THE CANCER LETTER
RESEARCH EDUCATION CONTROL

Vol. 3 No. 42
Oct. 21, 1977

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Subscription $100 per year

NCI GETS GO-AHEAD FOR NEW CANCER CONTROL PROJECTS TOTALING $7.4 MILLION, FUNDED BY GRANTS, CONTRACTS

NCI's Div. of Cancer Control & Rehabilitation wrapped up its development of new project priorities for the 1978 fiscal year last week when the division's advisory committee went along with the staff's list of top priorities.

The list was pretty much in line with what the committee had recommended at its meeting last July, with a shift of emphasis to pre-

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In Brief

INTERIM BILL KEEPS NCI GOING THROUGH OCT. 31; "MANUAL FOR STAGING OF CANCER" NOW AVAILABLE

CONGRESS PASSED a continuing resolution—an interim appropriation bill—last week just in time to assure HEW employees a full paycheck this week. The continuing resolution provides for funding at FY 1977 levels through Oct. 31, while Congress tries to resolve the abortion issue. New contract and grant awards may be made under the resolution, provided they could be funded under the last fiscal year level. . . . **"MANUAL FOR STAGING OF CANCER,"** an 18-year effort, is off the press and available to physicians and others with an interest in cancer management. It brings together all currently available information on the state of the art of staging cancer at various anatomic sites. "Although not all of the schemes included here are uniform in design, and some are more firmly established than others, the manual will permit some consistency in describing the extent of neoplastic diseases of different anatomic systems or organs," according to the introduction. The manual was published by the American Joint Committee for Cancer Staging and End Results Reporting, sponsored by American Cancer Society, NCI, College of American Pathologists, American College of Physicians, American College of Radiology and American College of Surgeons. Oliver Beahrs of Mayo is chairman of the publications committee, which also includes David Carr and Philip Rubin. Free copies may be obtained from Beahrs at Mayo, or by writing to American Joint Committee, 55 E. Erie St., Chicago 60611. . . . **EDWARD VAARWERK,** formerly assistant administrator of the Div. of Cancer Control & Rehabilitation, has moved to the NCI Management Policy Branch as management analyst. . . . **CONTRACTORS** on the cancer patient job discrimination survey (***The Cancer Letter,*** Aug. 19) still have not come up with all the data required to permit NCI to complete its analysis of the results. NCI will not make final payments on the contracts until the required information has been supplied. Three of the five contractors concluded that there is no appreciable amount of job discrimination, one said there is and the other said there might be. NCI feels there were discrepancies in how the surveys were conducted and has asked for more details on how data were obtained.

RFPs, RFAs TO BE DEVELOPED FOR NEW CONTROL PROJECTS, $3 MILLION IN '79

(Continued from page 1)

vention (*The Cancer Letter*, July 29). Heading the list is $1 million to fund 10 grants for development of primary cancer prevention models.

Other projects listed as "priority one" were:

—Survey of exposure to chemical carcinogens and recommended control and intervention programs, $300,000.

—Primary cancer prevention model to serve the specific needs of a community, $300,000.

—Centers cancer control core grants (comprehensive centers), $1.96 million.

—Miscellaneous non-comprehensive center outreach projects, $500,000.

—Investigator initiated grants in all interventions, $1.11 million.

—Pain control in cancer, $400,000.

—Study of cancer pain, $100,000.

—Rehabilitation research, $1.15 million.

—Analysis of outpatient/ambulatory care home health care for cancer patients, $80,000.

—Cost reimbursement for cancer drugs and blood products, $40,000.

—Evaluation of rehabilitation demonstration programs, $300,000.

—Cancer information service, $200,000.

Also included in priority one but without any funding estimates were interagency agreements with FDA's Bureau of Radiological Health and the Occupational Safety & Health Administration and state of the art workshops in screening for breast, colorectal, bladder and prostate cancer and smoking cessation.

The total estimated cost of priority one projects was $7.44 million, about $3 million more than DCCR will have available to pay for new projects with 1978 money. Some of the projects thus will be carried over into FY 1979 for funding.

Descriptions of each of the priority one projects follows:

Primary Cancer Prevention Models

Objective: Increase public understanding of current cancer prevention knowledge for reducing risks of cancer and motivate the public to utilize these procedures. Increase awareness of exposure of the population to environ,ental and occupational carcinogens. Identify community needs in prevention and develop approaches to deal with using available technology. Encourage development of prevention programs at community level that can serve as models for future efforts.

Proposed course: Solicit grant applications from cancer centers and state health departments to identify specific community needs in cancer prevention and to develop a multidisciplinary project plan to apply available techniques to those needs. The request for applications would ask that the grant application include:

1. A presentation of a specific cancer prevention problem and a description of how the demographic community would be surveyed to determine population characteristics; cancer incidence, morbifity and mortality; extent of carcinogen exposure; and prioritization of hazards.

2. Identification of the key factors which could reasonably be expected to influence the plan such as state of the art of prevention interventions; availability of resources to implement approaches; and applicability of approaches to similar problems in other areas.

3. An outline of the plan expected to result from the grant, with emphasis on evaluating the plan itself and evaluating any implementation of the plan.

FY 1978 funding: $1 million total for 10 grants.

Survey of Exposure to Chemical Carcinogens and Recommended Control and Intervention Programs

Objective: Encourage a continuous assessment of current knowledge and procedures in cancer preventive medicine and resources utilization, and develop modifications as indicated by the assessments. Specifically, recommend a practical cancer control prevention program for several key carcinogens.

Proposed course: Using the information developed under Stanford Research Institute contract, develop strategies for most important carcinogens which can be used as models in various activities involved with cancer prevention.

FY 1978 funding: $300,000 for one contract.

Survey of Exposure to Chemical Carcinogens

Objective: Continue to identify key carcinogens which warrant control activity. Monitor current literature for reports of new data on chemical carcinogens and control and prevention activities. Develop prevention strategy for one or more key carcinogens.

Proposed course: Select key carcinogens and identify priorities for control based on epidemiological and toxicological information. Identify known carcinogenic exposures and extent of exposure and location. Develop control perspectives, including carcinogenic risks assessment. Prioritize hazards. Develop prevention monographs to be utilized in prevention control programs.

FY 1978 funding: $300,000.

Comprehensive Centers Cancer Control Core Grants

Objective: Encourage efficient use of facilities, equipment and financial resources for cancer treatment and followup care. Mobilize a broad spectrum of community resources into integrated networks to provide comprehensive cancer services for various types of cancer at specific intervention points.

Proposed course: Utilize NCI recognized comprehensive cancer services for various types of cancer at specific intervention points.

Proposed course: Utilize NCI recognized comprehensive cancer centers to develop and implement

cancer control outreach programs. These experienced institutions will provide cancer control education, consultations and other assistance to medical institutions and practitioners. Core grants provide for the basic control staff, a planning and evaluation capability, and outreach program development planning.

Miscellaneous Non-Comprehensive Center Outreach Projects (Grants)

Objective: Encourage planning, efficient use of facilities, equipment and resources (financial and personnel) for all interventions of cancer control. Mobilize a broad spectrum of community resources for the betterment of the cancer patient and referral patterns within the professional community.

Proposed course: To develop and implement cancer control outreach programs in medical trade areas not reached by the comprehensive cancer centers, these grants will support professional and public cancer control education, consultations and assistance to community practitioners. Core grants provide for basic core control staff and a planning and evaluation capability.

FY 1978 funding: $500,000 total for five or six new grants.

Pain Control in Cancer

Objective: Increase the understanding of health professionals of current cancer treatment and follow-up care, and motivate health professionals to utilize these procedures in providing health services. Demonstrate that a planned, combined modality approach to cancer pain results in more effective pain control and significantly decreased disability when compared to traditional pain management.

Proposed course: Organize pain management teams to implement planned programs of pain control; describe the composition of the team based on the needs and resources of the institution, assuring multidisciplinary participation; describe the patient population to be served; devise and implement both inpatient and outpatient pain management plans; describe a plan that insures a prospective approach to pain management for the individual cancer patient; and devise and implement methods for evaluating the success of the multidisciplinary pain management approach.

FY 1978 funding: $400,000 total for three contracts.

Study of Cancer Pain

Objective: Evaluate the effectiveness of current knowledge and procedures for treatment and follow-up, rehabilitation methods and techniques, and continuing care for cancer patients. Document and delineate the problem of cancer pain, its magnitude and consequences. Determine the current patterns of pain care and develop the data base necessary to plan effective programs in cancer pain control.

Proposed course: Plan and implement methods to obtain valid data on the epidemiology and natural history of pain in patients with cancer; assess the choice, timing, and range of pain treatment methods currently in use; determine the degree of disability attributable entirely or predominantly to pain associated with cancer; and make recommendations for a coordinated approach to pain management for cancer patients.

FY 1978 funding: $100,000 for one contract.

Rehabilitation Research

Objective: Develop the means to improve the rehabilitation of cancer patients. Increase the national capacity to provide cancer patient rehabilitation services. Develop means to provide maximal rehabilitation treatment to the cancer patient. This includes research in psychosocial aspects of rehabilitation and developing improved restorative, supportive, and palliative techiques.

Proposed grants:

Family competence in coping with cancer, $150,000. Some studies show that cancer in one family member causes breakdown in family relationships and coping patterns. The RFA encourages investigations into those type programs that best provide support directly to families.

Oncology rehabilitation nursing education, $200,000. Increasingly the rehabilitation program in comprehensive cancer centers and medical facilities use nurses as coordinators and for cancer rehabilitation screening. These grants will support the training of such individuals.

Brief counseling with cancer patients, $200,000. This RFA encourages investigations which will answer the question, "Can therapeutic and informational interviews with cancer patients be shortened without jeopardizing the interview's quality and effectiveness?"

Control study of the Brompton mixture, $100,000. Grants are encouraged to investigate the effectiveness of the Brompton mixture as an analgesic for cancer pain.

Assisting young adult long-term survivors of cancer, $200,000. There is an increasing population of young adults whose treatment for cancer was initiated in their middle and late teens. They have survived treatment periods of five years or more and are considered cured. The residual side effects, however, from prolonged and aggressive chemotherapy now have consequence for physical adaptation and social living. Physical symptoms such as impotence, sterility, atonic gut, chronic physiometabolic irregularities, plague these now cured patients. Oncologists and social scientists are ill equipped to provide help and this area warrants immediate study.

Development of new bio-materials for better prostheses, $300,000. Surgical techniques enable ever more radical surgical procedures which while providing longer life, compromise physical functioning as well as cosmetic appearance. The need for new prosthetic devices and prosthetic materials

that are compatible with human tissue is greater than ever.

Analysis of Outpatient/Ambulatory Care–Home Health Care for Cancer Patients

Objective: Encourage the efficient use of facilities, equipment and financial resources for continuing care. Analyze home health care and related outpatient services, especially in the case of terminal illness, to demonstrate that this approach can provide care of equal or superior quality and lower cost than comparable inpatient services. Identify associated key variables and critical attributes.

Proposed course: Identify and evaluate the cost effectiveness of alternative care modalities (e.g., home health, acute hospital, and nursing home) for various disease sites. Assess the potential advantages to third-party payers in offering home health care reimbursement for some postoperative and terminal disease treatments.

FY 1978 funding: $80,000 for two contracts.

Cost Reimbursement for Cancer Drugs and Blood Products

Objective: Encourage efficient use of facilities, equipment and financial resources for cancer treatment and followup care. Identify drugs and blood products employed in treatment, continuing care and rehabilitation of cancer patients, determine the extent to which costs of these drugs are reimbursed by third-party payers, and the extent to which positive incentives exist to prescribe the most appropriate setting. Determine incentives needed to change inappropriate care and mechanisms to implement these incentives.

Proposed course: Undertake a literature search and consult with oncologists to identify the most commonly prescribed cancer control drugs, compile a data base, and evaluate relative treatment costs utilizing various regimens. Identify cancer control drug treatment regimens where changes in reimbursement would result in improved patient care or maintain the quality of care while reducing costs.

FY 1978 funding: $40,000 for one contract.

Evaluation of Rehabilitation Demonstration Programs

Objective: Make available optimal rehabilitation principles, methods/techniques, and resources to cancer patients, and for use by health professionals providing medical services to cancer patients.

Proposed course: Three contractors will design and implement a collaborative evaluation plan which will measure the effectiveness of the model demonstration programs, and have universal applicability to evaluate future rehabilitation programs. Contractors will participate in this uniform methodology in which all will share the same design, goals, and data collection methods. Experimental and control populations will be used.

FY 1978 funding: $300,000 for three contracts.

Cancer Information Service

Objective: Create a focal point within comprehensive cancer centers for rapid and easy access to accurate information about cancer for the public and health professionals.

Proposed course: The contractors establish or continue operation of a multifaceted communications program, the primary feature being a toll free telephone system available to the public and health professionals within a predetermined area of service.

The contractors will create and/or maintain current, a comprehensive listing of cancer-related resources and services in their area of service. Recruit and train volunteers to provide information about cancer to users of the toll free service. Develop and implement cancer education for special target audiences at higher risk. Assist the center in reaching out to community physicians.

FY 1978 funding: $200,000 total for two contracts.

DCCR Director Diane Fink told the advisory committee that the division would attempt to move quickly on developing RFPs and RFAs to permit review and funding on as many as possible with 1978 money. However, review committee schedules probably will not accommodate all the proposals that will be generated, and some will go over into the 1979 fiscal year. That would be necessary in any case, since DCCR will have only about $4.4 million to fund new projects in the current year.

NURSE MASTER'S PROGRAM KEPT ALIVE, TO BE CONSIDERED AGAIN IN FEBRUARY

The DCCR Advisory Committee had some second thoughts about a proposal to initiate a master's level nurse oncology training program, after relegating the plan to a low priority last July.

The committee agreed to defer a final decision on the proposal to its February meeting, after hearing further arguments for it from NCI staff.

The project would allocate $600,000 for the first year of three year contracts with four to six university schools of nursing which have established programs at the master's level in oncology nursing. Contractors would develop curricula designed to educate nurses as clinicians capable of practicing and teaching a wide range of skills as collaborative members of cancer teams. It would include a core unit of instruction in clinical oncology nursing, with a carefully designed evaluation component.

Some committee members had previously argued that DCCR's existing nurse training programs, which have been completed or are in their final year as demonstration projects, should have fulfilled the division's responsibility in that area. Some of the more successful programs will be continued by their institutions with funding from other sources.

Most of the programs are not awarding master's degrees, however. DCCR staff members feel that a

master's program would turn out nurses who would be the faculty for nurse oncology training programs. "We hear the question all the time—'Where can we send our nurses for oncology training?' " said Donald Buell, DCCR program director for medical oncology. Buell pointed out that the program would not provide individual fellowships but would assist institutions in setting up demonstration programs.

Committee members questioned whether DCCR should be involved in any manpower training efforts. The Div. of Cancer Research Resources & Centers administers NCI's primary efforts in manpower training, both research and clinical. "But where we felt an impetus was needed, Fink said, "we did become involved." In addition to the nurse oncology program, DCCR funded training of maxillofacial specialists. "There is enough flexibility in our mandate, although we do not have the major responsibility for education and training."

DCRRC has indicated it is not interested in supporting oncology nurse training at this time.

Committee member Oliver Beahrs suggested that the matter of continuing care enlarges the definition of cancer control. "If continuing care is required, I can see more justification for DCCR support of nurse training. Patients who require continuing care frequently are neglected."

Committee member Joseph Painter said, "Maybe our emphasis ought to be on expanding the role of nurses in community hospitals."

Janet Lunceford, acting chief of DCCR's Treatment, Rehabilitation & Continuing Care Branch, reported on the status of the existing nurse training programs and argued strongly for the new one. There were three types of programs—short term continuing education courses, undergraduate and master's level credit courses in six university schools of nursing, and enterostomal therapy education.

Eighteen contracts were awarded for three years to institutions located in 14 states—three contracts involve enterostomal therapy education and training, four involve oncology nursing education and training in community hospitals, and 11 involve oncology nursing education and training in medical centers and cancer hospitals.

Four projects will continue into June 1978, three in medical centers and cancer hospitals and one in a community hospital. All of the remaining 14 projects completed their government contracts this month.

Lunceford said it is unclear now as to how many of the projects will continue when government funding is withdrawn. Final reports are still being submitted. However, two of the four community programs have phased out completely. One of the three enterostomal therapy programs has phased out and a second has reduced its effort approximately 50%.

Only a few isolated seminars, workshops or courses in oncology nursing could be identified in continuing education, undergraduate or master's level programs to the DCCR projects. Five of the 10 projects located in university schools of nursing which were established under the program have developed and implemented credit courses for both the undergraduate and master's level nursing student. "For the first time oncology nursing is now identified as a specialized entity rather than under the rubric of medical/-surgical nursing courses and established in their curricula," Lunceford said.

"There is undoubtedly a burgeoning interest in oncology nursing in the nursing community. A brief article in the August issue of *Nursing '76* described the DCCR program. As a result 90 nurses from 37 states wrote to DCCR requesting information concerning our funded nursing education programs. A surprising number—23—inquired about master's level oncology nursing education programs stating an expressed intent to become a clinical specialist in oncology nursing. An additional 18 stated an interest in specializing in oncology nursing but did not specify type of educational program," Lunceford said.

"Presently, expansion of the role of nurses in oncology care generally occurs informally and randomly slowing the development of the highly trained cancer care personnel pool. Systematic development and dissemination of oncology curricula and oncology nursing practice protocols through well defined field tests and demonstrations will contribute to the supply of the highly trained manpower for the care of cancer patients. . . . There is no question of the need for more well trained oncology nurses in order to adequately provide care for cancer patients in this country.

"It is recognized by national nursing leaders, the American Cancer Society and by the DCCR Intervention Programs Review Committee which merit reviewed the oncology nursing education contracts that because of the complexity of cancer care and the associated problems, a systematic body of knowledge is required for the nurse practitioner. This cannot be achieved in apprentice short term continuing education courses. To meet societal needs a pool of clinical specialists in oncology nursing in both practice and teaching is needed to bridge the substantial deficit of scientific knowledge that exists currently and which can only compromise the level of care for the cancer patient.

"Therefore priority funding should be allocated to develop and field test oncology nursing educational offerings which are specifically aimed toward the preparation of "advanced level" nurses. Such efforts will not only provide the resources (e.g., educational materials) necessary to expand the availability of highly trained cancer care personnel. They will also prepare the personnel who will directly influence future oncology nursing education.

"Field tests and demonstrations of potential expanded roles of nurses in cancer care in community

clinical settings will establish the specific responsibilities which can be carried out by the professional nurse. Also such activities will establish the extent to which the nurse professional resource can contribute to the improved availability of quality cancer care to the public. In addition, such demonstrations will provide much of the educational/training materials necessary to further expand this pool of personnel if the results of the field tests and demonstrations are sufficiently cost-effective from either cost containment or cancer care availability viewpoints.

Master's level programs in oncology nursing to prepare clinical specialists represents a relatively recent development in nursing education. Many of these programs are developed as a subspecialty in a medical/surgical nursing program. Graduate programs will serve to establish oncology nursing as a separate entity along with the other subspecialty areas of practice in oncology which have emerged during this past decade," Lunceford concluded.

Actions involving other priority two proposals:

• The committee had moved a proposal to measure the cost of cancer care to priority two, but DCCR presented a strong argument for a higher priority—the first phase of the contract had already been awarded and implemented, and was in fact nearing completion.

The entire project will cost about $2 million. The first phase—to conduct a pilot test to determine if a national survey is feasible—is costing $600,000. The contractor is Abt Associates of Cambridge, Mass., with Boston Univ. School of Medicine as a subcontractor.

Abt's contract is presently undergoing merit review. The committee agreed with Fink's request to permit funding of the second phase, provided the first phase clears merit review.

The pilot study involved 140 patients; if the national survey is undertaken, 10,000 patients will be followed to determine, first, the national cost of cancer care; the cost per site; cost per stage of disease, and cost per intervention. An attempt also will be made to correlate cost to type of institution where the care is given, and to determine the impact of the cost on the patient.

• The committee had demonstrated a definite lack of interest at its July meeting in any support of educational programs in the areas of smoking and diet. "Behavior modification is a terribly difficult thing," Painter commented when Fink brought up two more priority two projects—smoking in cancer prevention and diet in cancer prevention.

"I think I hear you loud and clear. You want these deferred," Fink told the committee. No one disagreed.

The smoking project would provide $300,000 in first year funds for two grants to:

Compile data base on the harmful effect of smoking on general population, and occupational and environmental high risk population. Determine whatever knowledge or techniques are ready for use in community setting.

Compile a data base of current facts, concepts and evaluations concerning smoking behavior modification methods and determine what new knowledge or techniques are ready for use in community settings.

Implement several such programs in community settings and evaluate their effectiveness.

Establish an information network between health and community resources to assist communities in applying the latest and most reliable techniques in cancer related non-smoking improvement programs.

Develop and disseminate information to health professionals, communities and individuals concerning smoking associated cancer and the need to inculcate positive health values, promote health practices that lead to improved health states, and modify life styles that are deleterious to health.

The diet project would provide $200,000 in first year funds for two grants to:

Compile data base on the harmful effect of improper diet and toxic and carcinogenic food additives on the general and high risk populations. Determine whatever knowledge or techniques are ready for use in community settings.

Compile a data base of current facts, concepts and evaluations concerning diet behavior modification methods and determine what new knowledge or techniques are ready for use in community settings.

Implement several such programs in community settings and evaluate their effectiveness.

Establish an information network between health and community resources to assist communities in applying the latest and most reliable techniques in cancer related diet improvement programs.

Develop and disseminate information to health professionals, communities and individuals concerning diet associated cancer and the need to inculcate positive health values, promote health practices that lead to improved health states, and modify life styles that are deleterious to health.

• A project aimed at encouraging third-party payers to reimburse for cancer screening was left in the priority two category, with further consideration at the committee's next meeting. This will be a sole source contract with Blue Cross, to cost $400,000. The contractor would be required to:

Evaluate the effectiveness of various tests for cancer in terms of ability to detect disease at an early stage, the cost effectiveness of early detection, and the administrative and financial feasibility of such procedures.

Develop a mathematical model as a base upon which to design a screening program

Develop a model cancer screening program for primary prevention, secondary prevention, referral and followup. Include an educational component to the program.

Analyze the cost effectiveness of the model screening program.

Develop an education and marketing program based on the results of the analysis.

• The committee all but buried at its July meeting an ambitious program to establish a network of nine anatomic pathology reference centers, costing $1.5 million. Fink said last week that the proposal was still under consideration; the committee displayed little interest either way. The centers would provide standardized review, evaluation, diagnostic terminology and clinical implications for cancer diagnosis and treatment. They would be coordinated by the American Society of Clinical Pathologists.

• An improved program for terminal care of cancer patients was favored by DCCR staff but given a low priority, reluctantly, by the committee, last July. The program was not discussed last week. It would fund three contracts, totaling $600,000 to provide continuing care of a select population of 300-700 terminal cancer patients for the purpose of the study and field test. Home care would be emphasized, but space, staff and facilities for inpatient care would have to be available. Guidelines for the effective management of clinical symptoms common to terminal cancer would be developed and utilized. Objective of the program would be to increase the understanding of health professionals of current continuing care knowledge and procedures and to motivate them to utilize these procedures. It would attempt to demonstrate the benefits of preplanned programs of terminal care.

• DCCR considers its present "patterns of care" study in radiotherapy one of its most successful efforts. However, the committee had little interest and staff did not push a similar project to evaluate the effectiveness of current knowledge and procedures for the care of cancer patients in a specified treatment area such as pediatric oncology, gynecologic oncology, or surgical oncology. It would be funded with a $300,000 grant.

• Also left with a low priority was a project to develop a "learning system design for management of community cancer control." Its objective would be to develop education and training activities for health professionals and administrators to effect more efficient utilization of existing personnel and cancer control resources. It would be funded with a $412,000 contract.

NEW RESEARCH SUGGESTIONS OFFERED BY IMMUNODIAGNOSIS COMMITTEE

The Immunodiagnosis Committee in NCI's Immunology Program has completed development of its suggestions for new research ideas, some of which may find their way into RFPs next year.

(Note: These are not RFP announcements. They are suggested topics for research, from which Immunology Program staff will develop a few RFPs. The RFPs that come out of these suggestions will not be completed and available until sometime in 1978, probably not before late spring. Do not contact NCI contract or program staff inquiring about their availability. When they have been completed, they will be announced through the usual media, including *The Cancer Letter.*)

New research suggestions from the Cause & Prevention and Immunotherapy Committees appeared in ***The Cancer Letter*** Sept. 30. The report from the Immunobiology Committee will be available next month.

The Immunodiagnosis Committee suggestions:

–HLA typing of tissue culture lines.

–Objective evaluation of the leukocyte adherence inhibition assay.

–Immunohistochemical studies of tumor markers within tissue sections.

–Establishing another serum bank.

–Purification of human tumor associated antigens.

–Diagnostic applications of enzymes.

–Differentiation antigen studies (fetal markers and hematopoietic cells).

–Characterization of the components of antigen-antibody complexes; synthesis of hormone peptides or other peptides.

–Direct assay for lymphokines.

–Role of basophils, eosinophils and IgE in tumor immunity.

–Identification and purification of tumor associated antigens.

–Immunization of subhuman primates.

–Microparticle technology.

–Innovative ideas in immunodiagnosis.

–Assays of immunosuppressive cell products.

–Support of an antisera reference bank.

–Sources of radiolabeled human antibodies.

–Studies of cells and cell products infiltrating tumors and chemotaxis.

FIVE CANCER RESEARCH GRANTS TOTALING $2.5 MILLION AWARDED BY BRISTOL-MYERS

Bristol-Myers has awarded $2.5 million in grants for cancer research at Yale, Stanford, Johns Hopkins, Univ. of Chicago and Baylor in a program which NCI Director Arthur Upton said he hoped would establish a precedent for other companies.

The grants represent the largest unrestricted contribution made by a corporation in support of cancer research. The funds will be applied to cancer research projects selected by each institution.

In addition, the company declared that starting in the spring of 1978 it would present an annual cash award of $25,000 to a scientist making an outstanding contribution in cancer research.

Harris Bush, director of the Baylor College of Medicine Cancer Research Center, said that his center would be using the funds to develop improved methods for identifying cell protein components

believed to be involved in the transmission of genetic signals that result in cancer.

At the Univ. of Chicago, the grants will be applied to drug metabolism studies investigating how various anticancer agents react with one another and with other types of drugs that cancer patients might be taking, according to John Ultmann, director of the university's Cancer Research Center.

Studies of the nuclear protein matrix will be furthered by the grant at the Johns Hopkins Oncology Center, according to Albert Owens Jr., director. Owens said that the funds would also be used to study the production and effects of interferon.

The Stanford Univ. Cancer Center will use the Bristol-Myers grant to develop further the concept of combined modality therapy, Saul Rosenberg, professor of medicine and radiology, said.

At Yale's Cancer Center, the grants will be applied to a developmental therapeutics program, designed to improve the effectiveness of current cancer chemotherapy and to develop new anticancer agents, according to Alan Sartorelli, chairman of the Dept. of Pharmacology.

Bush, Ultmann, Owens, Rosenberg, and Sartorelli will serve on the selection committee choosing the recipients of the annual $25,000 Bristol-Myers Award for Distinguished Achievement in Cancer Research. Medical schools and cancer research centers throughout the country will be invited to nominate candidates before the deadline of Feb. 15, 1978. The first recipient will be announced in May.

Richard Gelb, chairman of Bristol-Myers, said, "In establishing the grant program, our objective is to provide these schools with funds on a no-strings-attached basis to encourage innovation in cancer research, and to permit them to explore promising leads in depth."

"We believe there is a need to support research priorities set by scientists rather than donors," said Herman Sokol, Bristol-Myers president.

"It is also our hope that through its annual recognition of excellence and originality in the field, the Bristol-Myers Award for Distinguished Achievement in Cancer Research will help to draw public attention to progress in the understanding and treatment of the disease."

Upton called the grants "an important complement to the core support provided by NCI and other public and private agencies. Flexible research funds like these would be difficult or impossible to get except from the private sector, but they are vital to basic biomedical research. We would like to see more companies follow suit."

RFPs AVAILABLE

Requests for proposal described here pertain to contracts planned for award by the National Cancer Institute, unless otherwise noted. Write to the Contracting Officer or Contract Specialist for copies of the RFP, citing the RFP number. Some listings will show the phone number of the Contract Specialist, who will respond to questions. Listings identify the respective sections of the Research Contracts Branch which are issuing the RFPs. Their addresses, all followed by NIH, Bethesda, Md. 20014, are:
Biology & Diagnosis Section — Landow Building
Viral Oncology & Field Studies Section — Landow Building
Control & Rehabilitation Section — Blair Building
Carcinogenesis Section — Blair Building
Treatment Section — Blair Building
Office of the Director Section — Blair Building
Deadline date shown for each listing is the final day for receipt of the completed proposal unless otherwise indicated.

RFP NCI-CB-84239-37

Title: *Morphological characteristics of normal and abnormal human and mouse mammary tissue*
Deadline: *Feb. 16*

The Breast Cancer Task Force is seeking investigators to evaluate structural differences among normal, dysplastic and cancerous mammary glands, using scanning, transmission, and quantitative electron microscopy (morphometry). The purpose of the study is to determine whether ultrastructural characteristics of the tissue can assist in the diagnosis of pre-neoplastic lesions and non-invasive carcinoma or predict tissue responses to various therapeutic procedures.

Contract Specialist: Robert Stallings
Biology & Diagnosis
301-496-5565

CONTRACT AWARDS

Title: Operation of a rodent production center in modified conventional environment, renewal
Contractor: Charles River Breeding Laboratories, $230,050.

Title: Administrative support services for the Div. of Cancer Biology & Diagnosis, continuation
Contractor: Kappa Systems Inc., $67,033.

Title: "Dial Access"—Telephone communication consulation cancer service for cancer control
Contractor: Univ. of Texas System Cancer Center, $50,000.

Title: Systems planning support services for the National Cancer Institute, National Cancer Program
Contractor: JRB Associates Inc., $3,403,104.

The Cancer Letter—*Editor* JERRY D. BOYD

Published fifty times a year by The Cancer Letter, Inc., P.O. Box 2370, Reston, Virginia 22090.