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NEW SEER REPORT SAYS FIVE YEAR RELATIVE SURVIVAL AT 49 PER CENT OVER ALL, 50 PER CENT FOR WHITES

NCI Director Vincent DeVita has been saying for the last couple of years that at least 50 per cent of cancer patients are now being cured of their disease, basing that optimism on the SEER data which showed

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In Brief

USC STUDY FINDS SEDENTARY OCCUPATIONS INCREASE COLON CANCER RISK FOR MEN OVER MORE ACTIVE JOBS

SEDENTARY JOBS carry with them a greater risk for colon cancer among men than those whose jobs require a high level of activity, Univ. of Southern California investigators report. The study suggests that physical inactivity in general plays a major, previously unrecognized role in colon cancer and that high levels of activity may aid in prevention. The findings are based on 2,950 colon cancer cases in males in Los Angeles County. Activity level of occupations was grouped into three categories—sedentary, moderate and high. Sedentary included bookkeepers, bus drivers and computer programmers. Moderate include salesmen, machinists and grade school teachers. High activity included auto mechanics, plumbers and longshoremen. Sedentary workers had a colon cancer risk at least 1.6 times that of high activity workers, with the risk increasing as job activity decreased. The study, with David Garabrant as PI, was published recently in the "American Journal of Epidemiology". . . . **THREE LUNG** cancer authorities received prestigious awards announced at the M.D. Anderson Clinical Conference this month: Raymond Yesner, Yale professor emeritus of pathology, won the 19th annual Heath Memorial Award for "outstanding basic science contributions to improved care for cancer patients." Daniel Bergsagel, who helped develop the first effective treatment for multiple myeloma, received the ninth annual Jeffrey A. Gottlieb Memorial Award for "contributions to cancer therapeutic research." Leopold Koss, chairman of pathology at Albert Einstein College of Medicine and Montefiore Medical Center, received the eighth annual Joanne Vandenberge Hill Award for "contributions of pathology to improving cancer diagnosis". . . . **JOHN HIGGINSON**, founding director of the International Agency for Research in Cancer and an international expert in geographic pathology and environmental medicine, has been appointed senior fellow of the Institute for Health Policy Analysis at Georgetown Univ. . . . . **COUNCIL FOR** Tobacco Research reports that a nine year study it has supported in which mice were exposed to cigarette smoke inhalation found that the smoke did not produce any squamous cell lung cancer. The $12 million study was conducted by Microbiological Associates under a contract with the Council.

NEW SEER DATA SHOW THAT MORE THAN 50% OF CANCER IS CURABLE: DEVITA

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that 48 per cent of patients diagnosed between 1973 and 1980 were surviving at least five years. This week, DeVita presented the National Cancer Advisory Board with a SEER (Surveillance, Epidemiology & End Results) report on patients diagnosed between 1976 and 1981 which fully supported his optimism.

The annual update on survival statistics shows that improvement continues, with the five year relative survival rate reaching 49 per cent for the 1976-81 diagnosed patients. The optimists contend that since the improvement has been since the mid 1970s at least a steady one to two per cent a year, five year survival among patients diagnosed in 1984 could be averaging 55 per cent. DeVita claims only that at least 50 per cent are "curable."

NCI defines "relative five year survival as the probability of escaping death from cancer for five years following diagnosis. Rates are calculated by an actuarial or life table method and therefore include information on patients under observation for less than five years. Patients diagnosed between 1973 and 1975 and between 1976 and 1981 were followed through December, 1982. Complete five year followup was conducted for patients diagnosed in 1973 through 1977. The survival rates were updated this year because an additional year of followup, 1982, was completed and because of inclusion of patients diagnosed in 1981. Except for cancers of the breast, prostate and kidney, five year relative survival is an indicator of curability in cancer patients, DeVita said.

The updated five year relative survival rate of 49 per cent for cancer patients, all races and both sexes, diagnosed between 1976 and 1981, compares with a rate of 48 per cent for patients diagnosed between 1973 and 1975.

For white patients, five year relative survival was 50 per cent for those diagnosed between 1976 and 1981, compared with a rate of 49 per cent for those diagnosed between 1973 and 1975. Black patients diagnosed between 1976 and 1981 had a survival rate of 38 per cent, up from 37 per cent for those diagnosed between 1973 and 1980.

The increases for all cancer sites combined were statistically significant for all races combined and for white patients. The increase was not statistically significant for black patients.

The survival rate increases were statistically significant for cancers of the colon, lung, prostate and testis, and for melanoma and Hodgkin's disease. Although the rates increased for many other cancers, the increases were not statistically significant. Because followup for patients diagnosed between 1976 and 1981 has not been as long as for patients diagnosed during the earlier period, the rates calculated for patients in the later period are based more heavily on data for patients diagnosed during 1976 and 1977. With an additional year or two of data, it is possible that the increased rates for other cancers will prove to be statistically significant, DeVita said.

There was also a statistically significant decrease in the rate for endometrial cancer. The higher survival rate for the period 1973-1975 may be due to a larger proportion of less severe cases diagnosed when post menopausal estrogens were in greater use.

The cancers with the highest five year relative survival rates, all races combined, for patients diagnosed between 1976 and 1981, are: thyroid cancer, 93 per cent; testis, 86 per cent; endometrium, 85 per cent; melanoma, 80 per cent; female breast, 74 per cent; bladder, 73 per cent; Hodgkin's disease, 73 per cent; uterine cervix, 67 per cent; and larynx, 67 per cent. Survival continues to be poor for some cancers such as pancreatic, lung, esophageal and stomach.

Survival rates were also calculated separately for white children under 15 years of age. The five year relative survival rate was 60 per cent for children diagnosed with cancer between 1976 and 1981, up from a rate of 53 per cent for children diagnosed between 1973 and 1975. The increase was statistically significant. The rate reported last year for children diagnosed from 1973 through 1981 was 57 per cent. A rate could not be calculated for black children because of the small number of patients in the SEER registries.

Particularly noteworthy among the childhood cancers is the survival rate for acute lymphocytic leukemia, the leading childhood cancer, which continued to show rapid improvement, DeVita said. The five year relative survival rate was 65 per cent for white children diagnosed between 1976 and 1981, up from a rate of 52 per cent for children diagnosed between 1973 and 1975. The increase was statistically significant.

DeVita pointed out the improvement in survival for colon cancer patients, up from 49 per cent in the 1973-75 group to 53 per cent for 1976-81.

"I don't have any explanation for that," he said, referring to what has been generally perceived as lack of significant improvement from clinical trials of a variety of chemotherapeutic agents.

Herbert Kerman, director of the Halifax Hospital Cancer Center in Daytona Beach and principal investigator of the Community Clinical Oncology Program there, told **The Cancer Letter** he thought the improvement could be traced to earlier detection and

more aggressive treatment of the disease.

Board member Rose Kushner questioned the use of five year survival figures for cancers of the breast, prostate and kidney, since recurrences after that time are more common than for most other cancers.

"Five year relative survival for those cancers is still a good indication," DeVita answered, acknowledging that a 15 per cent dropoff is accounted for by those recurrences.

"I'm concerned about heightening the anticipation of Congress and the public" about optimistic forecasts, Kushner said. "I don't think we should tell people that we are going to have an AIDS test in six months, or a vaccine in two years, or that 50 per cent of cancer patients are being cured."

"I don't have the luxury of saying 'no comment' when I'm asked these questions," DeVita responded. "Our estimate on the AIDS diagnostic test was right on the mark. "These programs are paid for with public money, and I have to make these estimates."

"Are you pleased with the progress in treating pancreatic cancer?" Board member Tim Lee Carter asked.

"Of course not," DeVita said. "There are 18,700 cases a year and 18,000 deaths. We can't be satisfied with that."

Carter later asked Edward Sondik, who heads biostatistics research in the Div. of Cancer Prevention & Control, "How do you account for lack of improvement in cancers of the stomach and lung?"

Sondik noted that the incidence of stomach cancer has dropped "way down for the last 40 years. There has been a major decrease in the incidence." Survival of patients who do get stomach cancer continues to be poor, with little or no increase, but Sondik pointed out improvement in some forms and stages of lung cancer has been achieved, particularly small cell lung cancer.

Board member William Powers questioned whether the SEER figures, which takes a sampling of about 10 per cent of the U.S. population through 11 registries, are projectable to the entire country.

"The Harris Poll uses only 1,500 people in its samples," Sondik said. "We're doing 10 per cent of the country. There is a three per cent error factor in the Harris Poll. I'm not sure these are comparable. It is important to consider that we are looking at the same areas of the country consistently."

DCPC Director Peter Greenwald said that SEER now covers 12 per cent of the country and "there should not be any variability between those areas covered by SEER and the rest of the U.S."

Powers said that Detroit, where one of the SEER registries is located, represents one fifth of the program and that the area experiences a heavy outmigration, causing substantial losses of patients to followup.

Greenwald denied that loss to followup has been a serious problem with SEER. "As you get close to 100 per cent followup, which is possible, you get a huge escalation of the cost."

Powers asked for a "translation of 'curable,' since I have seen that used in different ways by NCI, the American Cancer Society, and SEER."

"We mean by 'curable' what is feasible," Greenwald said.

Board members were especially concerned by the continuing poor survival of blacks compared to whites, a concern that has led the Board to support programs aimed at improving survival among black cancer patients. Board member LaSalle Leffall commented that "The most disturbing fact we have here is that stage for stage, black patients do worse than white patients."

The studies in this area "are exciting," Leffall said. "We have disproven some old shibboleths, such as blacks doing worse because they come in later. That may be happening, but it is not a major factor."

"On the other hand," DeVita commented, "when stage for stage is adjusted for economic status, the difference disappears." Sondik added that socio-economic status may explain some, "but not all of the black-white differences."

Board member Geza Jako asked whether the survival improvements, if continued at the level shown by the SEER surveys, would reach the 50 per cent reduction in mortality NCI has set as the goal for the Year 2000.

"That is difficult to say," Sondik answered. "These are five year relative survival figures at a specific time. The factors are many, and need to be looked at by site. I don't want to give you a specific figure, but the slow increase each year over 15-20 years could be substantial."

DeVita said the Year 2000 goal does not depend on maintaining the present increase but "depends on actions we plan to take." Also, survival improvement in cancer patients does not take into account reduction in incidence, intended as a major factor in achieving the goal.

GALLO, THREE JAPANESE SCIENTISTS TO SHARE $100,000 HAMMER AWARD

Robert Gallo, the world's premier hunter of human cancer viruses, won another award this week. Armand Hammer, chairman of the President's Cancer Panel, announced to the National Cancer Advisory Board Monday that Gallo would split the annual Hammer Cancer Prize with three Japanese scientists, all working in the same research area as Gallo.

Gallo, chief of the Laboratory of Tumor Cell Biology in NCI's Div. of Cancer Treatment, will receive one half of the $100,000 Hammer puts up each year for award to scientists who have made major contributions to the conquest of cancer. Dividing the other $50,000 are Yorio Hinuma, Institute for Virus Research, Kyoto Univ.; Isao Miyoshi, Dept. of Internal Medicine, Kochi Medical School; and Kiyoshi Takatsuki, Dept. of Internal Medicine, Kumamoto Univ. School of Medicine.

Hammer said the prizes would be awarded to the four scientists at a ceremony in Los Angeles in February.

DCE BOARD DELAYS DECISION ON NEW CHEMOPREVENTION GROUPS PROGRAM

The Board of Scientific Counselors of NCI's Div. of Cancer Etiology deferred action on a concept proposed by DCE's Chemical & Physical Carcinogenesis Program which would establish three or four "National Collaborative Chemoprevention Groups." The groups would be supported at an estimated cost to NCI of $2.2 million a year.

Patterned somewhat after the Div. of Cancer Treatment's National Drug Discovery Groups, the chemoprevention groups would consist of a number of laboratory research programs representing diverse scientific disciplines and centered in several different types of research organizations. Academic, nonprofit research institutions and for profit organizations would be encouraged to participate. The groups would "provide a mechanism for combining imaginative, creative basic research in biological and chemical prevention of carcinogenesis, capable of discovering and exploiting exciting new leads in carcinogenesis/anticarcinogenesis, with ancillary resources required for effectively and expeditiously extrapolating this basic science into new preventive strategies," program director Carl Smith said. Each group would consist of three to six contributing laboratories.

Board members appeared to like the concept, and the decision to delay action until the February meeting was based on a desire for more time to consider various aspects of it.

Smith said that applications would be discouraged when more than 50 per cent of the work would be performed by one institution. The intent was to "grease the skids" of collaboration, he said.

"Why put sand in the grease by discouraging an institution with enough components itself to do the entire project?" Board member Edward Bresnick asked.

One institution would not have the perspective of several, Smith replied. Also, a single institution could seek support through a program project grant.

DCE Director Richard Adamson said, "I disagree with the staff on this. This is forcing collaboration. I would leave it to peer review to determine if one institution can put together all the elements needed."

David Longfellow, chief of the Chemical & Physical Carcinogenesis Branch, said the groups would be "carrying work beyond anecdotal information in the literature. Groups can do further synthesis, look at mechanisms and metabolism, tie in industry, with the profit motive, with the intent to move compounds into the clinic."

"There is a specific difference in developing and testing potential attractive chemopreventive agents, and doing basic research," Board member Gilbert Omenn said. "This is not basic research."

"I would pattern this more on another mechanism DCT uses," Bresnick said. "The master agreement. That's centrally oriented, run from NCI."

Board member Hilary Koprowski moved that the concept decision be delayed, suggesting that Chairman Barry Pierce appoint a committee "to look carefully at this, and report at the February meeting." Koprowski said the delay would give Board members time to review reports from three workshops, which formed the basis for the concept.

The motion was approved, with William Haenszel casting the only vote against it.

The Board deferred indefinitely a decision on a concept for a cooperative agreement or contract for a three year study on prediction of human skin penetration by xenobiotic agents. This would be a collaborative project with the Environmental Protection Agency, NCI and EPA each putting up $200,000 of the total cost. Board members suggested that it might be more appropriate for a grant, feeling that more basic research may be needed.

Also deferred was a decision to recompete a contract held by Meloy Laboratories for studies of tumor promotion in Cynomolgus monkeys. This contract supports studies by the DCE Laboratory of Comparative Carcinogenesis, which is scheduled to be reviewed by the Board next spring.

Omenn moved that concept consideration be delayed until after the review and asked that Meloy's contract be extended six months to maintain continuity. The motion was approved unanimously.

The Board approved general concepts for continuing collaborative programs with EPA and the National Institute of Occupational Safety & Health, and also approved concepts for noncompetitive renewal of eight contracts:

*Case control study of stomach cancer in Italy, Italian League Against Cancer, $268,000, three years.

*HTLV in migrant populations in Hawaii and Okinawa, Univ. of Hawaii, $650,000, three years.

*Studies on radiation induced chromosome damage in humans, Dept. of Energy, $475,000, three years.

*Mortality study of workers exposed to beryllium, NIOSH, $56,725 extension, one year.

*Symposium on medical screening in the workplace, Technical Resources, $20,000, one year.

*Assessment of the cocarcinogenic/promoting activity of asphalt fumes, Arthur D. Little Inc., $171,000, one year. There were three votes against and three abstentions, moving Pierce to remark, "It would be wise to consider the lack of enthusiasm here, and to discuss this further with individuals involved to improve it."

*Cancer risk in x-ray technologists, Univ. of Minnesota, $360,000, three years.

*Late effects of protracted irradiation in dogs, Argonne National Laboratory, $1.5 million, five years.

Title: Synthesis of derivatives of polynuclear aromatic hydrocarbons. Recompetition of contract held by Midwest Research Institute. Estimated first year cost, $636,000; total over five years, $3.6 million. Staff description of the project:

This concept is for recompetition of a contract to synthesize labeled and unlabeled derivatives of polynuclear aromatic hydrocarbons to be distributed by the NCI Chemical Carcinogen Reference Standard Repository. The chemical research resources program of the Branch provides for several of the specialized needs of the chemical carcinogenesis research community. It recognizes that it is often important for the success of a research program to have at its disposal chemicals, animals, or instrumentation of a rare, uniform, or expensive nature which are not easily produced or affordable within a given project or obtainable from private suppliers. Compounds made through the efforts of this contract have been made available to the research community through the repository since 1976.

The types of compounds to be synthesized, purified and characterized in gram quantities include dihydrodiols, phenols, quinones, diolepoxides, epoxides, dialdehydes resulting from cleavage of vicinally disubstituted oxygenated derivatives, alkyl and hydroxyalkyl substituted parent hydrocarbons, conjugated derivatives (chemical or biosynthetic) such as glutathiones, glucuronides, and sulfates; and labeled (3H, 13C, 14C) analogs. The compounds are required in carcinogenesis research as authentic standards and substrates to aid in the elucidation of the pathways of carcinogen metabolism, activation, and molecular mechanism of action. Carcinogenesis research has been greatly stimulated by the availability of compounds of authentic structure as standards or substrates, and many advances in this field can be traced in large part to compounds prepared by investigators under contract to NCI and made available on a fee basis to the scientific community at large.

In general, relatively complex multistep syntheses are required, and many of the compounds and synthetic intermediates are relatively unstable, necessitating a high level of skill and experience for their synthesis and isolation in the pure state. For these reasons and because of the hazard and expense of handling large quantities of carcinogenic compounds, it is necessary to conduct initialy exploratory syntheses on quite a small scale, generally employing only sufficient amounts of intermediates to determine by NMR, HPLC, or other appropriate analytical techniques whether and to what extent desired reactions have taken place. Numerous repetitions are frequently required to (a) find a suitable reagent to effect selectively a desired transformation, (b) develop optimum conditions with respect to temperature, solvent, stoichiometry, pH, etc., and (c) devise satisfactory analytical and workup procedures for the isolation and characterization of these unstable compounds in pure state. Numerous techniques for this purpose have been developed during the course of previous studies (e.g., the widespread use of Fourier transform NMR spectroscopy).

Repetition of the successful research scale syntheses on larger scale is seldom straightforward. Several additional runs are generally required to solve the remaining problems involving maximization of yield at each step and purification of molecules susceptible to relatively facile decomposition. Since the majority of compounds synthesized cannot be recrystallized or chromatographed by conventional methods without substantial decomposition, the most generally applicable and powerful technique for purification has proven to be preparative high pressure liquid chromatography. It is expected that the successful contractor from the proposed competition will carry out the same highly productive, responsive and innovative synthesis work that in the past has resulted in the availability to the carcinogenesis research community of a continuous supply of metabolites and analogs of parent hydrocarbons.

Characterized unlabeled compounds will be shipped to the NCI repository according to shipping protocols established by the project officer. Distribution to the research community will be handled by the repository contractor for all unlabeled compounds and will be on a pay back system. Labeled compounds will be subdivided and shipped on a pay back system to investigators in the scientific community by the synthesis contractor as instructed by the project officer.

The current rate of synthesis is approximately 165 compounds during each 12 month period of the contract. It is expected that this rate will be maintained during the forthcoming contract period.

Board member C.C. Cheng, who was not present at the meeting but sent comments in a letter, wrote that the team at Midwest Research Institute is strong but called attention to the recent purchase of MRI by Eagle-Pitcher Co., to be part of its Chemsyn Division.

Title: Chemical carcinogen reference standard repository. Recompetition of the contract held by IIT Research Institute. Estimated first year cost, $342,000; total over five years, $1.9 million.

This recompetition will continue the operation of

the chemical repository which was established under contract to provide a centralized source of well characterized and documented reference compounds for the carcinogenesis research community. Safe storage has been provided for stock quantitities of many types of chemical carcinogens and related chemicals in a laboratory designed for that purpose. Upon authorization by the NCI project officer, samples are prepared, packaged and shipped to designated requestors all over the world. Analytical characterization data are provided, as well as information on safe handling of each chemical. Beside commercial supplies, which are verified for purity, repository stocks are received from various synthesis contractors within the resources program, and from surplus, reanalyzed stocks of the National Toxicology Program. Since April 1, 1983, when a pay back system was initiated, through July of 1984, a total of 925 chemicals have been shipped to investigators throughout the world with a total billing of $80,990.

Safe storage is provided for stock quantities of many types of chemical carcinogens and related chemicals in a laboratory designed for that purpose. Upon authorization by the NCI project officer, samples are subdivided by the repository staff, carefully packaged, and shipped to designated requestors. Analytical data are provided, as well as information on safe handling of each chemical.

The repository maintains a computerized inventory system which provides a monthly status report on shipping and receiving activity. In addition, the inventory system provides storage of data on chemical and physical properties and available information on safety and disposal. Property data sheets, which accompany chemical shipments, are generated from the inventory system. Also, proper fiscal controls are maintained on billings and payments for chemicals shipped.

One important task comparable to that of the major goal of the program, which is assurance of a supply of reliable research material, is to ensure the safe handling of these dangerous materials at all steps in their processing, from receipt at the repository to receipt by the user of a package he can open in complete confidence. The equipment and handling procedures used in this program are selected to ensure the minimum hazard to personnel and the environment and conform with all transportation regulations and minimum risk to the user upon receipt of the materials.

Title: In vitro radiosensitivity and DNA repair in persons at high risk of cancer. This project has been carried out under two contracts, one with Atomic Energy of Canada Ltd., and the other an interagency agreement with the Dept. of Energy's Brookhaven National Laboratory. The first will be recompeted, with estimated first year costs of $394,000, and a total of $1.7 million over three years. The agreement with Brookhaven will be renewed for two years on a noncompetitive basis, with an estimated first year cost of $250,000.

Purpose of this project is to examine the in vitro response to gamma radiation, ultraviolet light or sunlamp radiation, and chemical carcinogens of cells from persons identified by scientists from the Environmental and Clinical Epidemiology Branches of the Epidemiology & Biostatistics Program with radiogenic, sunlight or chemotherapy induced tumors, or with multiple primary malignancies or familial tumors suggestive of genetic causation. Abnormalities detected in cells from individuals in these categories are studied further to determine the underlying cellular defects. Additionally, cells from blood relatives, both with and without cancer, are also studied to determine if the defects in in vitro response to DNA damaging agents can be directly correlated with increased cancer risk, or segregate within families in mendelian fashion.

Two approaches will be used for screening specimens for unusual responses to carcinogens. The currently used method measures the ability of single cells exposed to various treatments to survive to form colonies. Increased or decreased cell killing, though commonly accepted as a suitable endpoint in these types of studies, may not reflect changes at the level of DNA, and thus may be unrelated to host susceptibility to cancer. Since mutagenic events are undoubtedly important in the development of at least some malignancies, a more specific assay may be the measurement of a cell's mutagenicity following carcinogen exposure. A commonly used mutagenic endpoint is the frequency of mutations from 6-thioguanine sensitivity to 6-thioguanine resistance. This or a similar assay, used on selected cell strains in conjunction with colony survival, would provide a more sensitive screen for cellular defects that may be related to enhanced cancer susceptibility.

RFPs AVAILABLE

Requests for proposal described here pertain to contracts planned for award by the National Cancer Institute unless otherwise noted. NCI listings will show the phone number of the Contracting Officer or Contract Specialist who will respond to questions. Address requests for NCI RFPs, citing the RFP number, to the individual named, the Blair building room number shown, National Cancer Institute, NIH, Bethesda, MD. 20205. Proposals may be hand delivered to the Blair building, 8300 Colesville Rd., Silver Spring, Md., but the U.S. Postal Service will not deliver there. RFP announcements from other agencies will include the complete mailing address at the end of each.

RFP NCI-CB-51010-53
Title: Biomedical computing software services in support of the Diagnosis Program
Deadline: Approximately Feb. 8

This is a small business set aside.

NCI is seeking a contracto to provide computer related support services to the Diagnosis Program of the Div. of Cancer Biology & Diagnosis. The major functional areas include data management support services for two breast cancer serum collection centers and two NCI serum banks. This support will include (a) maintenance and updating of clinical

data files and specimen inventory from the two serum collection centers; (b) processing of requests and assembling of serum panels for shipment from the serum banks to investigators here and abroad to perform diagnostic tests; and (c) preparation of data files and execution of computer programs for complex statistical analyses of the clinical data and laboratory results. These tasks will require the contractor to use sophisticated data handling and analytic techniques. This is not a contract for statistical consultation or services. The annual estimated level of effort is four person years per year for a contract performance period of four years.

The contractor will be required to use the Div. of Computer Research & Technology (DCRT) facility at NIH in Bethesda, but must provide its own computer terminals. The contractor will also be required to pick up computer generated output from DCRT twice weekly. The contractor will maintain current as well as develop new systems of programs to edit and update computer files. The current system of programs resides at the DCRT facility and frequent use by NCI researchers requires that this system of programs remain there.

New hardware/software systems, not at DCRT, are not a feasible alternative. It is also required that the contractor's personnel consult at regular intervals with NCI project officers and biostatisticians to review problems associated with processing and analyzing the data emanating from the two collection centers and the two serum banks. Accordingly, the contractor shall demonstrate the capability to fulfill these requirements. It is considered an advantage if the contractor's offices are in close proximity to NIH.

In order to qualify as a small business for this procurement, a prospective contractor's annual receipts for its preceeding three fiscal years must not exceed $7 million.

Contract Specialist: Eileen Webster
RCB Blair Bldg Rm 122
301-427-8888

RFP NCI-CB-51014-54
Title: Facility for housing and preparing virus infected and chimeric mice
Deadline: Approximately Feb. 15

This is a small business set aside.

The Immunology Branch, NCI, is interested in receiving contract proposals from small businesses for the operation of a facility for housing and preparing virus infected and chimeric mice.

It is intended that the proposed project will prepare murine radiation bone marrow chimeras in mouse combinations that do not meet the health standards required by NCI colonies and will infect mice with murine pathogenic viruses such as cytomegalovirus and murine retroviruses. Mice will be delivered as needed from the contractor to the Immunology Branch laboratories. The contractor will also provide viral antibody and cell-mediated immune assays from virus-infected mice.

Primary purpose of this contract is to provide functionally viable lymphoid tissues and lymphocyte suspensions from a virus-infected mouse colony to Immunology Branch researchers. Mice, fresh tissue and cell samples on ice are to be transferred twice daily, Monday through Friday, between the contractor's facility and the NIH campus in Bethesda. Mice will be transferred from NIH to the contractor's facility to the NIH. In addition to the time needed to transport these materials between the contractor's facility and the NIH campus, 30 to 180 minutes (depending on the procedure and number of samples) will be required at the contract facility for preparing these lymphoid tissues for transport to NIH. Once received at the Immunology Branch laboratories, additional manipulations will be required which can include cell counting, washing and centrifugation, modification with haptenic reagents or infection with viruses, and/or cell fractionation procedures which will require from one to four hours of additional time.

These cells are then to be cultured under special conditions of temperature, moisture, air mixture, and nutrients for from 3 days to 3 weeks, after which they will be tested for immune function by a number of assays, including cell proliferation, antibody synthesis, cytotoxic activity, helper function and/or suppressor activity. These protocols are complex, time consuming, and expensive. Therefore, the least possible time required for transport of these materials between the contractor's facility and the NCI laboratories is extremely important to insure that these sensitive biological systems function after the contractor has done his part of the work. Accordingly, the proposal shall demonstrate the offeror's ability to deliver functionally viable lymphoid tissues and lymphocyte suspensions to meet this need.

This acquisition will be a total small business set-aside in accord with Seciton 15 of the Small Business Act. To qualify as a small business for this procurement, a prospective contractor must have no more than 500 employees (SIC 7391).

Contracting Officer: J. Thomas Lewin
RCB, Blair Bldg Rm 114
301-427-8888

RFAs AVAILABLE

RFA 85-CA-01
Title: Cooperative group for studies on mutagens in human foods
Application receipt date: Jan. 15

The Div. of Cancer Etiology of NCI invites cooperative agreement applications from groups of interested investigators for basic studies intended to provide insights and approaches to an understanding of the possible role of food mutagens in human cancer causation.

The purpose of this RFA is to accelerate the development of additional understanding relative to the possible role, fate, and cancer relevance of known dietary mutagens commonly present in human foods. Applications should be responsive to one or more of the items selected from any one or from a combination of the following categories:

A. In depth, basic studies on a small number of

mutagens selected from among those which are known to occur naturally in human foods, those found in human feces, and those human dietary mutagens the formation of which is associated with the processing and preparation of food; compounds of particular interest include, but are not limited to, the following six classes:

1. Heteroaromatic amines of the carboline and imidoquinoline types; 2. Hydroxylated flavonoids; 3. Carbonyl compounds such as acrolein, malonaldehyde and methylglyoxal; 4. Fecapentaenes; 5. Endogenous N-nitroso compounds; 6. Aromatic hydrocarbons.

B. Development of analytical procedures for the quantitation of the foregoing mutagens in foods and for the quantitation of them and their respective metabolic products present in blood, body fluids and tissues, and feces.

C. In vitro and in vivo studies relative to the absorption, metabolism, and possible carcinogenicity of selected compounds such as quercetin and the human fecapentaenes. However, full scale animal bioassays will not be supported through this announcement.

This RFA seeks to make at least one award for a group funding arrangement that permits a combination of available research expertise from diverse institutions (academic, not for profit, and industrial) and the facilitating resources of NCI. Awards will be made as cooperative agreements. The composition of the cooperative group is envisioned as requiring a group director, an NCI coordinator, and program leaders in four broad scientific disciplines--biology, chemistry, biochemistry, and toxicology. Alternative scientific disciplines may be proposed if they are essential to the scientific objectives and experimental approaches planned. As more completely described in the RFA, recipients will have primary responsibility for the development and conduct of the research. The role of the NCI coordinator will be that of a facilitator and not that of a director. The initial project period proposed should not exceed four years.

Copies of the complete RFA and additional information may be obtained from Chief, Chemical & Physical Carcinogenesis Branch, Div. of Cancer Etiology, NCI, Landow Bldg Rm 9B01, Bethesda, Md. 20205, phone 301-496-5471.

NCI ADVISORY GROUP, OTHER CANCER MEETINGS FOR DECEMBER, JANUARY

Limb Sparing Treatment of Adult Soft Tissue and Osteogenic Sarcomas--Dec. 3-5, NIH Masur Auditorium. NIH consensus conference.

Lung Cancer: Problems and What's New--Dec. 6, Roswell Park continuing education in oncology. Contact Gayle Bersani, RPMI, 666 Elm St., Buffalo 14263, phone 716-845-2339.

Seventh Annual San Antonio Breast Cancer Symposium--Dec. 7-8, San Antonio, Texas. Contact Terri Coltman, Cancer Therapy & Research Center, 4450 Medical Dr., San Antonio 78229, phone 512-690-0655.

Developmental Therapeutics Contract Review Committee--Dec. 10, NIH Bldg 31 Rm 9, open 8:30-9 a.m. ttee--Dec. 10, NIH Bldg 31 Rm 9, open 8:30-9

Smoking and the Workplace--Dec. 11-13, Washington D.C. Contact Society for Occupational & Environmental Health, 2021 K St. NW, Suite 305, Washington D.C. 20006, phone 202-737-5045.

Clinical Cancer Chemotherapy--Dec. 12-16, Delhi, India. Contact David Reed, UICC, 3 rue do Conseil-General, 1205 Geneva, Switzerland.

Cancer Research Manpower Review Committee--Jan. 17-18, NIH Bldg 31 Rm 4, open Jan. 17 8:30-9 a.m.

Cancer Symposium of the Desert--Jan. 17-19, West Palm Springs, Calif. Sponsored by Johns Hopkins Oncology Center and Desert Hospital. Contact Desert Hospital, Dept. of Medical Education, PO Box 1627, Palm Springs 92263, phone 619-323-6141.

Div. of Cancer Prevention & Control Board of Scientific Counselors--Jan. 28-29, NIH Bldg 1 Wilson Hall, 8:30 a.m.

FUTURE MEETINGS

Transplant Immunosuppression 1985--Feb. 1, UCLA Factor Auditorium, 8 a.m. Newest treatment options including cyclosporin, monoclonal antibodies, total lymphoid irradiation and ATG. Contact Dept. of Continuing Education in Health Sciences, UCLA Extension, PO Box 24901, Los Angeles 90024, phone 213-825-5189.

Cancer and the Elderly--March 1-2, Sheraton Palace Hotel, San Francisco. 20th annual San Francisco Cancer Symposium. Contact West Coast Cancer Foundation, 50 Francisco St., Suite 200, San Francisco 94133.

American Society of Clinical Oncology--May 19-21, Civic Center, Houston. 21st annual meeting.

American Assn. for Cancer Research--May 22-25, Civic Center, Houston. 76th annual meeting. Contact Margaret Foti, Executive Director, AACR, Temple Univ. School of Medicine, West Bldg Rm 301, Broad and Tioga Streets, Philadelphia 19140.

NCI CONTRACT AWARDS

TITLE: Computer support for cancer information dissemination
CONTRACTOR: PROMIS Information Systems, South Burlington, Vt., $5,241,485.

TITLE: Induction, biological markers and therapy of tumors in primates
CONTRACTOR: Hazleton Labaoratories, $3,363,231.

TITLE: Development and production of parenteral dose forms
CONTRACTOR: Ben Venue Laboratories, $903,025.

The Cancer Letter _Editor Jerry D. Boyd

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