Is undergraduate medical training in oncology adequate? Those of us who have an interest in oncology have always maintained that it is not, but we have only documented the deficiencies anecdotally, such as the limited number of specific courses in oncology, and the lack of emphasis on cancer in national certifying and licensing examinations. It is my belief that the eventual attainment of "adequate" cancer education will depend on oncologists joining forces with other medical specialists to identify and develop a balanced and realistic set of specific expectations—a body of required knowledge—so that the "undifferentiated" medical student is prepared to begin postgraduate training in any clinical field at the time of his or her graduation.

Admitting that the desired objectives of cancer education have not yet been defined and admitting that we must not wait any longer to correct obvious discrepancies in our educational process, what can be done to introduce more structured cancer education in the curricular geography? Many "oncologists," whatever the primary discipline, have complained that curriculum planning has been controlled by medical educators who have no interest in cancer. This may have been partially true in the past. However, I submit that current defects are due more to an absence of correlation and coordination in our educational efforts, than to a lack of total curriculum time, albeit fragmented. Possibly the frequent desire to create relatively isolated courses in cancer only adds to the confusion. If this be so, and you may not agree, how can we begin to patch up some obvious defects in oncologic training?

One approach is to expand the number of faculty members interested in cancer so that all major clinical disciplines have at least one such individual active in both clinical oncology and medical education. This is easier said than done in a time of tight budgets, but the unique and relatively new Professors of Clinical Oncology Program of the American Cancer Society is beginning to have an impact. This program has made it possible at 12 medical schools in the United States to support senior faculty members whose major responsibilities are to stimulate and coordinate cancer education, and to demonstrate clinical care of cancer patients. Usually an ACS Professorship appointment frees up the prior "position" for an additional oncology-oriented faculty member, thereby increasing the total cancer education manpower. Since the curriculum emphasis depends to some degree on the number of faculty members involved in that field, an increase in cancer-oriented faculty must have a beneficial effect.

What about specific approaches to medical education? Should we introduce more "cancer courses" in our medical curricula? This may not be the most logical means of producing graduates who have a full understanding of the cancer process from inception to clinical manifestations and treatment. At present, the various facets of the broad field of cancer are introduced at all levels of the curriculum. Many areas that are essential to a clear understanding of
cancer are not identified as "oncology," but appear instead as biochemistry, microbiology, pharmacology, etc. In the clinical portions of the curriculum, on the other hand, these segments of study are identified by discipline, rather than by system or category of disease. Although the study of oncology is fragmented, which is not necessarily bad, it is often more prominent in the curriculum than it appears.

In our own institution, the curriculum in the first two years is oriented toward "subject matter" with separate curriculum committees for cardiovascular, gastrointestinal, endocrine, reticuloendothelial and other subject categories. In order to effectively insert an adequate number of oncologic concepts in each of these areas, a representative who has an interest in oncology education participates on the committees and hopefully helps achieve balance in the curriculum. This may very well be a more effective way to introduce cancer education than simply allotting specific "oncology" time in the curriculum itself. But, it does require a concerted effort to "infiltrate" these committees with cancer-oriented faculty.

In the clinical portion of the curriculum, analogous courses can be taken to demonstrate the interdisciplinary approach to diagnosis and management of cancer. Most medical schools are already using methods like combined interdisciplinary tumor clinics, weekly tumor boards or cancer conferences with multidisciplinary participation. Training grants from the National Cancer Institute have greatly assisted in achieving these types of cancer education and future grants will undoubtedly play a similar role.

There are obviously other innovative approaches to cancer education which can also be employed including the development of self-instructional packages, the use of programmed learning texts or even complex computer techniques. Yet it is our belief that increasing the number of cancer-oriented faculty members is probably the most effective means to accomplish the general objectives of cancer education. The same faculty members also undertake the future responsibility of better defining these objectives. This is not an easy task, but it is an important one which requires the efforts of us all.

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The National Office of the American Cancer Society has been receiving numerous requests from physicians and medical students to be placed on the Ca—A Cancer Journal for Clinicians mailing list. For your convenience, all requests for Ca can be handled through your local division. The addresses of the divisions are listed on the inside back cover of the Journal.