

THE

CANCER LETTER

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NEW BIOMEDICAL RESEARCH PANEL ACCEPTS BROAD MANDATE, MAY SUGGEST SEPARATE HEALTH DEPT.

Members of the President's Biomedical Research Panel agreed this week at their first meeting that their mandate is a broad one and recommendations they will make at the conclusion of their 18-month study could range all the way from attempts to define appropriate use of basic and applied research to the establishment of a separate Dept. of Health.

The Panel chairman is Franklin Murphy, an M.D. who is chairman of the board of the Times Mirror Co., former chancellor of UCLA and the Univ. of Kansas and one-time dean of the Univ. of Kansas School of Medicine.

"One thing we don't want to do is write a report that doesn't get used," Murphy said. After mentioning general problems affecting biomedical research (dwindling U.S. resources, competition for federal

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In Brief

NCAB TO HEAR REPORTS ON HUMAN CANCER VIRUS, MAYO PROJECTS, PROPOSED FDA REGULATIONS

MARCH MEETING of the National Cancer Advisory Board has as tentative agenda items: Report by Robert Gallo on isolation of type 1 virus from human myelogenous leukemia; report by George Todaro on RNA tumor virus information in human cancers; reports from Mayo Clinic on its pancreas cancer diagnosis and lung cancer projects; discussion of bedside clues to etiology of cancer; report on the recent high risk meeting in Florida; discussion of implications of proposed FDA regulations on toxicants in food; report by the subcommittee on environmental carcinogenesis. The meeting is scheduled for March 17 & 18.

... STAFF CUTS that will be made necessary if the President's request to trim NCI 1975 spending by \$123 million "are something we can't live with if we're going to conduct our business properly," according to Thomas King, director of the Div. of Research Resources & Centers. ...

WEST COAST Cancer Foundation, hoping to avoid duplication of effort, is seeking information on already existing audio-visual and educational teaching aids related to breast cancer; training programs in nursing oncology and rehabilitation specialists; and breast cancer patient management guidelines. The organization is one of 13 with NCI Cancer Control contracts to plan and develop a demonstration breast cancer network. Contact Simeon Cantril, WCCF-Breast Cancer Network, P.O. Box 7999, San Francisco 94120. ... GEORGE JAY, deputy director of the Div. of Cancer Control & Rehabilitation, plans to retire in the near future. ... ALFRED KETCHAM, former NCI chief of surgery and clinical director, has been awarded the Thomas E. Raffington Memorial Professorship in Clinical Oncology at the Univ. of Miami. Ketcham is chief of the university's division of surgical oncology.

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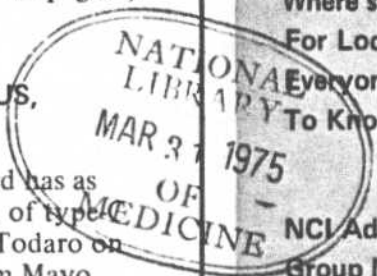
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SCHMIDT BLASTS OMB FOR 'SERIOUS' MISTAKES IN BIOMEDICAL RESEARCH

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dollars, erosion of prestige of government institutions), Murphy cited more specific factors the Panel should take into consideration:

- The growing tendency by the executive branch, particularly the Office of Management & Budget, to exercise more management control over health programs.

- The impact national health insurance will have on biomedical research.

- "You can't talk about research at NIH without talking about manpower training."

"It's clear that we will have national health insurance," Murphy said. "The ideological struggle is about over, if it is not already over. The struggle now is only concerned with the mechanics and the amount of dollars that will be required."

Panel member David Skinner, Univ. of Chicago, suggested the study should include consideration of whether a national health policy should have as its goal improvement of health, or improvement of the treatment of diseases. "Does current research focus enough on prevention and detection as opposed to treatment?" Skinner asked.

Skinner also suggested that the Panel might take a look at research being conducted by federal agencies outside of NIH and determine if that work can be better coordinated with and utilized by NIH.

"We might want to take a look at individual programs within NIH . . . Some are more appropriate for grant support, others, targeted research, for contracts. We should have a full list of the mechanics of support, and try to determine which type of funding has the better payoff."

Murphy commented that a definition of what a national health policy might be "could be a useful service. Congress is hungry for ideas."

Ewald Busse, Panel member from Duke Univ., called for "operational or relevant definitions, not scientific definitions," of such terms as biomedical research, behavioral research, basic research as opposed to clinical or applied research. "I get a terribly uncomfortable feeling talking about our mission without clear definitions for those terms."

Robert Ebert, Harvard Medical School, commented on the opening remarks of Acting Asst. Secretary for Health Theodore Cooper, who said that the Panel's charge did not include a repeat of a study made 10 years ago to evaluate the quality of NIH research.

"I agree, that quality of biomedical research is not the major thrust of this Panel's work," Ebert said. "But I think we should look at the range of quality. There are those who have the idea that some of the work that goes on in centers as individual projects under one umbrella would not otherwise be

funded. We should look at the system. How effective has it been to bring a number of projects together at centers?"

Paul Marks, Columbia Univ., agreed that while research quality should not be one of the Panel's major considerations, "there have been sufficient changes in 10 years to warrant some factfinding on research efforts and, for example, on the relationship of intramural and extramural programs."

Benno Schmidt, who as chairman of the President's Cancer Panel was designated in the legislation creating the new Panel as a member of it, said he shared Murphy's view that the Panel's objective "should not be to put another report on the shelf. It is largely up to us to produce a useful result, which we can if we write the right kind of report.

"There's an excellent chance we can have a real impact," Schmidt continued. "Not only on what needs to be done, but also with suggestions on how to do it. If we come up with concrete recommendations that make sense, we'll be listened to, by Congress and the Administration.

"I don't see how we can avoid reaching conclusions about how biomedical research is going," Schmidt said. "We need to make a serious inquiry into that. There have been some very serious mistakes made . . . which this Panel can do something about."

With top OMB executives in the audience, Schmidt severely criticized that agency.

"It was a serious mistake, both from a substantive standpoint and from an organizational standpoint, when OMB eliminated the research training programs. It was a substantive mistake because it is inconceivable that you can have good biomedical research without bringing into the field bright young minds. OMB had its reasons, but I never felt they were valid.

"Organizationally, it was a mistake, because that's not the kind of decision that should be made by OMB."

Schmidt pointed to the "diminution" of funding basic research at other (than NCI) institutes at NIH as another serious mistake, at the same time funds for the cancer program were being increased. "It was never intended (by proponents of the cancer program) that increases for cancer research would be made at the expense of other biomedical research. This Panel can do something about that."

Schmidt defended research in cancer centers. "There are a lot of dollars in the budget for centers, where some excellent research is being done."

Schmidt said the Panel "should get it clearly established, that under our system, biomedical research is not something that can be turned on or off, for budgetary expediency or any other kind of expediency."

Questions the Panel might consider, Schmidt continued, include:

• "Why should the federal government support biomedical research at all in a free enterprise society? How did it come about? Should it be continued and at what level?"

On the question of the proper level of funding for biomedical research, Schmidt noted that vast sums of money have been saved by eliminating certain diseases as major health problems, such as polio and tuberculosis. The NIH budget, now close to \$2 billion a year, should be related to what the nation spends on health care, Schmidt said.

"If we spend \$100 billion a year on health care, what is a sound level to spend on research? There is a rule of thumb in business, that if some problem is costing you a lot of money, and it is possible to eliminate that problem, then it is not unrealistic to spend as much as 5% of that amount to eliminate it."

One of the government-wide problems that may be hampering biomedical research is the salary freeze, Schmidt said. He pointed out that 81 NCI staff members now earn the same amount (\$36,000 a year) as Director Frank Rauscher (and a few NCI executives who are commissioned officers in PHS earn more).

Schmidt concluded by agreeing that "I, too, would not withdraw from a recommendation as broad as asking for a separate Dept. of Health, if that is the conclusion we reach."

Albert Lehninger, Panel member from Johns Hopkins Univ., emphasized the relationship of the Panel's study to the enactment of a national health insurance program. "It would be a great help for the Panel to consider the nature of the programs being considered. Our recommendations will have to deal with a massive program that will have great impact on funding biomedical research."

Murphy suggested a number of projects for the Panel's staff to get started on:

- The need to know if the number of new scientists being trained is adequate to support the current level of biomedical research, and whether or not the flow should be increased or diminished.

- Relationship of federal health programs and medical schools, and "the true financial realities" regarding the schools.

- Study of the quality and adequacy of fundamental research.

- A look at the clinical applications of research findings. Has technology transfer been rapid enough? Is it in balance?

- Structure and trends of existing programs. "We see the cancer program breaking away somewhat from NIH by legislative mandate. If it works for cancer, why not for heart disease, or arthritis? Will we see NIH fragmented?"

- How should the NIH director be selected? How should the director of the cancer program be selected? Who should be consulted? Should there be some mandatory process of consultation with the scientific community? Should the President be dir-

ected to select from a group of five suggested by the National Academy of Sciences or some other body?

(When Rauscher was named by President Nixon to head NCI after the National Cancer Act was passed in 1971, those consulted included member of the National Cancer Advisory Board, the Cancer Panel, and a range of scientists outside of government. Schmidt made the final recommendation to the President.)

The new Panel's staff members include Charles Lowe, an M.D. (pediatrics), as executive director; Richard Greulich, PhD (anatomy), staff director; staff members George Eaves, PhD (microbiology); Mark Ferber, PhD (political science), and Richard Louttit, PhD (psychology). There are four on the administrative staff.

Still to be hired are a biomedical research clinician, behavioral research clinician (a psychiatrist), a social psychologist in community research programs, a behavioral scientist in drug abuse, an economist, and a statistician-program analyst.

SCHMIDT'S TERM ON CANCER PANEL EXPIRES, NO REAPPOINTMENT YET

Benno Schmidt's term as a member and chairman of the President's Cancer Panel expired Feb. 16, and there was no indication by press time whether or not he would be re-appointed.

Schmidt participated in the first meeting of the Biomedical Research Panel anyway. His next official appearance as a member of the Cancer Panel will be March 17, at the meeting of the National Cancer Advisory Board.

NCI executives and others feel it is inconceivable that President Ford would not reappoint Schmidt, who has been an extremely effective and articulate spokesman for the cancer program and for all biomedical research. But they fear that his frequent clashes with the Office of Management & Budget and HEW brass, and the success he has had in those battles, may have led the President's advisors to recommend against him.

CONGRESS HOLDS REVISION HEARINGS, BUT PROBABLY WILL LET REQUEST DIE

House and Senate HEW Appropriations Subcommittees held hearings during the past week on the President's budget revision request, although Warren Magnuson, chairman of the Senate Subcommittee, didn't bother to attend.

The hearing, the Washington Democrat said, "is not necessary." Magnuson probably will let the revision request die without taking it to the Senate floor.

With the ruling by the General Accounting Office that the 45-day period for action on the HEW revision will expire March 1, NCI could start spending at the appropriated level of \$691 million as early as

next week. Spending has been held to the level of the rescission—\$568 million—and NCI has been getting ready to step up contract and grant awards in anticipation of release of the extra money.

The Office of Management & Budget will have to act on NCI's apportionment request before the new money is available, however. OMB has a history of ignoring legislative interpretations other than its own, and it maintains the 45-day period extends to the middle of March.

Both houses of Congress would have to approve the rescission to put it into effect. Either house could kill it by voting it down prior to the 45 days since the request was made; or if neither body acts within the 45 days, the rescission is dead.

Birch Bayh (D-Ind.) was the only senator at the hearing. After discussion progress of the cancer program with NCI Director Frank Rauscher, Bayh asked how much money NCI needed for the current fiscal year.

Administration officials are under pressure to defend the President's budget actions before Congress, but Rauscher didn't flinch. He pointed out that his original request to OMB was for \$750 million, the full amount authorized by Congress for this year, and nothing has happened to diminish that need.

When Bayh asked Rauscher how many job positions NCI would need to administer the expenditure of \$691 million, Rauscher responded with 1,975. NCI now has 1,854 and is under orders to cut that further.

Bayh asked HEW budget chief Charles Miller if the department would release additional positions to NCI that might be awarded by OMB. Miller said HEW would release enough to spend the extra money.

"Won't you obey the law?" Bayh asked.

Miller said HEW would, although the Administration has frequently ignored congressional intent that defies OMB policies.

WHERE'S THE MONEY? EVERYONE WANTS TO KNOW, AND ACCC HOPES TO FIND OUT

The Assn. of Community Cancer Centers had planned six workshops for the organization's recent meeting in Washington, all of them dealing with crucial problems members face in establishing cancer programs in their own communities.

Trouble was, one of the workshops was entitled, "Money for Cancer Programs—Where Is It? No one wanted to attend the others.

Physicians who make up the ACCC membership have recognized what NCI has been telling everyone else—don't count on federal money for more than just a fraction of the costs of a local cancer program, if that. Even the big, well-funded demonstration projects in cancer control will have to find other sources of support eventually.

Workshop participants defined their problem—

money is needed for preclinical and postclinical patient oriented programs to round out their cancer control efforts. Clinical cancer care itself can be mainly funded through normal medical reimbursement mechanisms.

Funds are also required for program planning and development, and ongoing administration of cancer programs.

So where is the money going to come from?

Norman Cannon, vice president for medical affairs of the Wilmington, Del., Medical Center, submitted a list of possible sources:

- * Blue Cross and Blue Shield—reimbursement, dues or gifts.
- * American Cancer Society—grants or contributions.
- * The federal government—NCI grants or contracts, or perhaps outright appropriations from Congress.
- * Fund drives within the community.
- * Foundation support—gift contributions.
- * Hospitals, in the form of dues or outright contributions.
- * Insurance companies—reimbursement or contributions or dues.
- * Private individual gifts selectively obtained, tax deductible, membership dues.
- * Membership dues—from the institutional members in the cancer control effort and in the network. A sliding scale and with a five-year commitment at least.
- * State government—grants through the state health department, outright legislative appropriation, or a special tax to support the center and the network.
- * Loading on existing services.

A subcommittee of the NCI Cancer Control Advisory Committee has been set up to suggest alternative sources of funding. At its first meeting, a suggestion was made that cancer control contracts should include some money to support efforts at the local level to develop funding sources.

NCI ADVISORY GROUP MEETINGS FOR MARCH, APRIL

Cancer Control & Rehabilitation Advisory Committee—March 3, Building 31, Conference Room 7. Open 9 a.m.-1 p.m. Closed 1 p.m. to adjournment. Executive Secretary: Veronica Conley.

Committee on Cancer Immunobiology—March 5-7, 9 a.m., Landow Building, Conference Room C-418. Open March 5, 9-9:30 a.m.; Closed March 5, 9:30 a.m.-11 p.m., March 6, 10 a.m.-11 p.m., March 7, 10 a.m.-adjournment. Executive Secretary: Barbara Sanford, Building 10, Room 4B17; 301-496-1791.

Cancer Control Community Activities Review Committee—March 6-7, 8:30 a.m., Building 31C, Conference Room 6. Open March 6, 8:30 a.m.-9 a.m.; Closed March 6, 9 a.m.-5 p.m.; March 7, 8:30 a.m.—adjournment. Executive Secretary: Veronica Conley, Blair Building, Room 7A-01; 301-427-7943.

Cancer Control Supportive Services Review Committee—March 6-7, 8:30 a.m., Building 31C, Conference Room 8. Open March 6, 8:30 a.m.-9 a.m.; Closed March 6, 9 a.m.-5 p.m. March 7, 8:30 a.m.—adjournment. Executive Secretary: Veronica Conley.

Committee on Cancer Immunodiagnosis—March 9-11, 7 p.m. Landow Building, Conference Room C-418. Open March 9, 7-7:30 p.m. Closed March 9, 7:30-11:30 p.m.; March 10, 8:30 a.m.-11:30 p.m.; March 11, 8:30 a.m.—adjournment. Executive Secretary: Judith Magnotta, Building 31, Room 4B17; 301-496-1791.

Cancer Clinical Investigation Review Committee—March 10, 9 a.m. Building 31A, Conference Room 2; Open for the entire meeting. Agenda: To plan a proposed CCIRC self-evaluation and program advisory workshop. Executive Secretary: John Lane, Westwood Building, Room 803; 301-496-7903.

Cancer Control Intervention Programs Review Committee—March 10-11, 8:30 a.m., Building 31C, Conference Room 7. Open March 10, 8:30-9 a.m. Closed March 10, 9 a.m.-5 p.m.; March 11, 8:30 a.m.—adjournment. Executive Secretary: Veronica Conley.

Subcommittee on Environmental Carcinogenesis—March 11, 9:30 a.m. Building 31C, Conference Room 10. Open for the entire meeting. Agenda: Formulation of recommendations concerning potential problems in environmental carcinogenesis. Executive Secretary: W. Gary Flamm, Building 31, Room 11A05; 301-496-5946.

Committee on Cancer Immunotherapy—March 13, 1 p.m., Building 10, Conference Room 4B14. Open March 13, 1-1:30 p.m.; Closed March 13, 1:30 p.m.—adjournment. Executive Secretary: Dorothy Windhorst, Building 10, Room 4B17; 301-496-1791.

Breast Cancer Epidemiology Committee—March 14, 9 a.m., Building 31A, Conference Room 2. Open March 14, 3 p.m.—adjournment. Closed March 14, 9 a.m.-3 p.m. Agenda/open portion: Fiscal year 1976 project plan discussion. Executive Secretary: Bernice Radovich, Landow Building, Room B404; 301-496-6773.

National Cancer Advisory Board—March 17-18, 9 a.m., Building 31, Conference Room 6. Open March 17, 9 a.m.-5 p.m., March 18, 2 p.m.—adjournment. Closed March 18, 9 a.m.-2 p.m. Executive Secretary: Richard Tjalma, Building 31, Room 11A46, NIH, 301-496-5854.

Committee on Cancer Immunotherapy—March 20, 1 p.m., Building 10, Room 4B14. Open March 20, 1-1:30 p.m.; Closed, March 20, 1:30 p.m.—adjournment. Executive Secretary: Dorothy Windhorst.

Breast Cancer Diagnosis Committee—March 21, 9 a.m., Building 31A, Conference Room 3. Open March 21, 3 p.m.—adjournment; Closed March 21, 9 a.m.-3 p.m. Agenda/open portion: Fiscal year 1976 project plan discussion. Executive Secretary: Bernice Radovich.

Committee on Cancer Immunobiology—March 31, 2 p.m., Building 10, Conference Room 4B14. Open, March 31, 2-2:30 p.m.; Closed March 31, 2:30 p.m.—adjournment. Executive Secretary: Barbara Sanford.

Immunologic Control of Virus-Associated Tumors in Man: Prospects and Problems—April 7-9, 8:30 a.m., Building 31, Conference Room 10. Open April 7 & 8, 8:30 a.m.-5 p.m.; 8:30 a.m.-1 p.m. April 9. Agenda: To review the current status of information on the immunologic control of virus-induced tumors in animals and the potential application of such studies to human cancer. Executive Secretary: George Burton, Landow Building, Room C306, NIH.

Virus Cancer Program Scientific Review Committee A—April 10-11, 8:30 a.m., Building 31C, Conference Room 10. Open April 10, 8:30-9:30 a.m.; Closed April 10, 9:30 a.m.-5 p.m.; April 11, 8:30 a.m.—adjournment. Executive Secretary: Elke Jordan, Building 37, Room 1A01; 301-496-6927.

Diagnostic Radiology Committee—April 23, 8:30 a.m., Landow Building, Conference Room C-418. Open April 23, 8:30-10:30 a.m.; Closed April 23, 11 a.m.—adjournment. Agenda/open portion: Discussion of possible new areas of research and other business related to the Diagnostic Radiology Program. Executive Secretary: R. Quentin Blackwell, Building 31, Room 3A10; 301-496-1591.

Virus Cancer Program Scientific Review Committee B—April 28-29, 9 a.m., Building 37, Conference Room 1B04. Open April 28, 9-10 a.m.; Closed April 28, 10 a.m.-5 p.m.; April 29, 9 a.m.—adjournment. Executive Secretary: Harriet Streicher, Building 37, Room 2D24; 301-496-3301.

RFPs AVAILABLE

Requests for proposal described here pertain to contracts planned for award by the National Cancer Insti-

tute, unless otherwise noted. Write to the Contracting Officer or Contract Specialist for copies of the RFP. Some listings will show the phone number of the Contract Specialist, who will respond to questions about the RFP. Contract Sections for the Cause & Prevention and Biology & Diagnosis Divisions are located at: NCI, Landow Bldg. NIH, Bethesda, Md. 20014; for the Treatment and Control Divisions at NCI, Blair Bldg., 8300 Colesville Rd., Silver Spring, Md. 20910. All requests for copies of RFPs should cite the RFP number. The deadline date shown for each listing is the final day for receipt of the completed proposal unless otherwise indicated.

RFP NO1-NCI-CP-55655-57

Title: *Significance of mutation in carcinogenesis*
Deadline: *March 17*

Develop a Research Approach which would be aimed at determining whether mutation is a necessary and required step in the action of chemical carcinogenesis.

Contract Specialist: Anna Beattie
Cause & Prevention
301-496-6361

The following RFP has been released by the Environmental Protection Agency. Write to: Negotiated Contracts Branch, Contracts Management Div., National Environmental Research Center, EPA, Cincinnati, Ohio 45268.

RFP CI-75-0147

Title: *Determination of the in vivo and in vitro mutagenic potential of BIS (2-chloroethyl) ether*

Deadline: *March 10*

BIS (2-chloroethyl) ether is a compound found consistently in some drinking water and suspected of being a cancer-causing and mutagenic agent. The mutagenic potential of this compound must be determined by a battery of tests both in vivo and in vitro.

Such tests include (a) yeast recombination assay and bacterial mutagenic assays both with and without metabolic activation; (b) host-mediated assay in mice; and (c) translocation assay in mice with cytological evaluation as required.

Contractors must have proven experience in the field of mutagenicity testing specifically and in the discipline of toxicology in general in order to develop a sound design and to insure valid results. Interested sources are invited to submit 2 copies of their qualifications to undertake this study.

Acknowledgement of receipt or evaluation information will not be given. Qualified organizations are invited to submit written statements of their qualifications and experience and should also include qualifications of personnel available to work on the project. Qualification statements should not exceed

10 pages. Company brochures will not be acceptable.

Respondents will not be notified of the results of the evaluation of the information submitted, but all fully qualified sources will be considered when proposals are solicited.

Contract Awards

NCI AWARDS FIVE CONTRACTS WORTH \$1.5 MILLION FOR DES STUDY

NCI has awarded contracts totaling \$1.5 million for a study of vaginal cancer and other noncancerous genital tract irregularities in offspring of mothers who received synthetic estrogens during pregnancy.

Director Frank Rauscher said that information obtained by the institutions collaborating in the study would form the basis for advising affected offspring of the risk of developing some abnormality. The proper management for any such abnormalities may also be suggested by the study.

The exact number of affected offspring is not known; however during the 1940's and 1950's, synthetic estrogens, particularly diethylstilbestrol (DES), were widely used for pregnant women threatened with miscarriage or abortion.

Beginning in 1970 studies indicated that daughters of mothers who received such estrogens during pregnancy are at a higher risk of developing "clear cell adenocarcinoma" of the vagina and cervix than are daughters who were not exposed. Clear cell adenocarcinoma is a rare type of cancer which has an unusual glandlike appearance when viewed with a microscope.

Presently available information indicates that the risk of developing this rare cancer is small, probably no more than four cases per 1,000 daughters exposed. However, the risk of developing other medical conditions which may or may not be precancerous has not been firmly established.

The NCI study seeks to provide answers concerning the risk to exposed offspring born after 1943 of developing cancer, or other medically important conditions. These conditions include vaginal irregularities such as vaginal adenosis and minor cervical changes.

Exposed daughters of different ages will be examined and followed for five years or more, to determine what happens to vaginal adenosis and other irregularities. There is no present indication that exposed male offspring have an increased risk of genital tract cancer; however, information will be collected on these subjects.

Examination of participants in the study will begin this spring. Each of the four participating institutions

will identify 1,000 or more subjects with documented in utero exposure to DES. The project is not designed to screen the total population of exposed offspring in the United States. Instead it is a collaborative effort of limited scope to determine the occurrence and correlation of cancer with changes that may be found in an intensively studied group of exposed offspring. Information obtained by the study will be communicated to the general medical community and to the public.

The Mayo Clinic will coordinate the efforts of the institutions participating in the study. Leonard Kurland, chairman of the Dept. of Epidemiology and Medical Statistics at Mayo, will direct the study's National Coordinating Center with a first-year award of \$159,845. NCI project officer is Roger Halterman of the Div. of Cancer Control & Rehabilitation.

Institutions and principal investigators, with contract amounts for the first year, are:

Massachusetts General Hospital—Harvard, Arthur Herbst; \$183,587.

Univ. of Southern California, Duane Townsend; \$185,025.

Baylor College of Medicine, Raymond Kaufman; \$124,139.

Mayo Clinic, David Decker; \$86,560.

OTHER CONTRACT AWARDS:

Title: Studies of tumor viruses in nonhuman primates

Contractor: Rush-Presbyterian-St. Luke's Medical Center, \$381,550.

Title: Research, development and monitoring of biohazards facilities

Contractor: Dow Chemical Co., \$124,650.

Title: Studies on the possible etiology of malignancies

Contractor: Baylor College of Medicine, \$548,000.

Title: Continue iso-antigenic typing of mouse strains and tumors

Contractor: Health Research, Inc., New York State Dept. of Health

SOLE SOURCE NEGOTIATIONS

Title: Breast cancer detection demonstration project

Contractors: Virginia Mason Research Center, Seattle; Mountain States Tumor Institute, Boise.

Title: Biological resources management information system support services

Contractor: EG&G/Mason Research Institute, Worcester, Mass.

The Cancer Letter —Editor JERRY D. BOYD

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