THE CANCER LETTER

Vol. 11 No. 21
May 24, 1985

Subscription $150 year North America
$175 year elsewhere

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## NCAB DISAPPROVES W. VIRGINIA CONSTRUCTION GRANT, OKAYS FUNDING THREE NEW, THREE CARRYOVER AWARDS

The National Cancer Advisory Board, withstanding strong pressures from Congress, decided last week to disapprove the $16 million construction grant application by West Virginia Univ. The action was viewed as a strong defense of the peer review system and as a message to other institutions which might be tempted to seek congressional intervention in that system.

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*In Brief*

### HATCH TO SPEAK AT AACI DINNER; NIH PLANS 1987 CENTENNIAL; COX TO HEAD COLUMBIA RADIOTHERAPY

**SEN. ORRIN HATCH,** chairman of the Labor & Human Resources Committee, is the featured speaker at the dinner meeting June 17 of the Assn. of American Cancer Institutes. AACI President John Ultmann will conduct a seminar that afternoon on "Cancer and Cancer Funding." Participants will included Steven Muller, president of Johns Hopkins Univ.; Daniel Nathans of Hopkins, winner of the 1978 Nobel Prize in medicine; and John Durant, president of Fox Chase Cancer Center.... **NIH CENTENNIAL** observance is being planned for 1987, which also will be the 50th anniversary of NCI. It wasn't called NIH, nor even the Public Health Service when a small government operated research hospital was established on Staten Island in 1887. Nevertheless, NIH traces its origin to that event.... **JAMES COX,** chairman of radiation oncology at the Medical College of Wisconsin, has been named head of a new department of radiation oncology at Columbia Univ. College of Physicians & Surgeons. His wife, Ritsuko Komaki, who is associate professor of radiation oncology at MCW, will hold a similar position at Columbia. Cox is president elect of the American Society for Therapeutic Radiology & Oncology.... **ROBERT HICKEY,** executive vice president of the Univ. of Texas System Cancer Center M.D. Anderson Hospital & Tumor Institute, received the Cornell Univ. Medical College Alumni Award of Distinction this week.... **BRUCE AMES,** chairman of the biochemistry department at the Univ. of California (Berkeley) and a former member of the National Cancer Advisory Board, and the Organization for Tropical Studies received the 1985 Tyler Prize for environmental achievement this week at the Univ. of Southern California. Ames and OTS will split the $150,000 award.... **CHICAGO TRIBUNE** urged the Illinois legislature to appropriate nearly $1 million for the Illinois Cancer Council. The money would be used for a study to identify cancer "hot spots" in the state and to support clinical trials. The Tribune also expressed support for ICC's goal of cutting cancer death rates by half by the Year 2000, in line with NCI's overall Year 2000 plan.

## NCAB TAKES DEVITA OFF HOOK, BLOCKS FUNDING W.VA. CONSTRUCTION GRANT

(Continued from page 1)

The Board's disapproval of the application overturned the decision of the ad hoc Construction Grant Review Committee, the initial review body. The committee had approved the grant, but with a very poor priority score.

The story began last year when Senate Minority Leader Robert Byrd (D.-W. Va.) appeared at the markup of NIH appropriations and asked that $4.5 million be earmarked for start of construction on a cancer center to be developed by West Virginia Univ. The center was to be named for Mary Babb Randolph, the late wife of retiring Sen. Jennings Randolph. Mrs. Randolph had died of cancer. The earmark was not included in the bill itself but the Appropriation Committee's report directed NCI to award $4.5 million to the university for construction of the center.

Sen. Lowell Weicker (R.-Conn.), chairman of the Labor-HHS Appropriations Subcommittee, noted during discussion of the bill on the floor of the Senate that it provided $4.5 million for construction of the center. However, there was nothing about it in the House version of the bill. When the two bills went to conference, the subsequent report did not specifically direct NCI to make the award, although it did comment on justification for establishing a regional cancer center in West Virginia.

Byrd turned up at the Senate's hearing on the FY 1986 appropriations bill and pressured NCI Director Vincent DeVita on the matter. He noted that NCI's response to the conference report language included the statement, "The Institute is aware of congressional intent."

DeVita responded that NCI was still aware of that intent and said that review of the application was then under way. He said that the site visit had "gone very well" but that the full review committee had not yet completed its work.

In answer to Byrd's question, "Should I anticipate any difficulty" in the award being made, DeVita pointed out that since the appropriations bill did not specifically earmark any funds for the center, he could make the award only if it were approved by the National Cancer Advisory Board.

Byrd said he was not entirely satisfied with that answer, and warned that if the award were not made, he would be back with more specific legislation.

If the NCAB had gone along with the initial review committee's approval of the application but had not recommended the grant be funded, DeVita would have been subjected to enormous pressure by the two powerful senators, Byrd and Weicker. The decision by the Board to disapprove the application took DeVita off the hook.

Board members felt that if they gave in to the pressure, it would have made a travesty of the peer review system. The West Virginia application was scored at about 300 points above the current Institute grant payline. The poor score was the result of several factors, the Board agreed: That a minimum amount of peer reviewed biomedical research was being done at the university; lack of permanent leadership for the center; that there seemed to be little possibility that a meaningful program of the size and magnitude requested could be developed. Board members said the application was premature, although they agreed that the Appalachian area is underserved by modern cancer treatment facilities. NCI has hoped that the Community Clinical Oncology Program now operating in West Virginia could help fill some of that gap.

The NCAB did approve for funding three new construction grant applications, and also approved payment for three others carried over from previous years which had not been funded. The three new ones are Univ. of Pennsylvania, $2.5 million; Memorial Sloan-Kettering, $1.1 million; and City of Hope, $826,000. The three carryovers are Univ. of Rochester, $900,000; La Jolla Cancer Research Foundation, $307,000; and Univ. of Arizona, $774,000.

Payment of all those awards depends on whether $1.5 million left from an old construction grant award to Memorial Sloan-Kettering can be reprogrammed. That was part of a $3.2 million 1980 grant which MSK chose not to use because of fears then that inflation would drive up its share of the cost more than it could afford. NCI could demand that the money be returned, but in that case it would go to the U.S. Treasury. If it can be used to fund the new MSK grant, that would free up a similar amount for the other grants.

The NCAB ruled that payment be made on the basis of priority scores.

## NCAB ASKS FOR RETENTION OF 16 CENT CIGARETTE TAX, END OF TOBACCO AID

The National Cancer Advisory Board took another action last week in its growing involvement in the campaign against tobacco. The Board voted unanimously to send a letter to members of Congress asking for retention of the 16 cents per pack federal tax on cigarettes and for the elimination of subsidies and price supports for tobacco.

The Board at its February meeting passed a resolution calling on various organizations, especially sports associations and educational

bodies, to join in efforts against use of smokeless tobacco.

The letter on tobacco taxes and subsidies was drafted by Board member Helene Brown and presented first to the Board's Committee on Year 2000 Goals. The letter states:

"The National Cancer Advisory Board, whose members are appointed by the President, has a major responsibility to advise the National Cancer Institute on its programs to reduce cancer incidence, morbidity and mortality. In that regard, the NCAB is concerned and distressed that 55 million people in the U.S. continue to use tobacco products and that over 2,000 teenagers are recruited to the use of cigarettes each day. The Surgeon General has identified cigarette smoking as the major single cause of cancer mortality in the U.S., the major single cause of chronic obstructive lung disease morbidity and mortality, and the most important of the known modifiable risk factors for coronary heart disease. Cigarette smoking is estimated to be responsible for 350,000 deaths each year; in 1985 over 138,000 of these deaths will be from cancer.

"These deaths and their antecedent illnesses present a sizeable economic burden to the nation, particularly from the massive demands placed on the health care system and from lost productivity. The toll in human suffering cannot be quantified.

"The NCAB strongly concurs with the Surgeon General's assessment that cigarette smoking is the most important public health issue of our time. The NCAB recommends that the President and Congress take appropriate action to discourage the use of tobacco and remove implicit sanctions for that use.

"The NCAB strongly urges that the federal excise tax on cigarettes be maintained at its present level of 16 cents per package, or preferably, increased and extended to othjer tobacco products (the tax is scheduled to be reduced to 8 cents this year). Increased tobacco taxes will both discourage use, especially among the young, and provide a revenue source that can be applied toward the costs of disease prevention and health promotion.

"Further, the NCAB opposes any subsidies or price support for growing tobacco and distributing tobacco products. Such programs are inconsistent with federal efforts to promote public health.

"The NCAB appreciates the commitment and concern that Congress and the Administration have demonstrated for the National Cancer Program since passage of the National Cancer Act in 1971. Efforts to support these additional recommendations would constitute a major step forward in reducing cancer mortality in accord with NCI's goals for the Year 2000. The NCAB pledges its cooperation and commitment to assist in every way possible."

Committee and NCAB approval was unanimous.

## OIA AWARDS APPROVED FOR AT LEAST 21 SCIENTISTS, MORE IF PAYLINE LIFTED

At least 21 scientists will be the recipients of the first Outstanding Investigator Awards in the program drawn up by NCI to provide long term, stable support for investigators based on their track records and not on specific research projects.

The awards will be for seven years, with review after five years leading to competing renewal.

The National Cancer Advisory Board approved the awards in closed session last week. The total number that will be awarded this cycle depends on where the final NCI grants payline falls. It is now projected at priority scores of 158, but that probably will go up if Congress adds money to the President's budget request for NCI and if the effects of the Office of Management & Budget's scheme for multiple year funding of grants are ameliorated.

The 21 definite awardees all had scores of 158 or better. There are several others which were close enough that they could be funded if the payline goes up a few points. The 21 are, in no special order:

Noel Weiss, Univ. of Washington; Charles Cantor, Columbia Univ.; Martin Dorf, Harvard Univ.; Myron Essex, Harvard Univ.; Emil Freireich, M.D. Anderson Hospital & Tumor Institute; Ruth Sager, Dana-Farber Cancer Institute; Thomas Cech, Univ. of Colorado; Susan Horwitz, Albert Einstein School of Medicine; William Wood, Univ. of Colorado; Pentti Siiteri, Univ. of California (San Francisco); Robert Weinberg, Whitehead Institute (Cambridge, Mass.); Michael Wigler, Cold Springs Harbor Laboratory; Harold Varmus, Univ. of California (San Francisco); Frank Huennekens, Scripps Clinic & Research Foundation; Matthew Scharff, Albert Einstein School of Medicine; David Goldenberg, Center for Molecular Medicine & Immunology, Newark; Lawrence Einhorn, Indiana Univ.; Carlo Croce, Wistar Institute; Lawrence Loeb, Univ. of Washington; Bruce Ames, Univ. of California (Berkeley); and Howard Green, Harvard Univ.

More than 100 investigators applied for the award. Review was accomplished first by NCI staff and then by mail with scientists around the country participating. The NCI Executive Committee made the final review, before presentation to the NCAB.

During a presentation to the NCAB on peer review by Harold Waters of the NIH Div. of Research Grants, Board member Roswell Boutwell commented, "I was impressed by the OIA review by mail. The priority scores were not too far from those seen in the regular process. It worked well."

Waters commented that DRG did an experiment in which grants were sent to former study section members for "yes, no or maybe" decisions. It didn't work. They missed the association, and eye contact."

## DCE BOARD DEMANDS OTHER AGENCIES PAY FOR NCI AIDS SUPPORT CONTRACT

Still smarting from what they considered not only a blow to NCI's budget but also a mortal insult, the Board of Scientific Counselors of the Div. of Cancer Etiology gave concept approval to recompetition of the contract providing support services for AIDS and HTLV-3 and related virus studies with the proviso that the money come from other agencies.

The Board was incensed last year when an amendment to a supplemental appropriations bill added millions of dollars for AIDS research, none of which was directed to NCI. In view of the fact that most of the important research on AIDS was being carried out either by NCI intramural investigators or NCI supported extramural scientists, the Board sent a letter to Sen. Alan Cranston, author of the amendment, objecting to the exclusion of NCI. Cranston responded that he had not intended to slight NCI, but NCI never saw any of the money. That meant that more than $20 million of AIDS research supported by NCI had to be funded from cancer research funds.

The support contract being recompeted now is held by Westat Inc. DCE estimated the new contract would cost $1.15 million a year for three years.

Board member Carl Shy commented that the DCE Environmental Epidemiology Branch "is the only group in the federal government that can pursue the epidemiology of this infection," and recommended approval of the recompetition.

Board member Edward Bresnick referred to the Cranston amendment and recommended that DCE Director Richard Adamson "aggressively seek support of those agencies" (which got the Cranston money) in funding the contract.

"I can be very aggressive," Adamson said. "If you adopt that motion, I'll see if I can get those agencies to help us."

"This is extremely important," Board member Hilary Koprowski said. "A great injustice was done. This Institute moved quickly and did the work, and CDC (Center for Disease Control) got $11 million" (other agencies got lesser amounts).

"Don't put all the blame on Sen. Cranston," Adamson said. "Some of it belongs right across the street." The motion was approved unanimously.

The Board gave concept approval to two other contract recompetitions; to two new grant supported programs which were estimated to total nearly $1.5 million a year, for studies on novel human retroviruses and the etiology of neoplasia in fish; and to a program announcement, which carries no set aside sum of money, for carcinogenesis studies on the role of exocyclic nucleic acid derivatives.

Description of the concepts follows:

**Studies on novel exogenous and endogenous human retroviruses.** Fix to six grants, three years, estimated first year cost, $750,000.

There have been increasing indications that human retroviruses and endogenous human retroviral sequences other than those now being investigated by Gallo and others (HTLV) may exist and might be etiologically associated with some forms of human cancer and/or other diseases. Because of the limited number of investigators involved in these studies, a discussion group sponsored by the Biological Carcinogenesis Branch concluded that the multiple uncharacterized human type-C viruses and endogenous proviruses may represent hidden carcinogenic entities, and by analogy with animal model systems, may serve as a potential source of new human cancer viruses. The knowledge and availability of newer innovative approaches, such as the use of growth factors for cultivation of T-lymphocytes and sophisticated molecular and immunologic techniques, now makes it possible to approach the question of human retroviruses with renewed vigor. It was proposed that basic studies be initiated to isolate and characterize these retroviral entities and determine their significance in human cancer. In addition, basic studies were proposed to develop appropriate and/or selective culture techniques which may permit the expression and detection of these and/or other hidden retroviruses.

The specific recommendations for new areas of scientific research (which are not all encompassing) are (1) molecularly clone the genome of type-C virions found in human placenta and tumor tissues (e.g. germ cell tumors) and determine the molecular and antigenic relatedness between these entities and endogenous retroviral sequences found in human cells; (2) identify and characterize protein and nucleic acid components of uncharacterized type-C virions by modern technology, and perform studies on viral origin, distribution and expression in different types of human or other species' tissues--the cells of interest, for example, are germ cells, cells representing different types of germ cell tumors, and differentiating populations of embryonal carcinoma cells; (3) insert cloned human proviral DNA into appropriate expression vectors to study various viral proteins, to determine antigenic composition and relatedness to other retroviruses; (4) search human tumor tissues for viral RNA and protein expression using molecular and immunologic probes derived from novel human retroviral sequences (LTR and structural regions) and well conserved regions of known mammalian retroviruses; (5) develop tissue culture methodologies suitable for cultivation of difficult to grow human tumor cells that may have an infectious etiology such as Hodgkin's disease, breast cancer, and B cell lymphomas using growth factors, special nutrients and newer specialized cell growth technologies; and (6) isolate and characterize new retroviruses from nonhuman primates with tumors, other diseases, or no disease at all, with a view to using these newer isolates as probes to search for human counterparts.

Padman Sarma is program director.

**Studies on the etiology of neoplasia in poikilothermic, aquatic animals: finfish and shellfish.** Five to eight grants, four years, estimated first year cost, $700,000, $200,000 of which would come from the Dept. of the Army.

In the last 20-25 years there has been a remarkable growth of interest in the study of neoplasms of poikilothermic animals. On a worldwide basis, a comparatively small number of investigators have generated a large body of information. Studies which initially focused on the description of pathologic characteristics of numerous neoplasms and their species specificity have led to a heightened interest in aquatic animals for bioassays, for detecting of carcinogens in the environment, and even as comparative oncology models for human cancer.

It has become evident that cancer epidemics, or epizootics can occur in certain fish populations. At present there are at least five areas in the U.S. that appear to present significant epidemics: the Puget Sound Basin in Washington, Torch Lake in Michigan, the Black River in Ohio, the Buffalo and Hudson Rivers in New York. In each case feral finfish present an unusually high prevalence of distinct tumor types. Tumors have been identified in finfish and shell fish in the skin, gill, mantle, oral region, pharynx, stomach, pancreas, liver, kidney, gonads, heart, thyroid gland, nervous system, soft tissues, skeleton, and lymphoreticular and hematopoietic tissues.

Some of these cancers in lower animals may be similar and others dissimilar to those of man. Some cancers, in fact, arise from cells and organs of lower animals that man does not possess. There are large gaps in our knowledge about how neoplasms in aquatic animals conform to what is known about neoplasms of mammals, their morphologic characteristics, biologic course, relation to host regulating mechanism, and their transplantability and transmissibility. Some neoplastic criteria used in mammalian pathology cannot yet be applied with confidence to many of the tumors and tumor like lesions of aquatic species. Nevertheless, evolution of the phyla and species has imparted a great deal of biological commonage particularly at the cellular level and there are striking similarities in metabolic response to xenobiotics, at least qualitatively, between finfish and mammals. Such commonality serves as the bases for extrapolation of the significance of response at one phyletic level to that at another phyletic level.

Experimental evidence suggests that some fish species when compared to rodents are less sensitive to the toxic and more responsive to the carcinogenic effects of xenobiotics; they react more promptly, with a shorter latency period and with greater specificity. These characteristics, together with the fact that aquatic animals are exposed to a water environment, with all of its solubilized and suspended components, at the level of gill, eye, gut and skin, suggests that they should serve as major indicators of agents in the environment which pose a risk to humans. Not only are these aquatic animals obvious candidates to serve as sentinels of carcinogenic pollutants in the environment but the epizootics of cancer which they experience in confined or circumscribed water areas such as lakes and canals or sharply defined areas of rivers, bays and estuaries offer a natural experiment for establishing cause and effect relationships, interspecies comparisons, and for extablishing target cells at risk.

A DCE sponsored workshop developed recommendations which form the basis of this initiative. In order to encourage applications for a diverse spectrum of scientists, particularly those with requisite expertise but without access to feral or laboratory aquatic animals, we will generate a list of scientists and laboratories that have established resources for aquatic animals and who would be receptive to discussions with individuals regarding collaboration, provision of resources, and/or consortial arrangements as appropriate. It is recognized that the expertise and logistics needed for the conduct of meaningful multidisciplinary research rarely resides in a single agency or institution and it will be a major focus of this initiative to foster new relationships which seek to encompass the required expertise. Consistent with the title of this RFA are a broad spectrum of studies that would greatly facilitate our understanding of the etiology of neoplasia in finfish and shellfish. Listed below are some commonly identified needs which are intended to express the spectrum of studies of interest but which are not intended as a comprehensive list of possibilities.

A. Evaluation of the similarity of metabolic function in procarcinogen activation among different species of invertebrates and/or vertebrates in regard to phase 1 and phase 2 reactions. Assessment of the role of fish hepatocytes in metabolism of procarcinogens. Studies on bioavailability and transfer of xenobiotics and their metabolites from invertebrates to fish and from intertebrates and fish to mammals.

B. Effects of environmental and physiological variables of water temperature, age, sex and gonadal development on bioavailability and metabolism of xenobiotics.

C. Development of in vitro culture systems for normal and neoplastic cells from invertebrates and vertebrates and analysis of adducts to macromolecules of environmentally relevant xenobiotic metabolites.

D. Studies on chemical/chemical and chemical/viral interaction in the etiology of aquatic animal neoplasms and the identification of oncogenes in invertebrate and vertebrate species.

E. Analysis of DNA repair capacity, mitotic index, SCE, cell cycle time, enzyme pathways for xenobiotic metabolism under various temperature conditions in poikilothermic aquatic animals and determination of the relationship to the persistence of genetic lesions that might lead to tumorigenesis.

F. Studies of factors involved in promotion or progression of a tumor in aquatic species. Assessment of transplantability of neoplasms.

G. The effect of chemical pollutants on the immune response in aquatic animals and the role of

the immune system in aquatic animal neoplasia.

David Longfellow and Thomas Cameron are program directors.

**Biological role of exocyclic nucleic acid derivatives in carcinogenesis.** This is a program announcement, through which DCE hopes to stimulate RO1 grant applications.

The current status of research on the types of adducts produced by exposure to vinyl halides, alkyl carbamates, mono and bifunctional aldehydes, epoxides, halonitrosoureas and related compounds and their role in carcinogenesis and mutagenesis was discussed at a workshop last year. All of the chemicals that were discussed have the capacity to form exocyclic nucleic acid derivatives, many of which have been demonstrated experimentally. These included known or suspected human carcinogens (vinyl chloride, acrylonitrile, cyclophosphamide), several of which can be found in food and beverages (ethyl carbamate, methylglyoxal, glycidaldehyde, malonaldehyde, N-nitrosophyrrlidine), chemotherapeutic agents, and others which humans are exposed to as environmental pollutants. It was clear from the presentations that a large variety of adducts could be formed with guanosine, adenosine and cytosine. In addition, many of the compounds can also form interstrand crosslinks. It was concluded that cyclic nucleic acid adducts could play a major role in the biological activity of these compounds, although more work is needed since adducts of this type have not been identified in vivo for many compounds. The identification of adducts in DNA was determined to be a problem due to the inability to radiolabel many of the compounds to a sufficiently high specific activity. Thus, a need to develop sensitive methods for the quantitation and identification of the adducts formed was perceived. In addition, the chemical, biochemical, metabolic and biological studies on the mutagenicity and carcinogenicity of the compounds need to be more focused and unified. This might require a multidisciplinary attack on the problem, rather than the current situation of one laboratory working on the chemistry of adduct formation with one compound but doing no biological studies and vice versa. It was also apparent that little is known about the repair of known exocyclic derivatives in mammalian cells.

Examples of important areas of research emphasis include:

1. Identification and quantitation of adducts which may be responsible for the carcinogenicity of the test compound in animals, the transformation of cells in culture, or the mutagenicity of the compound in cells in culture or in other test systems.

2. Formation and repair of exocyclic adducts in animals, cells in culture, or other test organisms relevant to carcinogenicity, transformation and mutagenicity studies.

3. Mechanism of mutagenesis or carcinogenesis by exocyclic nucleic acid adducts, other adducts of biological interest or cross links which may be formed by the above mentioned compounds.

It is also recognized that there will be a need to develop more sensitive methods to analyze and quantitate the many possible adducts and to detect them in DNA from cells exposed to the chosen compounds. A desired sensitive method, not widely available, is an immunoassay using monoclonal antibodies to the chosen exocyclic adduct or other relevant adduct. It is suggested that support for the development of such monoclonal antibodies may in some cases be appropriate for the Small Business Innovative Research grant and contract program as well as the traditional RO1 grant.

Paul Okano is program director.

**Support services for AIDS and HTLV-3 and related viruses.** Recompetition of the contract with Westat Inc. This will be awarded under the emergent cancer master agreement order. Three years, estimated total, $3.95 million.

This project will provide support services for the conduct and management of epidemiologic investigations of AIDS and retroviruses directed by the Environmental Epidemiology Branch or in collaboration with other investigators. The principal activities can be classified as follows: (1) Liaison, whereby the contractor assists in the coordination of multicenter studies and helps facilitate cooperation between NCI and its collaborators; (2) development of study materials, including questionnaires, abstract sheets, coding forms, manuals of field procedures, and other documents; (3) identification of study subjects, including location of patients and/or their relatives, selection of controls through such methods as random digit dialing, and acquisition of appropriate study population rosters or files; (4) training of interviewers, abstractors and other field personnel; (5) field supervision and management; (6) interviewing of study subjects; (7) abstracting and coding relevant medical and other records; (8) obtaining biologic specimens and arranging for the appropriate laboratory tests on them by designated laboratories; (9) data preparation and processing, including editing and preparing information in a format suitable for computer analysis; (10) quality control and standardization, so that appropriate and valid data result; and (11) hiring of temporary personnel to perform specialized tasks, e.g., short term assistance in clinical, virologic or immunologic work relevant to ongoing research projects.

During the first year of the contract, services will be provided for ongoing studies of Washington and New York homosexual men, Danish homosexual men, Pennsylvania hemophiliacs, and studies of retroviruses. The following new or greatly expanded studies are currently planned. With sufficient resources, all of these will be initiated during the first year of the contract:

A. HTLV-3 serological studies in Kenya, $100,000 over three years. Preliminary work in Kenya have documented great regional differences in prevalence of HTLV-3 antibody.

B. HTLV-3 studies in spouses of hemophiliacs, $100,000 over two years. This project and the next below are both designed to pursue observations

related to the high rates of viral isolation in seronegative sexual contacts of high risk group members. These two projects, currently under way in different formats, involve collection of serum and questionnaire data from study subjects. We propose to expand this study to include 100 spouses of hemophiliacs, and to collect lymphocytes, saliva and other biological materials required for viral isolation studies. Continued followup of these women is desirable.

C. HTLV-3 studies of spouses of drug users, $200,000 over two years. This project will include 200 male and 200 female spouses of HTLV-3 seropositive drug users from New Jersey. The current serosurvey will be expanded to permit collection of white blood cells, saliva, and other specimens, and to allow prospective followup.

D. HTLV-3 studies in pregnant women and their offspring, $300,000 over two years. In collaboration with Downstate Medical Center, the program proposes a study of HTLV-3 transmission in seropositive, pregnant, drug using and Haitian females and the offspring of these at risk pregnancies. A cohort of 400 women will be identified, blood and other biological materials obtained from them and their children, and their HTLV-3 infection status determined. Prospective followup of the children will be conducted to monitor seroconversion, immune function and risk of AIDS.

E. HTLV-3 studies in health care professionals and lab workers, $100,000 over two years. Two cohorts of persons occupationally exposed have been identified: 200 lab workers at NIH and 450 front line health care providers at Downstate Medical Center. We propose to interview participants regarding known AIDS risk factors and details of their occupational exposures (particularly needle stick injuries in health care workers) and to collect serial blood samples. This study is particularly expensive owing to the need for extraordinary precautions required to maintain privacy and confidentiality of study participants.

F. Followup of New Jersey drug user cohort, $300,000 over two years. The program has recently completed an HTLV-3 seroprevalence survey in New Jersey drug users. Preliminary results indicate striking geographical differences in seropositivity, with drug users from the Newark/Jersey City area having a 50% antibody prevalence, while drug users from southern New Jersey have a prevalence rate of <10%. Antibody prevalence rates are equal among males and females. Furthermore, these data indicate that many female drug abusers have engaged in prostitution, thus providing mechanisms for transmission of HTLV-3 to the general population. We propose following up, prospectively, changes in seroprevalence and T-cell subsets over time and the risk of AIDS and AIDS related illnesses. Given the difficulties in tracing drug users, this will be an exceedingly difficult and expensive undertaking. However, this prospective cohort is unique, with no other similar projects under way.

James Goedert and William Blattner are project officers.

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**CONCEPT REVIEW FIGURES ARE ESTIMATES ONLY: RFPs, RFAs NOT YET AVAILABLE**

The dollar estimates with each concept review brought before the various boards of scientific counselors are not intended to represent maximum or exact amounts which will be spent on those projects. They are intended only as guides for board members to help in determining the value of the projects in relation to resources available to the entire program or division. Responses should be based on the workscope and description of goals and methods included in the RFPs (contracts) and RFAs (grants and cooperative agreements). Availability of RFPs and RFAs will be announced when the Institute is ready to release them.

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**Support services for epidemiologic studies to address emergent cancer questions.** Recompetition of master agreements with 12 organizations. Four year awards, total cost $4 million.

Leads to cancer etiology are occasionally of such public health importance as to warrant a rapid evaluation. The suggestion from experimental and epidemiological investigators that the risk of bladder cancer was increased from saccharin and the epidemic of AIDS and its link to human lymphotropic retrovirus (HTLV-3) are examples of issues that have arisen within the past several years requiring rapid mobilization of epidemiologic resources. They represent situations of national importance and high visibility, with exposures often affecting large numbers of individuals. The Epidemiology & Biostatistics Program is frequently called upon to respond to such emergent issues, often by congressional or executive mandate. This concept provides the program the flexibility to respond in a timely manner by establishing a core of qualified contractors who can perform needed support services on relatively short notice.

Since the investigations to be undertaken in the four year renewal of this concept cannot now be listed, it is proposed that the ongoing mechanism for Board review of individual emergent projects be continued. This mechanism calls for a subcommittee of the Board, selected by the chairman, to review a separately prepared concept statement for any study whose total cost exceeds $500,000. In this way all major studies will receive the benefit of Board review, and the program will maintain the ability for rapid implementation of of studies to investigate important issues.

The procurement method to be used is the master agreement/task order. Qualified firms will be competitively selected to be awarded master agreements which entitle them to bid on subsequent RFPs for task orders to perform support services for specific studies. The technical review of the firms is performed at the outset by a Div. of Extramural Activities contract review committee, which judges the capability of the firms to provide the variety of epidemiologic support services required. Selection of a contractor for an individual project is then made competitively from among firms with master agreements which submit technical and

business proposals for the particular project. William Blot is the project officer.

**Support services for clinical epidemiologic studies.** Recompetition of a contract held by Westat Inc. Four year award, estimated total cost, $1.46 million.

The contractor has provided a broad range of services in the first 20 months and will do likewise during the renewal period, namely (1) preparation of data collection forms, such as questionnaires and abstracting forms, with accompanying manuals; (2) assistance to accomplish interviewing, medical records abstracting, data and technical editing, and collection and transport of biologic specimens; and (3) aid in data management, e.g., systems design, programming, data entry, proofing, editing, updating, records management, tabulations, and statistical presentations.

The level of effort consists of project director, 0.2 person year (py); study manager, 1.7 py; medical record specialist, 0.5 py; programmer, 0.7 py; and clerical-secretarial, 3.8 py; plus supplies, travel and temporary help for telephone interviewing, abstracting, coding, and keying. The future budget allows 4% increase annually.

John Mulvihill is project officer.

The Board approved the concepts for five noncompetitive contracts and interagency agreements:

**Public Law 98-542.** One year interagency agreement with the Dept. of Energy, $200,000. Continuation of the effort to establish radiation doses to which military personnel may have been exposed while on occupation duty in Hiroshima and Nagasaki and while participating in atmospheric testing of nuclear weapons by the U.S.

**Epidemiology of human T-cell leukemia/lymphoma virus.** Three year, West Indies Univ., Kingston, Jamaica, and Gorgas Memorial Institute of Tropical and Preventive Medicine, Panama City, Panama, $1,650,000, three years. Since 1981, epidemiologic studies of a new family of human lymphotropic retroviruses has been a focus of the Environmental Epidemiology Branch. Focus of these research activities has been in characterizing the epidemiology of HTLV-I and III in the HTLV-I endemic area of the Caribbean basin. This is a continuation of that effort.

**Population estimates for U.S. counties.** Five year interagency agreement with the Bureau of Census, $110,000. Continuation of effort which provides estimates of the U.S. population at the county level by age, race and sex, utilizing Internal Revenue Service and Medicare registration files to provide control totals for these post census estimates.

**Breast cancer in Oriental Americans.** No cost, three year extensions of contracts with Northern California Cancer Program, Univ. of Southern California, and Univ. of Hawaii. Several lines of evidence indicate that if a substantial amount of the international variation in breast cancer is due to dietary differences, the the age at which dietary habits are most likely to be important in the prepubertal period and perhaps adolescence. A Breast Cancer Task Force workshop on diet and breast cancer also concluded that emphasis in dietary investigations of breast cancer needs to be shifted toward evaluation of dietary differences at younger ages, particularly in view of the lack of any consistent positive findings relating adult diet to risk of breast cancer.

**1986 National Mortality Followback Survey.** Three year interagency agreement with National Center for Health Statistics, $400,000. The survey will involve a mailed questionnaire to next of kin of 20,000 decedents to investigate socioeconomic differentials in mortality; the association between certain risk factors and cause of death; health care services provided in the last year of life; and reliability of items reported on the death certificate. The last survey was conducted in 1968. These surveys have resulted in publications that include the first large scale quantification of urban-rural and male-female differences in lung cancer mortality according to smoking category.

**Fish Pathology Nomenclature Working Group.** One year, minority small business set-aside, $25,0000, plus $25,000 from the Dept. of the Army Medical Research & Development Command, and $25,000 from the American Petroleum Institute, and possibly others. The Chemical & Physical Carcinogenesis Branch would organize the working group which would work through the logistical support of a minority owned small business to develop an atlas on fish histopathology and nomenclature. Approximately 40 experts in tumors of particular organ systems of fin-fish would be identified as members, and would meet initially in the fall of 1985. Following a workshop sponsored by DCE in 1984, there was recurring observation that the field suffers from a lack of standardized nomenclature for histopathological conditions. This results in confusion or imprecision which is an impediment to research and development utilizing aquatic species at all levels. Terminology presently being employed is largely that developed over the decades of human and veterinary clinical and experimental histopathology and assumes similarities of homology and analogy in fishes to the organ systems, tisues and cells of mammals.

## NCI CONTRACT AWARDS

TITLE: Support services in virology, tissue culture and immunology
CONTRACTOR: Technical Resource Inc., Rockville, Md., $1,309,877.

**The Cancer Letter** _Editor Jerry D. Boyd

Published forty-eight times a year by The Cancer Letter, Inc., P.O. Box 2370, Reston, Virginia 22090. Also publisher of The Clinical Cancer Letter. 