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New NCI Division For Centers, Training, Organ Systems, Construction Seen As Likely Prospect

Cancer Center executives have been uneasy about the location of the Cancer Centers Program in NCI's Div. of Cancer Prevention & Control ever since it was placed there by then Director Arthur Upton in his massive reorganization of the institute in 1978-79. It was then the Div. of Cancer Control & Rehabilitation, and centers people never

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In Brief

ACS Executive Committee Votes To Move HQ Out Of New York; Davis Establishes Office In D.C.

AMERICAN CANCER Society Executive Committee approved recommendation to move its headquarters out of New York City. The committee agreed to focus a search for a new location on Atlanta, Dallas and Houston but left the door open for other cities. Staff members are not happy about the decision, but high cost of rented space in New York is forcing the move. . . . **ALAN DAVIS**, ACS vice president for governmental affairs, has already moved his office out of the Big Apple. He has opened new quarters on Capitol Hill in Washington. Davis' title has been changed--to VP for public affairs--and his role expanded and enlarged. His office is now responsible for representing all ACS national activities in Washington. . . **DON CHRISTOFERSON**, administrative officer of NCI's Div. of Cancer Treatment, has been named NCI deputy associate director for administrative management by AD Philip Amoruso. He replaces Stephen Ficca, who is now administrative officer of the National Heart, Lung & Blood Institute. DCT is in the process of recruiting a new AO. . . **CONGRESS PASSED** the joint resolution naming May as National Cancer Institute Month in observance of the 50th anniversary of NCI. . . . **PUBLIC WITNESSES** testifying for NCI's FY 1988 budget will appear before the House Health Appropriations Subcommittee April 27. The National Coalition for Cancer Research, Assn. of American Cancer Institutes, and American Society of Clinical Oncology will make the case for the bypass budget figure of $1.7 billion; ACS will suggest a "more realistic" amount of $1.5 billion. They aren't quite that far apart: the $1.7 billion request includes AIDS money of about $80 million; the ACS request does not include AIDS. NCI's 1987 budget is $1.4 billion, including $62 million for AIDS. . . . **TYPO**: the late Tim Lee Carter was appointed to the National Cancer Advisory Board in 1982, not 1962.

DCPC Board, NCAB To Consider New Division For Centers, Others

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quite accepted the logic for placing them administratively with the division whose primary responsibility was cancer control.

Neither, for that matter, did constituents of the organ systems, construction and training programs, which also were moved into the cancer control division. As those programs have been cut back or otherwise significantly modified, many of those affected have come to conclude that part of their problem has been because they have not received a fair shake in DCPC.

DCPC Director Peter Greenwald argues otherwise, but center executives remain unconvinced. They have taken their case to NCI Director Vincent DeVita, who has agreed to present the issues to the DCPC Board of Scientific Counselors and to the National Cancer Advisory Board.

DeVita told the DCPC Board earlier this year that creating a new division for centers was an option that could be considered; moving the program into his office was another.

DeVita does not favor operating a major program out of his office, but establishing a new division would require approval of the Dept. of Health & Human Services and the Office of Management & Budget. HHS and OMB probably would go along if they can be convinced a new division will not increase costs or pressures for additional positions, but it would take time.

Centers, organ systems, construction and training all are supported out of the regular NCI appropriation. Cancer control is supported with the line item appropriation for that activity, a practice established by the National Cancer Act of 1971. The centers budget consists almost entirely of funds allocated for center core grants, which have received modest increases in recent years but not enough to increase the number of centers supported by NCI nor to fund existing grants at their full peer review recommended levels.

Center executives have complained about those funding restrictions, but they have fared better than organ systems and training, which have suffered major reductions, and construction, which was earmarked for total obliteration with zero dollars in the last two presidential budgets (Congress kept that program alive with $2.5 million this year and probably will come through again for FY 88).

The Cancer Centers Branch presently is housed within DCPC's Centers & Community Oncology Program, which also has purview over the Community Clinical Oncology Program. If centers goes into a new division, will CCOP follow?

A case could be made for keeping CCOP with centers; for leaving it with other community programs in DCPC; and for moving it to the Div. of Cancer Treatment, where it would be welcomed with open arms, provided the $10 million (or whatever the 1988 total turns out to be) goes along with it.

The fact that the entire CCOP budget comes out of the cancer control line item could complicate things a bit. When the Cooperative Group Outreach Program was moved to DCT from DCPC, DeVita reprogrammed money from elsewhere to fund it. DCPC retained the cancer control money it had been using to support CGOP. Greenwald would argue long and hard to keep the CCOP money, pointing out that cancer control funding has increased very little in the last few years.

The cancer centers issue was placed on the agenda of the DCPC Board for its May 7-8 meeting. The Board's Committee on Centers & Community Oncology, meeting this week, was briefed on the presentation that will be made to the Board. Conspicuous by its absence in the briefing was any reference to the organizational question.

Cancer Centers Branch Chief Lucius Sinks said the presentation will include a history of the program, presentations by several center directors and a report on its current status. Herbert Pahl, program director, described the presentation that will be made on how center core grant applications are reviewed, and program director Raymond Morrison reported on the budget presentation that will be made.

"This is a nice show and tell," committee member Robert McKenna said. "I'm unclear on what you hope to accomplish. Why look at the total program now? Are we to consider whether there are too many centers, or too few? Where are the gaps?"

"One of the reasons (for the presentation) is the education of the Board of Scientific Counselors," Sinks said. Greenwald added that that was the "initial reason," since only five of the Board members had any affiliation with centers (that has increased to six with the addition of new member James Holland, Mt. Sinai Medical Center).

DCPC Board Committee Endorses Three New Concepts For Grants

The Committee on Centers & Community Oncology of the Div. of Cancer Prevention & Control Board of Scientific Counselors endorsed three new concepts for grant supported research projects at its meeting Monday in Bethesda.

The projects would involve as many as 12 grants with an estimated total cost of up to about $2.5 million a year. If approved by the full Board at its May 7-8 meeting, they will be offered through requests for applications (RFA).

The concepts are subject to further revision by DCPC staff and by the full Board. As presented to the committee, they were:

<>Demonstrating benefits of early detection utilizing existing data.

These would be two year awards, totaling an estimated $960,000 a year for four grants. Bill Bunnag, program director in the Early Detection Branch, made the presentation.

Objectives of the RFA are (1) to discover existing data in defined population groups which have been exposed to various screening or health maintenance procedures and show evidence of benefit; (2) to evaluate intermediate endpoints that can be used to assess the benefits of early cancer detection through an analysis of the existing data bases.

Consideration needs to be given to possible over diagnosis, lead time and length biases, Bunnag's concept statement said. These intermediate endpoints should enable NCI to evaluate early detection activities and/or research minimizing the need for long term followup with its associated high cost in time and money associated with mortality studies. The end result of this project is to identify data sets and endpoints which can be used to assess the contributions of early detection, whether initiated by patient or physician, and to expand beyond the cancer of the cervix and breast control objectives set forth in the NCI goals for the Year 2000.

For the purpose of this concept, early detection is defined as the process of finding precancerous lesions or cancers in their early stages of growth among symptomatic and asymptomatic individuals either in a screening mode or in the physican's office, when appropriate early treatment should lead to increased survival and decreased morbidity and mortality.

Those with data banks located in health maintenance organizations, diagnostic centers, screening and hospital clinics, industrial medicine clinics, wellness clinics, comprehensive cancer centers and other institutions will be encouraged to participate.

The spectrum of approaches can include case control studies, descriptive analysis, descriptive epidemiological surveys, clinical trial data, retrospective reviews, or other types of analysis that the applicants may wish to propose.

"This is a fishing expedition," commented Charles Smart, chief of the Early Detection Branch. "We're fishing for the best evidence out there, in defined populations."

Board member James Holland suggested that the Breast Cancer Detection Demonstration Project, which enrolled 250,000 women in a study to determine effectiveness of mammography, be utilized in this program. Those who were found with breast cancer "were at high risk for cancer of the contralaterial breast," Holland said.

Smart noted that there were 4,200 such cases. "I think there will be people who will do that with this RFA."

<>Cancer nursing interventions to promote patient self care.

This would support up to five grants for three years at a total estimated cost of $630,000 per year. Anne Bavier, program director in the Community Oncology & Rehabilitation Branch, presented the concept.

Purpose of this program is to encourage and stimulate cancer nursing research which develops and evaluates nursing interventions aimed at facilitating self care capabilities of patients who are receiving cancer therapy. Self care consists of activities done by patients to maintain or improve current health. Specific objectives are:

A. To determine cancer nursing interventions which are effective in promoting patient self care.

B. To detect and address patient characteristics which facilitate or limit utilization of self care during treatment.

C. To identify patient factors predictive of the utilization of an intervention promoting self care during treatment.

The research projects to be conducted under this initiative will identify nursing intervention approaches, such as structured patient teaching groups, and specific self

care practices, such as oral care regimens. The researchers will assess the actual use of the selected self care practices and the associated outcomes, such as oral infections. Evaluation will include the effectiveness of the nursing approach in achieving patient performance of the selected self care activities and an analysis of factors which influence patient participation. This systematic research is needed to guide nursing practice in effective interventions to enhance cancer patient self care, Bavier's statement said.

Target populations in this study should share a common entry point, preferably their first course of either radiation therapy or chemotherapy. Researchers could include adolescents who can be responsible for their own care as well as adults. Investigators will be expected to identify a target group of patients with a high likelihood of particular problems for which the self care content can be focused. Examples of possible patient groups include those who are receive:

*Chemotherapy which will dramatically increase risk of infection.

*Radiation therapy to the pelvic region.

*Multimodality therapy for head and neck cancers.

Nursing interventions are defined as those actions or functions organized and implemented by professional registered nurses that are designed to impart to patients specific content and process knowledge related to self care for their disease or treatment. Whenever possible, the researchers are to develop nursing approaches and content within the context of current theories of self care. The investigators are to determine the timing, sequence and duration of the interventions. Examples of possible interventions include:

*Goal setting with patients and families for specified achievements.

*Peer group problem solving sessions.

*Practice in strategies for working with specialists in many areas, such as physical therapy, nutrition, or social service.

*Provision of audiovisual programs which are followed by patients demonstrating an activity.

The interventions are to be given in the treatment setting and coordinated with the pataients' therapy schedule. Treatment settings may be a hospital patient care unit, outpatient department, physician office or clinic in which chemotherapy or radiation therapy is provided.

The content of the nursing interventions should indicate the specific activities that patients are to use in assessing their care needs, initiating a defined self care act, or obtaining the assistance of an appropriate health care professional. The special needs of cancer patients, in partricular those needs related to outpatient, short term inpatient, and home treatment, should be used as a basis for selecting content aimed at enhancing self care. At a minimum, the content must include specific activities related to the prevention or amelioration of common symptoms associated with the therapy being received.

Researchers should design the studies so that they can differentiate outcomes related to the nursing interventions from outcomes of standard, customary practices. A variety of research designs may be appropriate. These designs include, but are not limited to, randomized, controlled studies and quasi-experimental designs such as time series and matched comparison groups. Methodological issues, such as potential cross contamination resulting from professionals and patients learning from the intervention group, must be considered in the design, sample size and analysis. Multi-institutional trials are encouraged where necessary to assure adequate numbers of patients.

"I agree on the need for patient education, to reduce morbidity, shorten time of treatment, reduce complications," Board member Robert McKenna said. "I don't see how you can do it for this money. There are too many kinds of treatment, too many drugs being used (to develop comparative studies)."

Bavier said that studies would be grouped "so we can try to look at the same type of problems."

Jerome Yates, director of the Centers & Community Oncology Program, added that "most nursing interventions are problem oriented. Interventions in this study should be generic."

"Randomized prospective studies will require a large base," Holland said. "You will get a mishmash of treatment. You will get a lot of differences if they do one thing in one hospital, another thing in another hospital."

Bavier said those concerns would be considered in writing the RFA. Yates added that if too many specifics are required, "it should be a contract, not a grant. If you think you know exactly what to do, tell us,

and we'll write it as a contract." The committee declined to do so, leaving it as a grant concept, but that can still be changed by staff or the full Board.

<>Breast cancer control for women aged 65 years and older.

Three grants (actually, cooperative agreements) would be awarded for three years, with total direct costs estimated at $900,000 a year and indirect costs at $360,000 a year.

This concept had previously been endorsed by the committee but has not been submitted to the full Board. It was presented by Rosemary Yancik, assistant director of the Centers & Community Oncology Program.

The goal of this research initiative is to develop and/or improve upon cancer control methods of early detection, diagnosis, management and followup care of elderly female breast cancer patients. For this research solicitation, old age or elderly is defined using the chronological age of 65 years and older. More than 40 percent of all newly diagnosed breast cancers in the U.S. occur in this age subgroup. Of the 39,000 breast cancer deaths occurring in 1984, 52 percent were women 65 years or older. By sheer magnitude, breast cancer affecting elderly women is a cancer control problem of major concern, Yancik's concept statement said.

The considerable progress being made in the treatment of breast cancer has primarily resulted from adjuvant chemotherapy in premenopausal women. The problems of this malignancy associated with advanced age have not been adequately addressed. Sufficient data on treatment of the elderly are not available from clinical trials.

The state of knowledge is still so limited that this research solicitation directs investigators in a first phase of the study to:

1. Identify and document the problems that exist in the early detection of breast cancer in elderly women.

2. Assess treatment differences as they have occurred in the management of the malignancy.

3. Evaluate the efforts to improve the quality of life of elderly women experiencing breast cancer.

Then, in a second phase, the aim is to construct interventions to offset the problems amenable to solutions in detection, management and rehabilitation for elderly breast cancer patients. Target groups for the interventions will be elderly women (for early detection and delay behavior); health professionals (for management of the malignancy); and patients, families ' and health professionals (for followup care efforts).

In approaching this research, intervention questions raised are:

*What can be done to heighten the sensitivity and awareness of older aged women to signs and symptoms of breast cancer?

*How can the length of time from recognition of symptoms to diagnosis and to treatment be reduced?

*Do concomitant disease and/or illnesses and the normal processes of aging affect the management of breast cancer in elderly women? If so, how? And then, what can be done to remedy the situation?

*What approaches can be applied to the needs of elderly breast cancer patients to minimize morbidity, prevent loss of function, promote the quality of life (i.e., the social, psycologic and emotional aspects of daily living) and independence in conjunction with definitive medical and surgical treatment?

The approach of this research initiative involves two phases since the state of the art treatment for management of breast cancer in elderly women does not exist, nor is it reflected in research being conducted in clinical trials. A set of recommendations for diagnosis and treatment of breast cancer in the older aged female will be formulated by a consensus of experts selected by NCI. These guidelines will be utilized in the data collection component of the research to be conducted under phase 1.

Phase 1. Determine the extent of the differences in the management of the elderly subgroup of breast cancer patients in terms of workup, treatment and comorbid conditions based on the criteria recommended by the expert panel.

The appraisal of how newly diagnosed patients with breast cancer are treated through hospital records to develop a first line treatment and comorbidity profile of all breast cancer patients in a given region for a period not to exceed 12 months will be based on the formulation of the guidelines developed by the expert panel. This data collection should include the outpatient treatment as well. The outcome of this portion of the study addresses the comorbidity questions, whether there are

treatment differences (i.e., physician behavior), and serves as the foundation for development of interventions to improve patient management. In addition, the newly diagnosed patients will be asked to participate in the early detection component of the study.

Study early breast cancer detection practices in elderly women.

A survey of the women who came to the hospitals as breast cancer patients will be conducted to determine when they first observed the signs and symptoms of breast cancer; the time from first recognition to the physician visit and the beginning of treatment; and other relevant information which could serve as the foundation for the subsequent intervention component of this research initiative. Numbers of patients must be sufficient to make age and extent of disease comparisons.

Assess post treatment followup and quality of life of breast cancer survivors.

This study will involve assessment of the burden placed on the elderly patient and the family qualitatively and quantitatively by breast cancer and its treatment and determine what can be done to:

1. Mobilize the patient as quickly and effectively as possible.

2. Decrease morbid conditions (e.g., pain, lymphedema).

3. Enhance health protective practices to decrease the risks for other cancers and recurrence.

4. Promote optimum palliative care in patients with advanced disease.

Phase 2. Develop and test interventions for improved detection, diagnosis, treatment and followup care of elderly women breast cancer patients.

The interventions to be developed and tested under this research initiative will be based on the information derived from the preceding studies. It is expected that this foundation will be of sufficient quality and magnitude to form the basis for interventions aimed at patient and physician behavior such as education and technology transfer activities. The cancer control intervention techniques must be appropriately tailored for the elderly. For example, it may be that educational devices or patient self care principles will have to be adopted to accommodate the normal processes of aging (hearing loss, diminished vision, concurrent physicial disabilities) and lack of social support. For physicians, those who have care and treatment responsibilities for elderly patients may need to employ new strategies for the geriatric patient and her aftercare.

McKenna suggested that a phase 2 study might include the role of estrogen therapy for osteoporosis. "I would love to see that question answered. Does the cancer risk increase for those who get estrogen?"

Vice President Bush Visits NIH To Learn About AIDS

Top Administration officials need to be educated and informed about the AIDS epidemic and what can be done to fight the disease, Vice President George Bush said at a special AIDS briefing at NIH last week.

Bush said he arranged for the briefing because "I think it is important that the top officials in our government be educated and be informed."

The vice president visited the research lab of Samuel Broder, deputy clinical director of NCI's Div. of Cancer Treatment, met with an AIDS outpatient at the NIH Clinical Center, and met with NIH officials involved in the fight against AIDS.

A formal briefing session included scientific presentations by NIAID Director Anthony Fauci, and Flossie Wong-Stall, chief of the Molecular Genetics of Hemapoietic Cells Section at NCI.

At the afternoon's end, Bush said, "I've really learned, and I hope I can therefore talk more authoritatively, more knowledgeably, and perhaps in an educational sense, help people in terms of the realities of this disease."

Asked if he planned to brief other Administration officials about AIDS, Bush said, "Probably....We could be comparing notes with others in the Administration, trying to make sure that we as an administration are giving as much support as we possibly can."

Asked if the House Budget Committee's earmarking of approximately $940 million for AIDS research is going too far, Bush said, "I don't know. "This is something we run into," he said. "We suggest a proper level" and Congress increases the budget.

However, "when it comes to a national epidemic, I think we've got to be sure that we're doing as much as we possibly can."

Bush was welcomed to the open portion of the briefing by NIH Director James

Wyngaarden, who provided a brief history of the epidemic. Although Wyngaarden noted an increased spread of the disease among heterosexuals, he said that the rate of increase of the disease appears to be slowing. While the number of new cases had been doubling every six months, it has decreased to a doubling every 13 to 15 months due to behavior modification.

Bush expressed relief at Wyngaarden's report that the chance of a contaminated unit of blood passing through the blood supply is one in a million since blood began being screened for HIV in 1985.

"I came out here with a different public perception regarding the blood supply thing, and I think that comes out under the heading of very good news for the American people [that] you feel so confident regarding the blood supply."

Fauci presented a formal overview of the epidemic and research underway against the disease. Noting that an estimated 1 to 2 million Americans are currently infected with the virus, he said that scientists don't know about the long term course of infection.

"If you look five years into the disease, about 20 to 30 percent of the people who are infected are going to develop full blown disease. What we don't know, and this is the thing that may be scary, is what's going to happen at the end of 20 or 30 years. Is it going to be a straight line such that 80 or 90 percent of the people that are infected are going to develop the disease, or will it plateau?"

He cited projections that there will be 270,000 cumulative cases of AIDS in the United States by 1991, with about 179,000 deaths, about 54,000 of which will have occurred in 1991. "That's a staggering figure, and that is just individuals who are infected now."

Other NIH officials present at the briefing session included NCI Director Vincent DeVita, Vida Beaven, assistant director for program coordination at NIH; George Galasso, associate director for extramural affairs at NIH; Joseph Rall, deputy director for intramural research; William Raub, NIH deputy director; and John Decker, director of the NIH Clinical Center.

During a brief question and answer session, Bush said he believed AIDS education efforts should be conducted close to the family and should emphasize both medical and "moral" aspects of the disease.

"I think that thanks to the work that's done right here at NIH, the whole country is past the snickering factor, and they recognize that this is very, very serious," he said. "I am troubled by it. We know a disease is caused by certain things. It would be nice if those things weren't done that cause the disease, and that includes lifestyle, and it includes" the use of drugs through dirty needles.

Biotherapeutics Reports LAK/IL-2 Results With Constant Infusion

The April 9 issue of the "New England Journal of Medicine" which published NCI's latest results with lymphokine activated killer cell/interleukin-2 therapy (**The Cancer Letter**, April 10) also included a report by Biotherapeutics Inc. and its subsidiary, Biological Therapy Institute, on its LAK-IL-2 studies.

Biotherapeutics Inc. is a laboratory service company that conducts patient funded research "under the premise that the patient can be a partner in the research process by funding research and participating in the clinical use of new anticancer approaches," the company said in a news release on the studies.

The Biotherapeutics report covered a variation in the regimen employed at NCI, in that recombinant IL-2 was administered through constant infusion in an effort to reduce toxicity.

"The administration of rIL-2 as a constant infusion may preserve antineoplastic activity of adoptive immunotherapy while increase the safety and comfort of the patients," the Biotherapeutics report states. The recombinant DNA derived interleukin-2 was provided by Cetus Corp., also the source of NCI's supply of the same material.

William West, medical director of Biotherapeutics and principla investigator of the phase 1/2 study, said, "We are encouraged by the reduction in toxicity and the maintenance of antitumor activity we have seen with the constant infusion protocol. We are particularly hopeful that these new findings will permit a broader range of seriously ill cancer patients to participate in future studies."

West discussed results of the investigation. "We were pleased to find rIL-2/LAK activity in a broad range of cancer in addition to those reported earlier by NCI. In

addition to responses in renal cancer and melanoma, confirming earlier studies, partial responses were observed in Hodgkin's disease, non-Hodgkin's lymphoma, lung cancer, ovarian cancer, and parotid cancer. Further investigation of IL-2/LAK adoptive immunotherapy will be required to better understand the activity of this approach on many different tumor types. Our present efforts are designed to modify the protocol to achieve greater durability of responses."

Best responses reported by NCI were in renal cell cancer and melanoma, with lesser responses seen in lymphoma and colon cancer.

West and colleagues also described a new method for activating lymphocytes in a semiclosed system of tissue culture bags. This method gave equivalent to superior lymphocyte activation and a lower risk of contamination to the patient, they said. The procedure also proved to be much more time and cost effecient than the NCI method, they contend.

Robert Oldham, scientific director of Biotherapeutics and an author of the article, said, "Providing patients and their physicians access to biotherapies has been possible through the interactions of several companies. Collaborative efforts with Cetus Corp, Fenwal (Baxter Travenol, for equipment and consumables) and Biotherapeutics (laboratory support) have permited this first ever private sector initiative to be accomplished. Future studies will further utilize these and other companies involved in the development and application of biological therapies for cancer patients."

Biotherapeutics contracts with "clinically suitable cancer patients to perform laboratory research services designed to develop custom tailored therapeutic options employing biologicals and biological response modifiers," the company says. "This partnership of investor and patient, working together in the private sector to increase patient access to new approaches in cancer treatment, represents a powerful new method for developing cancer therapeutics."

Patient payment for clinical research has aroused controversy in some quarters.

RFAs Available

RFA 87-CA-21

Title: Molecular probes in unique subsets of colorectal cancer patients

Application receipt date: July 15

The Div. of Cancer Prevention & Control, through the Organ Systems Program, invites research grant applications to develop and assess probes useful in classifying subpopulations of colorectal cancer patients. Organizations capable of developing collaborative research proposals involving basic laboratory groups and clinical groups with access to unique subpopulations of colorectal cancer patients are encouraged to apply.

A major problem with conventional pathological morphologic classification criteria for colorectal cancer is that the category of "moderately well to well differentiated" tumors is too broad. Insufficient prognostic information is derived from this broad designation. On the other hand, the classification of "undifferentiated" tumors and predominantly "poorly differentiated" tumors of the colon and rectum in humans predicts a uniformly bad clinical outcome. Patients with these tumors do predictably worse and have a shorter life span than those with "moderately well to well differentiated" tumors. There is something unusual about these tumors that should allow a more circumscribed investigation. Although these are rare tumors, specific alterations found may provide insight into the very broad class represented by "moderately well to well differentiated" colon and rectum cancers.

Carcinoembryonic antigen (CEA) has been useful in numerous aspects of management of colon and rectum cancer. However, additional markers are needed for the detection, diagnosis, prognosis and monitoring of colorectal cancer. For "poorly or undifferentiated" colon cancers, the need for non-CEA markers is more acute since CEA experession in these tumors is either nonexistent or quite low. An organized, systematic and rational approach utilizing a specific subset of gastrointestinal cancers with predictable clinical behavior might be a more productive tactic than looking for collrelations in the larger, heterogeneous population. A major goal is to obtain leads that could be applied to the general population of colorectal cancer patients in whom morphologic analysis of tumor is not predictive of the clinical course.

This RFA is intended to stimulate the integration of basic studies of existing and new molecular probes with clinical sltudies of colorectal cancer patients with a poor prognosis based on morphological analyses. Since these subjsets of colorectal cancer patients represent relatively rare tumors, application organizations should have the capacity to accrue adequate numbers of patients through collaborations.

This RFA is for a single competition. It is anticipated that approximately four to five awards for project periods of three years will be made at a total cost of $875,000 for the initial year's funding.

Letters of intent should be sent to, and requests for copies of the complete RFA and further information directed to Vincent Cairoli, PhD, Cancer Centers Branch, DCPC, NCI, Blair Bldg Rm 725, Bethesda, MD 20892, phone 301/427-8818.

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