weld together a cohesive Cancer Conquest Program that will be responsive to the great challenge with which we have been presented.

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