

Rationale for Cancer Control Research Training Curriculum

This training curriculum was developed based on our conviction that a need exists for cancer control and prevention investigators with a broad range of theoretical, methodological, and technical knowledge. These attributes are required to advance scientific opportunities from basic, behavioral, population and clinical sciences to clinical applications that reduce the burden placed on patients and their families by cancer and its treatment. We believe a transdisciplinary training approach is necessary to provide the next generation of cancer control researchers with the skills to actively collaborate with clinical colleagues. Their impact is needed to more effectively prevent, detect, and treat cancer—to fundamentally improve the current natural history of cancer. With the emerging focus on evidence-based interventions, the need for competent researchers who can successfully plan and complete meaningful clinical investigations has never been greater. And there are just not enough qualified researchers at present to take advantage of existing opportunities.

With its focus on the human side of cancer, cancer control is gaining more prominent attention—pushed, in part, by the growing patient advocacy movement. Patient advocates have been vocal in their beliefs that even if current cancer treatment cannot always help cancer patients live longer, there is a lot that can be done to help them live better. Such important aspects of patient care and treatment as the quality of a patient’s life were never mentioned when the PI of this proposal began his research career in Rochester in 1975. As late as 15 years ago, references to cancer control and topics such as quality of life (QOL) and symptom management were few and far between. Now there are entire scientific journals devoted to cancer control research—and sections of other journals that regularly present cancer control research findings. There is now cancer control expertise on the editorial board of the *Journal of Clinical Oncology*. Psychological and behavioral variables are frequently used as reportable endpoints for cancer treatment protocols and pharmaceutical registration trials.

There is considerable evidence that cancer control is accorded very high importance in the overall cancer research effort:

1. In a very short time, cancer control research has been integrated into every national cooperative trial group sponsored by the NCI with ‘line-item’ research support.
2. A grant-funded program in cancer control is the only required program for a cancer center to be designated as a ‘comprehensive cancer center’.
3. There is now a separate division within the NCI devoted to supporting research over the entire spectrum of cancer control from prevention through patient-oriented issues of treatment and side effect management to survivorship concerns.
4. Major funding increases for cancer control research have recently come from not only the National Cancer Institute but also the American Cancer Society and the Department of Defense research programs in breast and prostate cancer.

Transdisciplinary, collaborative research efforts are often impeded by turf and guild issues. Our

experience has been that such impediments are minimized when mutual respect exists among collaborators—and the clearest way to promote that respect is through research expertise and demonstrated competence in clinical investigation. Research ability is the common language spoken across disciplines. The principal aim of this training curriculum is to produce cancer control and prevention investigators with the background, and training experience to earn that mutual respect through their proven research competence. We think expertise in speaking the common language of research will help close the communication gap across disciplines.

It is our observation that most Ph.D.-prepared behavioral, social and population scientists are strikingly underprepared to actively participate in cancer control research. Their lack of knowledge about clinical issues and their inexperience in dealing with clinical realities that determine the feasibility of research studies limit their effectiveness. They often produce tightly designed, methodologically elegant studies that do not have a chance of being implemented in a busy treatment clinic. In a similar fashion, most M.D. prepared scientists are woefully lacking in knowledge of randomized clinical trial design, implementation and analysis. Their research tools skill set is often weak. While these physicians produce relevant, meaningful clinical proposals, those proposals frequently suffer from major methodological and scientific problems. It has been our experience from sitting on study sections and reviewing papers over a number of years that neither group typically appreciates the strengths and weakness of their idiosyncratic set of research beliefs and experiences. Neither group understands very well how working together with the other can produce a research synergy that neither possesses separately. We think the training proposed herein would help reduce this problem.

The proposed curriculum involves 15 mentors from nine medical center departments (Anesthesiology, Psychiatry, Pediatrics, Radiation Oncology, Medicine, Dermatology, Medical Oncology, Community and Preventive Medicine, Biostatistics and Computational Biology) and includes the chairs of four of those departments. Each mentor is an active investigator with at least one peer-reviewed grant. Most are also active in at least one national Clinical Trial Cooperative Group in oncology. In order to provide trainees with a unique experience in conducting multi-center trials and to further broaden their research experience, seven additional private practice medical oncologists from across the country who are affiliated with the Community Clinical Oncology Program (CCOP) Research Base directed by Dr. Morrow will also serve as mentors.

Traditional training programs often restrict training to circumscribed, single-discipline areas and do not permit the broad-based collaborative training proposed here. More often than mentors would like to admit, the focus in traditional discipline-based training programs is frequently more on the betterment of a mentor (often in name only) or a laboratory or a program than it is on the professional and personal growth of the trainee. The traditional T32 and new K23 training programs typically focus on specific training within a narrow discipline rather than providing the broad array of research skills required by future cancer control researchers through exposure to multiple disciplines and multiple institutions. While the K12 supports M.D. and D.O. physicians, the only Ph.D. discipline supported is nursing. This approach would restrict our transdisciplinary focus and not permit the inclusion of other disciplines critical to cancer control research. The flexibility provided by the R25 training mechanism permits us to link a trainee joining us here with experienced, enthusiastic multidisciplinary faculty from diverse settings both within and outside the university environment-- a faculty committed to the welfare of each trainee by tailoring a specific program to match his/her research career goals. This is why we are convinced the R25 mechanism would help accomplish our objectives better than other available training options.

