National Cancer Institute's Support of Research to Further Integrative Oncology Practice

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In the United States, the term “integrative oncology” may be variably defined, but most definitions would include the idea and practice of adding complementary and alternative medicine (CAM) approaches to the range of therapeutic options provided to cancer patients in previously strictly conventional medical environments. This shift in practice has been paralleled and aided by a gradually evolving evidence-base established from the results of well-designed and conducted research, often funded by the National Institutes of Health.

Both the absolute and proportional sizes of the National Cancer Institute's (NCI's) CAM research portfolio grew substantially in the early 2000s reaching a peak in FY2004 (\$128.7 million; 2.7% of NCI's appropriations). Over the intervening decade, NCI has annually supported over 300 intramural and extramural projects with some component of CAM research, with research costs totaling 80–120 million dollars annually (1). The great majority of these projects explore aspects of basic science or clinical cancer research; however, NCI also supports research to improve communication about CAM issues (2). The NCI's Physician's Data Query program also provides summaries of the literature about several CAM interventions with separate formats developed for healthcare practitioners and for patients (3).

NCI's extramural research portfolio (ie, grants, cooperative agreements, contracts) includes projects addressing all phases of the cancer continuum and is distributed throughout several scientific programs within NCI. The field of cancer survivorship touches on nearly all the aspects of cancer management and some of prevention as well, thus the great majority of NCI's CAM research portfolio is relevant to it. This diverse portfolio includes both preclinical and clinical research exploring aspects of traditional medical systems (eg, traditional Chinese medicine [TCM]), exercise, mind-body interventions, manual therapies, various botanicals, and diet (from individual components to whole diet interventions).

One major component of NCI's clinical research activities is the work that takes place in the NCI Community Oncology Research Program (NCORP), formerly known as the Community Clinical Oncology Program. Approximately 30% of the clinical trials performed in this multicenter system for cancer prevention and symptom management studies are testing a CAM product (eg, ginger for chemotherapy induced nausea and vomiting) or other intervention (eg, acupuncture for cancer-associated fatigue) (4).

NCI is the only institute at the National Institutes of Health with an office tasked with facilitating the growth of a CAM research portfolio and disseminating information on the topic. The Office of Cancer Complementary and Alternative Medicine (OCCAM), housed in the Division of Cancer Treatment and Diagnosis, works with various other components within NCI to accomplish these objectives. Among OCCAM's activities is work done with laboratories in NCI's Center for Cancer Research and the Natural Products Branch to establish collaborations with several international centers to screen novel natural products for anticancer activity and to train visiting postdoctoral fellows. This work is motivated by the recognition that traditional medical systems have been sources for identifying effective cancer therapeutics such as arsenic trioxide (5). OCCAM has also established unique opportunities for collaboration and dialog such as conferences about TCM and cancer and meetings to foster dialog and collaboration between CAM practitioners and cancer researchers.

OCCAM also administers the NCI Best Case Series program. Many interventions from the world of CAM have little or no associated objective research but are still sought by cancer patients hoping for a benefit they think is not possible, or likely, to come from conventional medicine. Also, some anticancer therapies develop in the context of traditional medical systems and thus become part of practice traditions or approved therapies in their native countries. The NCI Best Case Series Program was initiated in the 1990s to attempt to document cases of patients treated with these unconventional therapies in order to determine if sufficient evidence existed for NCI to initiate prospective research on a given treatment approach (6,7).

NCI has taken a multifaceted approach to developing the evidence-base necessary to support the appropriate integration of complementary and alternative approaches with conventional biomedicine. Through these efforts to advance the science in this field and to promote dialog between healthcare practitioners, scientists, and patients, we hope to realize real improvements in the options made broadly available to cancer survivors.

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