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President Clinton Seeks 8% Increase For NCI; Most Institutes Take Cuts In $10 Bil. NIH Budget

NCI would receive $2.142 billion in fiscal 1994 under President Clinton's budget request sent to Congress last week.

The amount represents an 8.3 percent increase--$164 million--over NCI's fiscal 1993 budget. The Administration said the budget includes $167 million for breast cancer research, NCI's portion of a proposed

(Continued to page 2)

In Brief

Harmon Eyre Heads Medical Affairs, Research As Third Member Of ACS National Office 'Troika'

HARMON EYRE, chief of the medical service, VA Medical Center, Salt Lake City, Utah, will take the new position of deputy executive vice president for research and medical affairs of the American Cancer Society, **The Cancer Letter** has learned. Eyre's selection completes the ACS national office leadership "troika" announced by ACS Executive Vice President John Seffrin last fall, consisting of Seffrin and Richard McGuinness, deputy executive vice president for operations (**The Cancer Letter**, Nov. 20, 1992). Eyre, a 20-year ACS volunteer and national president (1987-88), will oversee the medical and research departments headed by Gerald Murphy and John Laszlo. Eyre also has been involved in the Society's recent reorganization and strategic planning. "I hope to bring research and medical affairs into an integrated effort into ACS programs," Eyre said. He will be moving to Atlanta soon. . . . **DAVID HOHN** has been named vice president for patient care at M.D. Anderson Cancer Center. He also will serve as physician-in-chief. Hohn, a surgeon, joined M.D. Anderson in 1987 from Univ. of California (San Francisco). . . . **BENJAMIN RUSH,** chairman of surgery at Univ. of Medicine & Dentistry of New Jersey, has been chosen to receive the highest honor of the Academy of Medicine of New Jersey, the Edward J. Ill Award. . . . **NATIONAL COALITION** for Cancer Research and other disease groups met with the Presidential Task Force on Health Care Reform last week. The coalition endorsed the health reform statement of the National Coalition for Cancer Survivorship. NCCR President Robert Day, in a letter to President Clinton, urged continued support of medical innovation and research. . . . **"COMPUTER APPLICATIONS** for Early Detection and Staging of Cancer" is the title of a workshop sponsored by NCI's Div. of Cancer Prevention & Control, July 28-30, NIH Lister Hill Auditorium. Contact Dr. Sudhir Srivastava, 301/496-8544 for registration. . . . **'IN BRIEF'** is continued to page 8.

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Clinton Budget Provides 8% Increase For NCI; Breast Cancer, AIDS Win

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$216 million increase for NIH for breast cancer research.

The Dept. of Defense would not receive breast cancer research funds under the President's budget.

The President's budget also directs NCI to increase spending on AIDS by about $40 million--a 23 percent increase--for a total of $213 million. NCI would have to redirect funds from other areas to cover that increase.

Budgets Of Most Institutes Cut

The President's budget provides a 3.2 percent increase for NIH overall, for a total of $10.667 billion.

The budgets of most of the institutes would be cut or held flat. Besides NCI, the only other institutes to receive increases are:

▶National Center for Human Genome Research, nearly a 27 percent increase, for a budget of $134.5 million.

▶The NIH director's office, a 23 percent increase, for a total budget of $235 million. About $5 million would be set aside for extramural facilities construction grants.

▶National Institute of Allergy & Infectious Diseases, a 7.8 percent increase, for a budget of $1.065 billion. Nearly all of the increase is for AIDS.

▶National Institute of Environmental Health Sciences, a 4 percent increase, for a budget of $261 million. NIEHS is directed to increase its AIDS spending by 28 percent.

The National Center for Research Resources would receive a 5 percent increase and the National Library of Medicine would get an 18 percent increase.

THE CANCER LETTER

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NCI Spending

Under the President's budget, NCI would fund 840 competing grants, about the same as FY93.

Following is NCI's estimate of its spending by mechanism if the President's budget is approved by Congress:

▶Research project grants, $950 million.
▶Cancer prevention and control, $138 million.
▶Construction, $20 million.
▶Cancer centers, $129 million.
▶Specialized Programs of Research Excellence, $30 million.
▶Cooperative groups, $88 million.
▶Intramural research, $388 million.
▶Contracts, $221 million.
▶Training, $39 million.
▶Careers, $15 million.
▶Cancer education, $9 million.
▶Research management and support, $96 million.
▶Other grants (conference, small grants), $17 million.

President's FY94 Budget: NIH

Institute	'93 Comparable	'94	%
NCI	$1,978	$2,142	8.3
NHLBI	1,214	1,198	-1.3
NIDR	161	163	1.2
NIDDK	680	677	-0.5
NINDS	599	590	-1.6
NIAID	988	1,065	7.8
NIGMS	832	833	0.1
NICHD	527	542	2.8
NEI	275	272	-1.3
NIEHS	251	261	4.0
NIA	399	394	-1.3
NIAMS	212	210	-0.9
NIDCD	154	153	-1.1
NIMH	583	576	-1.2
NIDA	404	407	0.7
NIAAA	176	173	-1.6
NCRR	312	327	4.9
NCNR	48	48	0.6
NCHGR	106	134	26.8
FIC	19	19	1.4
NLM	113	133	18.0
OD	190	234	23.4
B&F	108	108	0.0
Total	10,339	10,667	3.2

DCE Advisors OK Contract Concepts For Two New Epidemiologic Studies

Advisors to NCI's Div. of Cancer Etiology approved in concept two new contract projects for epidemiologic studies.

One project would study the feasibility of assessing cancer among migrant farmworkers. The other would provide for a $2 million, four-year study of cancer risk following treatment for infertility.

The DCE Board of Scientific Counselors, at its meeting late last month, also gave concept approval to recompetition of contracts for biomedical computing and in vivo toxicology.

The board decided to table a proposed RFA to study the biological effects in mammalian cells of low-level electromagnetic field exposure. Board members said the four-year, $4 million RFA should be funded as a contract for a smaller amount of money.

Following are the concept statements:

Cancer among migrant and seasonal farmworkers: epidemiologic feasibility investigations. Proposed new RFP, first year award $80,000 (FY94), total $160,000 over two years. Project officers: Shelia Hoar Zahm and Aaron Blair, Epidemiology & Biostatistics Program.

There are an estimated three to five million migrant and seasonal farmworkers in the U.S. Most hired farmworkers are Hispanic, African American, or Asian and live in extreme poverty. In addition to poor diets and limited access to medical care, adult and children farmworkers may be exposed to mutagenic and potentially carcinogenic pesticides and other hazards during weeding, thinning, and harvesting crops. Little is known about the occurrence of cancer in migrant or seasonal farmworkers.

The few studies that have evaluated cancer in farmworkers suggest that, like farm owner/operators, they may experience excesses of multiple myeloma and cancers of the stomach, prostate, and testis. A few studies suggest that farmworkers may differ from farmers by experiencing excesses of cancers of the buccal cavity and pharynx, lung, and liver. Cervical cancer was elevated in female farmworkers in one study.

Descriptive data and etiologic research on cancer among farmworkers and family members are needed and would be scientifically valuable because of farmworkers' widespread opportunity for exposure to potential carcinogens, often starting at an early age. The lack of research on farmworkers probably results from anticipated difficulties in conducting epidemiologic research in this mobile population. We believe the difficulties can be overcome and are proposing to conduct feasibility investigations that would help researchers plan successful etiologic studies.

The objective of this procurement is to evaluate the feasibility of conducting cancer epidemiology studies of migrant and seasonal farmworkers. The project involves five interrelated objectives designed to provide needed information on activities required in epidemiologic studies of cohort and case-control design:

1. Assessment of the accuracy of death certificate information on occupation, race, ethnicity, and cause of death for farmworkers. 2. Feasibility of tracing farmworkers over extended periods of time. 3. Assessment of whether current or former farmworkers are diagnosed and treated for cancer and entered into cancer registries or other relevant data bases in the same way as the general population. 4. Assessment of ability to reconstruct lifetime exposure histories using interviews with farmworkers, or their surrogates, and employers to obtain information on states of employment, crops, and activities by month and year; interviews with agricultural experts; and pesticide application records. 5. Obtain quantitative environmental and biomonitoring exposure measurements on migrant and seasonal farmworkers. Comparisons of the absorbed doses of migrant farmworkers to those of seasonal farmworkers would be used to evaluate whether the risks of one group are likely to be shared by the other.

Cancer Risk Following Evaluation and Treatment for Infertility. Proposed new RFP, total $2 million, four years. Project officers: Louise Brinton and Patricia Hartge, Epidemiology & Biostatistics Program.

Objectives are to evaluate the long-term cancer risks associated with specific causes of infertility and specific infertility treatment regimens, including ovulatory stimulating drugs.

A retrospective cohort study of approximately 10,000 women evaluated for infertility is planned. It is anticipated that these women will be ascertained from a variety of different medical practices. Several feasibility projects undertaken both within and outside of the program indicate the feasibility of accumulating the needed numbers for this study and tracing the study subjects to the present time. Once the cohort is identified, medical records will be reviewed and extensive information collected in order to classify causes of infertility and document therapies employed. Information to be abstracted will include physical examination findings, including infertility histories; reproductive tract abnormalities (e.g., structural defects, ovarian cysts, fibroids, endometrial hyperplasia); hormonal and endocrine assays; radiographic and sonographic findings; evaluations of male partners; final diagnoses; therapies; and any available information on potential confounders for subsequent diseases of interest. A variety of tracing mechanisms will be used to locate the study subjects. Once they are located, a questionnaire will be sent to all living subjects to elicit information on development of cancers and their potential risk factors (e.g., number, ages at and outcomes of pregnancies; menstrual history; contraceptive behavior; history of selected diseases; cigarette smoking and alcohol consumption; menopausal estrogen use; family history of cancer; socioeconomic status). The questionnaire data will be essential to assessing how these patients might differ from the general population. In addition, the data will be useful in documenting the occurrence of infertility treatments at clinics other than the admitting center.

Two types of awards will be made for this procurement. Contracts will be made to clinical centers in order to identify the types and number of patients required to test the hypotheses of interest for this study. Investigators from these centers will assist in identifying eligible patients for study and in determining the types of data that should be collected in

order to classify types of infertility. In addition, a contract will be awarded for a coordinating center. Although it is anticipated that the majority of patients will be identified by principal investigators at the clinical centers, it may be necessary for the coordinating center to identify other centers from which additional patients can be recruited to meet the goals of the study. Following identification of the study cohort, the coordinating center contractor will, with input from NCI investigators, develop a medical record abstraction form and a patient questionnaire. This contractor will abstract records for the required information. Initial information on subject location will be subjected to intensive tracing efforts to obtain updated information. Questionnaires will then be sent to subjects and, if necessary, telephone follow-up pursued. Any reports of breast procedures (breast biopsies and mastectomies), benign ovarian tumors or cancer development will be verified through retrieval of pertinent medical records.

To estimate the needed study size, the following assumptions were made: entry age of subjects into the cohort around midtwenties, entry around 1965, average age at observation around mid-fifties, 15% exposure of cohort to fertility medications, and 30% composition in cohort of infertility due to progesterone deficiencies. Further, a one-sided alpha of 0.05 and a beta of 0.10 were used. To estimate the expected numbers of cancers, Surveillance, Epidemiology and End Results (SEER) data were used, with a slight increase in the expected numbers of ovarian cancers, since the cohort will consist of women with lower average parity than the general population. Thus, expected cumulative values of about 3% for breast cancer, 0.8-1% for ovarian cancer, and 0.5-0.7% for endometrial cancer were considered. Using the rarest cancer and exposure of interest, we determined that in order to derive 90% power to detect a relative risk of 2 for ovarian cancer associated with use of infertility drugs (comparing exposed to unexposed women in the cohort), a cohort size of 10,000 women would be needed. With this size cohort, the minimum detectable relative risk of breast cancer associated with progesterone deficiencies would be 1.3 for comparisons to the general population and 1.4 for comparisons with other subjects in the cohort.

In vitro screening and evaluation of chemicals and preclinical drugs for in vivo toxicology selection. Recompetition of a contract held by Microbiological Associates Inc. Total $999,600 over four years for mouse lymphoma assay. Total $260,000 over four years for salmonella assay. Project officer: Thomas Cameron, DCE Director's office.

To continue support to intramural and extramural activities of DCE, competitive renewal of four-year contracts is planned: the Salmonella microsome plate assay and the mouse lymphoma L5178Y TK+/-assay. Each contract would be expected to report on 20-30 compounds per year, with approximately one-third of the compounds supplied requiring an additional assay before a final report on the compound is written. Several compounds will also require special protocols or unusual conditions for administration of the test substances. The historical cost per compound run under GLP is $2,400 for Salmonella assay evaluation and $9,600 for each mouse lymphoma assay evaluation. These costs include any special studies required for the test compounds. The proposed annual funding is adequate for testing 20-30 compounds depending on the number of repeated assays or special protocols required.

The proposed workscopes for the renewed contracts will be similar to those presently in effect, i.e., to evaluate any and all compounds and any urine samples shipped from NCI. Each compound or urine sample will be tested in up to five tester strains of Salmonella typhimurium both with and without S9 (rat and hamster) metabolic activation. Each test usually will have five dose levels, based on toxicity and solubility, which are determined by prior range-finding tests, and will incorporate designated positive as well as solvent or negative controls. Experimental protocols will also be utilized when required. In the mouse lymphoma assay, five doses are generally selected on the basis of cytotoxicity, toxicity, solubility and are tested both with and without metabolic activation. Appropriate positive and solvent controls will also be included in each assay; the positive controls used offer the capability of quantitatively sizing mutant colonies as an indication of the presence or absence of clastogenic effect. Additional analysis of the large and small colonies to determine whether mutation is due to point or deletion changes will be required on selected compounds. In anticipation of supporting the epidemiology program, up to five human urine samples per year will be included in the evaluation of microbial and/or mammalian cell mutagenicity.

Test compounds are normally procured through another NCI Branch (the Chemical Carcinogen Reference Standard Repository activity presently under contract to DCE) and blind-coded aliquot portions are supplied to the laboratories conducting the assays. Chemicals are acquired by the repository on an as needed basis and in sufficient quantity (usually 30 grams) to permit the repository to retain a reference sample or to resupply the laboratories if additional compound is required. To eliminate any laboratory bias, each individual chemical shipment is identified only by a code number assigned by the repository and is accompanied with instructions as to the correct solvent to use. The laboratories are instructed to coordinate, whenever possible, their purchase of solvents, other than water, so that they use the identical supplier batch as designated by lot number. Each laboratory shall prepare a report on each compound, combining a brief narrative and tabular results.

Biomedical computing–design and implementation. Recompetition of contracts held by Information Management Services Inc. First year award $2.25 million, total $9.745 million over four years. Project officer: J. Michael Stump, Epidemiology & Biostatistics Program.

This project will provide essential computer-related support services to epidemiologists, biostatisticians and other EBP professional staff in six intramural branches. The contracts will support data entry and editing activities, file management, software development and analysis and presentation of diverse and large-scale data resources. The datasets and analytic techniques are frequently complex because of the multidisciplinary national and international studies which the program conducts.

Contractor services will be provided by organized teams of project managers, computer professionals and support personnel. End products include carefully edited and documented machine-readable datasets, computer programs and systems for data management as well as statistical analysis applications, other technical documentation, and

computer output such as listings, tables and graphs.

The computer-related support that has been provided under these contracts falls into three main categories: (1) data management activities; (2) systems design and development; and (3) statistical analysis and modeling. Data management involves keying, formatting and editing data collected from field studies. Systems design and development entail defining technical specification requirements and developing the programming code required to implement automated solutions. Statistical analysis and modeling involve using standard software packages and specialized software to carry out analyses under the general guidance of EBP personnel. Total support for any one project often involves aspects of all three contract activities. During the last four years, contractors have supported an average of 80 EBP studies per month. Resulting technologies, methodologies and data resources have been shared within NCI and NIH. A number of these technologies have been advertised in scientific journals and requested by the extramural community.

The DCE Board also gave concept approval to "A Randomized Multi-Intervention Trial to Inhibit Precancerous Gastric Lesions," a $1.2 million noncompetitive contract to the Beijing Institute for Cancer Research to assess reasons for the exceptionally high rates of stomach cancer in a rural area of Shandong province, China.

News Roundup

NCI To Study Brain Tumor Etiology, Including Cellular Phone Exposure

NCI's Div. of Cancer Etiology plans to conduct a case-control study of brain tumors in adults, Div. Director Richard Adamson said.

Approximately 800 recently diagnosed cases and an equal number of controls will be enrolled from several U.S. hospitals. Cases and controls will be interviewed about their histories of exposure to a variety of environmental and behavioral risk factors, including cellular phones, Adamson told a recent meeting of the DCE Board of Scientific Counselors.

The study will be supported through an "Emergent Cancer" master agreement contract.

Uncertain etiology of brain tumors and public concern about cellular phones prompted the study, Adamson said. "The list of putative risk factors is diverse and includes physical, chemical, and biological agents, such as ionizing and nonionizing radiation, head trauma, organic solvents and other chemicals encountered in the workplace, specific dietary constituents, medicinal agents, hormonal or reproductive factors, and viruses," Adamson said.

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Two new branches have been created in NCI's Epidemiology & Biostatistics Program, Div. of Cancer Etiology: the Genetic Epidemiology Branch and the Viral Epidemiology Branch.

The Genetic Epidemiology Branch, headed by Margaret Tucker, will study families at high risk of cancer, undertake interdisciplinary studies with clinicians and laboratory investigators to clarify mechanisms of genetic susceptibility and cooperate in research on genetic determinants of cancer with intramural and extramural investigators, DCE Director Adamson said.

The Viral Epidemiology Branch, headed by William Blattner, was created from a section in the Environmental Epidemiology Branch to focus on epidemiologic studies aimed at identifying the role of RNA and DNA viruses and other infectious agents in the etiology of cancer, Adamson said. The branch also is performing studies of HIV-1 and HIV-2 and related viruses to define their role in the etiology of cancer and other diseases.

Also, the Nutritional Epidemiology Section was created in the Environmental Epidemiology Branch.

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U.S. Court of Appeals for the District of Columbia has struck down a federal law prohibiting executive branch employees from accepting payment for outside activities such as speaking and writing.

The court ruled that the ban on honoraria included in the 1989 Ethics in Government Act infringed the First Amendment rights of government employees. The ban was challenged by the National Treasury Employees Union in suit against the Justice Dept.

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NCI's Div. of Cancer Prevention & Control will enter into negotiations with Abbott Laboratories and Hybritech to select a manufacturer to provide the Prostate Specific Antigen reagent kits for use in the Prostate, Lung, Colorectal and Ovarian Screening Trial.

The division also will enter into negotiations with Centocor, manufacturer of the CA125 assay reagent kit, for use in the PLCO trial.

Both contracts will extend for eight years and require 148,000 assays.

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U.S. investigators received 99.1 percent of NCI funds available for competing grant awards in FY92, according to a report presented to the National Cancer Advisory Board at its February meeting.

Foreign grant awards received 0.9 percent of competing funds, or about $2.9 million in FY92. Noncompeting awards received $3.8 million, for total foreign grant funding of $6.7 million.

The Institute spent $6.5 million in FY90 and $6.2 million in FY91 on foreign grant awards.

About 4 percent of the Institute's contract dollars were awarded to foreign sources in FY92.

Canada received 30 percent of the foreign grant award funds, followed by Australia (15 percent), France (13 percent), Italy (nearly 11 percent), and Sweden (nearly 9 percent).

For contracts, Finland received nearly 37 percent of the amount that went overseas, followed by Canada (14 percent), Switzerland (10 percent), Jamaica (6.6 percent), and Sweden (5.5 percent).

The NCAB requested the figures on foreign awards about a year ago.

Letter to the Editor

NCI Workshop Summary Incomplete, Results Are Taken Out Of Context

To the Editor:

Your reporting of the National Cancer Institute Workshop on Breast Cancer Screening (**The Cancer Letter**, April 2) failed to alert the reader that the invited discussants were heavily weighted toward those opposed to screening and the summary report neglected to elaborate on major weaknesses in the analyzed data.

I was one of only three out of 23 invited to participate in the workshop who were critical of the use of the trial data. The chairperson, Dr. Suzanne Fletcher, had already published an editorial in her journal "The Annals of Internal Medicine" opposing the screening of women 40-49. Thus, it is not surprising that her summary of the NCI workshop neglected to point out several key factors. Among the information that was dismissed in her report was the fact that five out of the eight trials reviewed at the workshop are showing a mortality reduction for women 40-49 that ranges from 16% to 49%. Dr. Fletcher is quick to point out that these benefits are not statistically significant, but she fails to inform the reader that the trials are not likely to ever become significant because they were not designed to be retrospectively stratified by age, and did not include sufficient numbers of women ages 40-49 to be able to provide statistical significance.

Epidemiologists are repeatedly evaluating numbers coming out of these studies without understanding the design and performance of the trials that produced those numbers. With the exception of the National Breast Screening Study of Canada (NBSS), the trials that were reviewed were not designed to look specifically at women 40-49 and do not have the statistical power to be able to prove a benefit. The majority of the trials had only one third to one fifth the number of women under age 50 as compared to 50 and over. Given the lower incidence of breast cancer among younger women, a trial to prove a benefit for this subgroup would have to have many more women under 50 than one evaluating women 50 and over.

Even the NBSS did not contain a sufficient number of women in the 40-49 year age group to be able to demonstrate any benefit less than 40% (a 25% to 30% benefit is expected). Its power was further compromised by a failure of the investigators to increase the sample size to account for the dilution caused by the fact that 26% of the "unscreened" controls had mammograms outside the trial. In addition, the control group had an unexplained and unanticipated survival of over 90% at five years (as compared to a background in Canada and the U.S. of 75% to 78% for women of comparable age) that further diluted the ability to show a benefit.

The screened group would have to have had virtually no deaths to improve on this selection biased control group. This would have been impossible since there was an "unexplained," but statistically significant, weighting of advanced cancers (women with positive nodes and those with four or more positive nodes) "randomized" to the screened group guaranteeing deaths.

This imbalance is likely due to the fact that, rather than a blind randomization, the women who participated in the NBSS had a clinical breast examination prior to randomization (a fact that is absent in the Fletcher Report). Since women with clinical symptoms of breast cancer were permitted in the NBSS, compromise of the randomization was possible. Regardless, the excess of advanced cancers placed in the screened group prior to screening eliminates any early benefit that screening might have. The problems of the quality of the NBSS mammography further compromises the validity of the study.

The workshop results are being taken dangerously out of context. This is a classic example of the improper use of statistics. One cannot merely look at numbers without understanding the context that produced them. The fact that the reviewers, including Dr. Fletcher, have chosen to ignore this context is apparent in the meta-analysis performed by Dr. Elwood and a group from New Zealand ("The Effectiveness of Breast Cancer Screening by Mammography in Younger Women," Online J Curr Clin Trials 1993;32). In the introduction to that paper the authors clearly state that screening trials must exclude women with clinical signs of malignancy, yet

they then proceed to analyze the NBSS without any apparent recognition that the trial actively required women with palpable masses to participate to compensate for the low statistical power of the trial. Other "oversights" are too numerous to detail in a limited space.

The summary of the NCI workshop is incomplete. Problems with the trials are mentioned, but the impact of those problems is not discussed, leaving the reader with the false impression that there is no benefit for younger women. The only change that should be made in the guidelines should be based on the importance of screening women 40-49 every year, and not the "optional" one to two years.

Women and physicians should be aware of the fact that there are strong inferential data that screening can reduce mortality for women 40-49. The fact that there is no "absolute" proof is due to the reality that no trial to date has been properly designed and performed to be able to provide absolute proof. The fact that the trials are showing a benefit for younger women despite the fact that they were not designed to do so with too few women included, for many too long an interval between screens, and significant technical failures in many of the trials, suggests a significant potential for benefit.

Daniel B. Kopans
Dept. of Radiology
Mass. General Hospital

RFPs Available

Requests for proposals described here pertain to contracts planned for award by the National Cancer Institute unless otherwise noted. Address requests for NCI RFPs, citing the RFP number, to the individual named, the Executive Plaza South room number shown, National Cancer Institute, Bethesda MD 20892. Proposals may be hand delivered to the Executive Plaza South Building, 6130 Executive Blvd., Rockville MD.

RFP NCI-CB-33050-60

Title: Master agreement for tumor tissue resources for evaluation of promising diagnostic and prognostic approaches
Deadline: Approximately June 4

NCI is seeking experienced organizations able to access and provide large numbers of paraffin embedded tumor tissues (and where available, frozen tumor specimens) with associated patient followup data to be used for the validation of promising new diagnostic and prognostic assays. The tumor tissue required and the assays to be performed will be defined by master agreement orders issued during the period of performance. The MAOs will be based upon competition between members of the master agreement pool. MA holders who successfully bid on specific MAOs shall provide and analyze paraffin blocks from a minimum number of patients with specific tumor stages of breast, colorectal, or bladder cancer and with a minimum number of years of clinical followup. MA holders shall perform evaluations of promising new diagnostic and prognostic techniques as defined by individual MAOs. Offerors may qualify to perform one, all, or any combination, of the following methodologies: flow cytometry studies of cell proliferation, molecular biology studies, and/or immunohistochemical assays. Multiple MAOs may be issued in each year. The studies to be performed under the MAOs will be designed by NCI. Publication of results of the studies is expected to reflect the collaborative efforts between MAO holders and NCI staff.

Contract specialist: Barbara Birnman, RCB Executive Plaza South Rm 620, phone 301/496-8611.

Program Announcement

PA-93-070

Title: **Cancer prevention and control research small grant program**

Application Receipt Dates: June 1 & Oct. 1, 1993, 1994, 1995

The National Cancer Institute invites applications for small research grants (R03) in cancer prevention and control. This program announcement is designed to aid and facilitate the growth of a nationwide cohort of scientists with a high level of research expertise in the field of human cancer control intervention research.

New and experienced investigators in relevant fields and disciplines (e.g., disease prevention and control, medicine, public health, health promotion, epidemiology, social work, nursing research, nutrition, health policy, health services research, and behavioral sciences, such as psychology, health education, sociology, and community organization) may submit applications to test ideas or do pilot studies.

Eligible applicants include established researchers, new investigators, qualified staff of public health and collaborating agencies, and predoctoral investigators currently enrolled in an accredited doctoral degree program.

Ineligible applicants are those who are or have previously been Principal Investigator on an NCI funded Cancer Control grant or contract for more than two years; previous recipients (PIs) of a DCPC Small Grant; and foreign institutions. Small grant research support may not be used to supplement research projects currently supported by Federal or non-Federal funds, or to provide interim support of projects under review by the Public Health Service.

Total direct costs up to $50,000 are allowed. The total project period may not exceed two years.

This program is designed to encourage investigators from a variety of academic, scientific, and public health disciplines to apply their skills to scientific investigations in the field of human cancer control intervention research. The research may occur in a variety of settings, such as universities, cancer centers, communities, schools, health departments, laboratories, and worksites.

Investigators may choose any of the full range of scientific approaches to their work. Many studies and research designs may contribute to the design, implementation, or evaluation of future phase III-V studies, e.g., descriptive baseline surveys, testing, modification and validation of surveys or program materials for use in the proposed population groups, testing of recruitment or compliance procedures for participants, and the like. Applications should include justification of study design and sample size, as well as clearly indicate the significance of the research and where it will lead.

The following cancer control program areas are appropriate for Human Intervention research grant applications:

--Prevention: chemoprevention, diet and nutrition intervention studies.

--Screening and early detection: pilot studies of new methods; application of the "NCI Guidelines for Early Detection." In the area of breast screening and detection, studies of breast self-examination as a single modality will not be accepted.

--Cancer control sciences: studies to change current behaviors and/or institute new behaviors or health promotion interventions effective in reducing incidence, morbidity or mortality from cancer.

--Smoking prevention and cessation: pilot studies targeted at improving utilization of current technologies in target populations or organizations are encouraged. Minor enhancements of existing technology are not encouraged.

--Applications research: in modifying, feasibility testing, and adopting proven state-of-the-art intervention programs and strategies from other research projects (e.g., screening, smoking prevention, etc.) for use in special populations, state and local health agencies, or other organizational and community setting.

In addition, planning, epidemiologic, and survey studies aimed at developing cancer control operations research and evaluation studies are appropriate for human intervention research grant applications.

--Community oncology: improving the application of patient management, pain and symptom management, rehabilitation and continuing care research advances into community settings.

--Applied epidemiology studies: using epidemiologic methods to determine the association between exposure to an intervention and its impact on disease.

Although the specific study proposed may attempt only to obtain preliminary data and/or conduct pilot studies in support of a future, more detailed Phase III-V study, it is important that a long-term human cancer control hypothesis and supporting scientific justification be presented.

Studies to determine the efficacy of chemotherapy, surgery, radiotherapy and other primary treatment interventions are not considered cancer control research under this PA. Laboratory animal studies are not allowed.

Inquiries may be directed to Helen Meissner, NCI, Executive Plaza North Rm 330, Bethesda, MD 20892; Tel. 301/496-8520.

Cancer Prevention Fellows Accepted For 1994 Program, Deadline Sept. 1

NCI's Div. of Cancer Prevention & Control is accepting applications for the Cancer Prevention Fellowship Program.

The purpose of the program is to train individuals from a variety of health science disciplines in the field of cancer prevention and control. The program provides for:

▶Master of public health training (at accredited university programs)

▶Participation in the DCPC Cancer Prevention and Control Academic Summer Course

▶Working at NCI directly with individual preceptors on cancer prevention and control projects

▶Field assignments in cancer prevention and control programs at other institutions.

Funding permitted, as many as 10 Fellows will be accepted for up to three years of training, beginning July 1, 1994.

Deadline for applications is Sept. 1.

For application information, send a postcard or letter with name and address to Dr. Douglas Weed, director, Cancer Prevention Fellowship Program, Div. of Cancer Prevention & Control, NCI, Executive Plaza South T-41, Bethesda, MD 20892, or phone Barbara Redding, 301/496-8640.

In Brief

ACS Funding Rate For New Projects Was 9% In '92, Annual Report Finds

(Continued from page 1)

. . . 3,358 GRANTS APPLICATIONS were reviewed by the American Cancer Society in 1992, a 2 percent increase over the previous year. ACS funded 818 grants for a total of $94,261,694. Percentage of grants funded: new projects, 9%; renewal projects, 69% (competitive renewals 48.7%); personnel, 27%; institutional, 82.8%; special, 100%; research development program project grants, 39%; special institutional grants, 13%. Among trends noted in the annual report of the Society's research grants program, are the continued increase in the number of women entering cancer research careers and comparable funding rates between MDs and PhDs. Large numbers of grants were reviewed in the areas of oncogenes, genetics, biological response modifiers, psychosocial and behavioral research, and cancer control. The states receiving the most grants and awards were California, New York, Massachusetts, Pennsylvania, Texas, and North Carolina. Copies of the 1992 edition of "An Analysis of the Research Grants Program" are available from the ACS research department at 404/329-7556. . . . Items for 'In Brief' may be mailed or faxed to **The Cancer Letter**, PO Box 15189, Washington, D.C. 20003, fax 202/543-6879, phone 202/543-7665.

NCI Contract Award

Title: Resource for collection and evaluation of human tissues and cells from donors with epidemiological profiles
Contractor: Univ. of Maryland at Baltimore, Dept. of Pathology, $2,780,252.