1. Call to Order by Chairman

2. Secretary's Affidavit of Notice of Meeting

3. Approval of Minutes of Meeting Held on May 14, 1969 (Chairman)
   (Copies previously circulated to all members)

4. Introduction of Newly Elected Board Members (Chairman)

5. Report of National Survey Committee (Mr. Charles R. Ebersol)

6. President's Report of Actions Taken by the House of Delegates (Dr. Sidney Farber)

7. Report of Lay Nominating Committee (Mr. Travis T. Wallace)

8. Report of Professional Nominating Committee (Dr. Roger A. Harvey)

9. Introduction of New President (Dr. Sidney Farber)

10. Election and Appointment of Staff Officers:
    a) Election by Board of Directors (Mr. Joseph S. Silber)
    b) Report of Appointment of Other Staff Officers (Mr. Lane W. Adams)

11. Report of Board Committees:-
    a) Report by Chairman of Awards Committee on Mail Vote Approval of Annual National Divisional Awards (Dr. Roger A. Harvey) TAB 2
    b) Clinical Investigation Review Committee (Dr. Roger A. Harvey) TAB 2
    c) Committee on Tobacco and Cancer (Dr. Sol R. Baker) TAB 3
    d) Research Committee (Mr. Francis J. Wilcox) TAB 4
    e) Committee to Advance the Worldwide Fight Against Cancer (Dr. Roger A. Harvey) TAB 5
    f) Public Information Committee (Mr. John Mack Carter) TAB 6

(Continued)
Reports of Committees (cont'd.)

- g) Public Education Committee (Mrs. Wilfred D. Keith)  
- h) Field Services Committee (Mr. Reuben D. Getz)
- i) Crusade Committee (Mr. Charles J. Buesing)
- j) Medical and Scientific Committee (Dr. H. Marvin Pollard)
- k) Finance Committee (Mr. W. Armin Willig)

12. Other Business

13. Adjournment

PLEASE BRING THIS AGENDA BOOK WITH YOU TO THE MEETING
AFFIDAVIT

STATE OF OHIO )
COUNTY OF CUYAHOGA )

: ss. Cleveland,

JOSEPH S. SILBER, being duly sworn, on oath deposes and says that he is the Secretary of AMERICAN CANCER SOCIETY, INC., a corporation organized and existing under the Laws of the State of New York, having its principal office in the City of New York; and that on the 2nd day of October, 1969, he caused Notice of the Stated Annual Meeting of the Board of Directors of said corporation required by the Bylaws of the corporation to be held between the fifteenth day of October and the fifteenth day of November in each year, immediately following the Annual Meeting of Members (House of Delegates) of the Society, a copy of which is hereto attached and is hereby made a part of this affidavit, to be deposited in the United States Post Office at the City of New York in a sealed envelope, postage prepaid, duly addressed to each member of the Board of Directors of said corporation at his last known post office address as the same appeared on the records.

Joseph S. Silber, Secretary

Subscribed and sworn to before me this ___ day of October, 1969.

NOTARY PUBLIC

MADIANNE SANCHEZ, Notary Public
For Cuyahoga County, Ohio
My commission expires Jan. 28, 1974
October 2, 1969

TO: MEMBERS OF THE BOARD OF DIRECTORS

FROM: Joseph S. Silber, Secretary

SUBJECT: NOTICE OF STATED ANNUAL MEETING OF THE
BOARD OF DIRECTORS - NOVEMBER 7, 1969

Pursuant to provisions of the Bylaws, notice is hereby given to all members of the Board of Directors of American Cancer Society, Inc., that the Stated Annual Meeting of the Board of Directors will be held at 10:00 A.M. on Friday, November 7, 1969, in the New Empire Room (formerly Sert Room) at the Waldorf-Astoria Hotel, Park Avenue at 49th Street, New York, New York. The meeting will continue until completion of its business.

The meeting is that required by the Bylaws of the Society to be held between the fifteenth day of October and the fifteenth day of November in each year, immediately following the Annual Meeting of Members of the House of Delegates of the Society. The business to be transacted is that required by law and by the Bylaws of the Society at such meeting and such other matters as may properly come before the meeting. An agenda will be mailed to you in advance of the meeting.

This is the formal legal notice of this meeting required to be given by law and by the Bylaws of the Society.

Attached are two copies of the schedule of all committee meetings to be held in conjunction with the Board meeting. This schedule is a consolidated notice of meetings to members of each of the committees listed. An "X" in column four of the schedule indicates that you are a member of that particular committee. Please indicate after each committee so designated whether or not you plan to attend, and return one copy of the schedule to us in the enclosed, self-addressed envelope. Agenda for your committee meetings will also be mailed to you at a later date.

An expense report form is enclosed for your convenience.

Encls.

Copy to: All Divisions
AGENDA

I. Call to Order

II. Membership of Clinical Investigation Advisory Committee

III. Minutes of July 17, 1969 Meeting of the Clinical Investigation Review Committee

IV. Items for Discussion:
   a) Policy on Support of Investigators Holding Tenure Positions
   b) Increase of Lay Membership of the Clinical Investigation Review Committee

V. Items requiring Action:
   Consideration of Clinical Investigation Applications:
      a) Listing of Applications Referred to Research
      b) Applications for Consideration

VI. Other Business

Chairman's Staff: Sidney L. Arje, M.D.
American Cancer Society
Committee on Tobacco and Cancer

Waldorf Astoria Hotel
New York, New York

November 3, 1969--9:00 A.M.

Sol R. Baker, M.D., Chairman

1. Approval of minutes, May 13 meeting
   a. Steps in the developments of a study of the effect of giving up smoking on life expectancy of physicians. (Dr. Hammond)
   b. Possibility of obtaining sound estimates of dollar costs of cigarette smoking in disease, death, disability, fires, etc. (Dr. Hammond)
   c. Report on reconsideration by Research Committee of Dr. Spiegel's hypnosis application. (Dr. Hall)

2. Report of ACS study of teenage attitudes towards cigarettes. (Dr. Lieberman)

3. Decision of tobacco industry to stop broadcast advertising and pending legislation. (Mr. Pertschuk, Counsel, Senate Commerce Committee)


5. Proposal by Senator Moss that the Advertising Council be urged to take over a print campaign against cigarettes. (Mr. Read)

6. Plans of the National Clearinghouse on Smoking and Health for 1969-70. (Dr. Horn)

7. ACS anti-cigarette program in schools, colleges, communities, and industries. (Mr. James)

8. Production plans for anti-cigarette TV spots and films--8a. Showing of new TV material. (Mr. Rimer)

9. Quit clinics and withdrawal programs. (Dr. Markel)

10. Research needs in the field of cigarettes and cancer. (Dr. Wynder, Dr. Hammond, Dr. Horn)

11. Proposal for a medical meeting on smoking and cancer of the oral cavity and of the larynx. (Dr. Scott)

   12a. Introduction of new executive of the National Interagency Council on Smoking and Health, Roger Schmidt. (Mr. Read)

Chairman's Staff: Clifton Read
AGENDA

1. Membership of the Research Committee

2. Approval of Minutes of the Research Committee Meeting Held on May 12, 1969 - Mr. Wilcox


4. Report on Expenditures Charged to Research Development Fund - Mr. Wilcox

5. Summary of Applications Acted on May 14, 1969 - Mr. Wilcox

6. Summary of Actions Taken on Applications for Support Received During the Fiscal Year Ending August 31, 1969 - Mr. Wilcox

7. Estimate of Funds Available for Research - Mr. Wilcox

8. Recommendations of the Research Advisory Council on Applications Reviewed by the Advisory Committees:
   a. Epidemiology of Cancer
   b. Tobacco Habituation
   c. Etiology of Cancer
   d. Pathogenesis of Cancer
   e. Therapy of Cancer
   f. Institutional Research Grants
   g. Personnel for Research
9. Requests Considered Directly by the Research Advisory Council:
   a. Application of Dr. Max Burger
   b. Deferred Application of Dr. Alexander Tomasz

10. For Direct Consideration of the Research Committee:
    a. Request for Supplements for the Support of a Research Professor and Four Faculty Research Awardees
       1. Dr. Jerard Hurwitz, PRP-23
       2. Dr. Philip Majerus, PRA-33 and Dr. Stuart Kornfeld, PRA-31
       3. Dr. Hans Spiegelberg, PRA-38
       4. Dr. Michael Malamy, PRA-46
    b. Application for Continued Support of the Journal CANCER RESEARCH
    c. Support of the Tenth International Cancer Congress for the Calendar Year 1970 in the Amount of $49,750
    d. Deferred Request for Acceptance of a Restricted Gift from the Oregon Division to Support a Cancer Research Study at the University of Oregon Medical School

11. Report of Scientific Advisory Committee and Research Council Appointments - Mr. Wilcox

12. Nomination of Individuals to Serve on the Research Advisory Council and Scientific Advisory Committees - Mr. Wilcox


14. Other Business

Chairman's Staff: Dr. Richard P. Mason
AMERICAN CANCER SOCIETY, INC.

COMMITTEE TO ADVANCE THE WORLDWIDE FIGHT AGAINST CANCER

Roger A. Harvey, M.D., Chairman

Park Avenue No. & Center
Waldorf Astoria Hotel
New York, New York

AGENDA

I. Call to Order, Welcome and Approval of Minutes
of Last Meeting, January 14, 1969.................. Dr. Roger A. Harvey

II. Postgraduate Courses in Cancer for Latin
American Medical Schools.......................... Dr. H. Marvin Pollard

A. Buenos Aires, Argentina, August 4-8, 1969
B. Lima, Peru, December 1-5, 1969

III. Program for Early Detection of Cancer of the
Uterus, Cali, Colombia................................ Mr. Samuel M. Seegal

IV. International Union Against Cancer............ Mr. Francis J. Wilcox

A. Current Status of USA Membership
B. Commission on Social Campaign and Organization

V. 10th International Cancer Congress, May 22-29, 1970

A. ACS Program for Foreign Visitors.............. Mr. Richard P. McGrail
B. ACS Exhibit, Post Congress Tours.............. Miss Gerry Ann Schramm

VI. International Meetings

A. Integrated Cancer Congresses, Sao Paulo, Brazil,
   September 7-13, 1969.............................. Dr. Sol M. Baker
B. 11th World Congress of the International Society
   for Rehabilitation of the Disabled, Dublin,
   Ireland, September 13-19, 1969............... Dr. William Markel

VII. Unfinished Business

A. Evaluation Reports - Special Graduate Course on
   Cancer for Physicians from the Far East and Oceania
B. Special Project 224 - Development of a Latin American
   Training Center for Cytotechnologists in Bogota, Colombia

VIII. Other Business

Chairman's Staff: Miss Gerry Ann Schramm
AGENDA

1. Approval of Minutes of Previous Meeting

2. Report of Meeting with National Association of Broadcasters & Current Status of Controls over Cigarette Advertisements - Proposal for Advertising Council Campaign

3. Report of ACS Study of Teenage Attitudes Towards Cigarette Smoking and Recommended Actions

4. Report of Subcommittee on Honor Citations

5. The Need to Publicize the Crisis in Funding of Cancer Research

6. Plans for Promotion & Evaluation of NET Series on Cigarette Smoking

7. Presentation of Year-Round Advertising Campaigns Dealing with Breast & Uterine Cancer, Check Ups, Warning Signals, etc.

8. Progress on I.Q. Promotion & Distribution of Peter Max Poster

9. Report on First Science Writers Institute

10. Other Business

Chairman's Staff: Irving I. Rimer
American Cancer Society, Inc.
Public Education Committee
Mrs. Wilfred D. Keith, Chairman

Jansen Salon
Waldorf-Astoria Hotel
New York, N. Y.

Thursday
November 6, 1969
10:30 AM

AGENDA

I. Approval of Minutes of May 12, 1969 Meeting.
   Dr. Whitney

II. Report of Public Education Sub-Committee on Honors Citations.
    Mrs. Keith

III. Consideration of New Handbook for Unit Public Education Chairman.

IV. Report on Meeting with American College Health Association.
    Dr. McClendon

V. Report of Sub-Committee to Review Public Education Department Newsletter SIGNALS.
   Mr. Sholis

VI. Report on National Public Education Clinic for Staff.
    Mr. James

VII. Consider Plans for Promotion of "Tell Your Neighbor" -- A Program to Stress and Re-emphasize the Education Aspects of Crusade.
    Mrs. Keith

VIII. Consider Recommendation of Medical Affairs Department Regarding Age for Which the Pap Test Should be Recommended for Women.
    Mr. Sholis

    Dr. Lieberman

X. Report on ACS Study of Teen-age Attitudes Towards Cigarettes.
    Dr. Lieberman

XI. Report on Meeting of Executives Advisory Committee on Public Education.
    Mr. James

XII. Showing of New Public Education Film "I'll Buy That!"
    Mrs. Keith

XIII. Showing of New Film on Uterine Cancer "It's Up To You."
    Mrs. Keith

XIV. Other Business.

Chairman's Staff: Walter G. James
AMERICAN CANCER SOCIETY, INC.

FIELD SERVICES COMMITTEE

Mr. Reuben D. Getz, Chairman

Room: Park Avenue Center
Waldorf Astoria Hotel
New York, N. Y.

November 6, 1969
10:30 A.M.

AGENDA

I  Call to Order

II  Approval of Minutes of Field Services Committee Meeting held May 13, 1969

III  Report of Subcommittee on Honors  
     - Mr. Fred Huenefeld, Jr.

IV  Report of Subcommittee on Charter Standards  
     - B. L. Aronoff, M.D.

V  Staff Report  
     - Mr. Charles P. Taylor

VI  Consideration of Requests for National Grants to Divisions  
     - Mr. Reuben D. Getz

VII  Other Business

Chairman's Staff - Mr. Charles P. Taylor
AMERICAN CANCER SOCIETY, INC.

FIELD SERVICES COMMITTEE
SUBCOMMITTEE ON HONORS

Mr. Fred Huenefeld, Jr., Chairman

Room: Pillement Suite
Waldorf Astoria Hotel
New York, N. Y.

AGENDA

I Approval of Minutes of Subcommittee Meeting held on October 20, 1968

II Review of Procedures for reviewing and rating Honors Applications
   Mr. Fred Huenefeld, Jr.

III Review and Rating of 1969 Applications
   Mr. Fred Huenefeld, Jr.

IV Other Business

November 4, 1969
11:30 A.M.
(Closed Luncheon Mtg.)

Chairman's Staff - Mr. W. Thomas Hellyar
AGENDA

I  Approval of Minutes of Subcommittee Meeting held on October 21, 1968

II Granting of Charters for calendar year 1970

III Staff Report

IV Other Business

November 4, 1969
1:45 P.M.

B. L. Aronoff, M.D.

Mr. Charles P. Taylor

Chairman's Staff - Mr. Charles P. Taylor
American Cancer Society, Inc.

NATIONAL CRUSADE COMMITTEE
Charles J. Buesing, - Chairman

Waldorf Astoria Hotel
New York, N.Y.
Room: PARK AVENUE SOUTH

Thursday, November 6, 1969
1:30 P.M.

AGENDA

I. Call to Order
   Charles J. Buesing

II. Approval of Minutes of Meeting
    May 13, 1969
    Charles J. Buesing

III. Report on 1969 Crusade
     Thomas P. Ulmer

IV. Report on Combined Federal Services
    Campaigns
    Allan P. Jonas

V. Report of National Legacy and
    Memorial Committee
    Joseph S. Silber

VI. Report of Crusade Honors Subcommittee
    Edward J. Schneider

VII. Report on National Crusade Meetings:

1. Crusade Clinic
   Victor O. Swanson

2. National Staff Conference
   Victor O. Swanson

3. Plans for National Volunteer
   Meeting Education & Crusade,
   January 8-9, 1970
   Irving Rimer

VIII. Report of Ad Hoc Subcommittee on
      Employee Solicitation
      Charles J. Buesing

IX. Introduction of 1970 National Crusade
    Chairman
    W. Armin. Willig

X. Other Business

Chairman's Staff: John L. Ewing, Jr.
AMERICAN CANCER SOCIETY, INC.
219 East 42nd Street
New York, N.Y., 10017

NATIONAL LEGACY AND MEMORIAL COMMITTEE
Joseph S. Silber, Chairman

Waldorf Astoria Hotel
New York, New York

Thursday, November 6, 1969
Room: Park Avenue North
Time: 8:30 A.M.

AGENDA

I. Call to Order
   Joseph S. Silber

II. Approval of Minutes of May 13, 1969
    Meeting
   Joseph S. Silber

III. Report on 1969 Legacy Income
     Harry McEnery, Jr.

IV. Report on Southern Area Seminar
    Thomas P. Ulmer

V. Interim Report on Motivation Study
   Robert A. Saunders

VI. New Methods of Legacy Promotion
    Billboards - Florida
    Thomas P. Ulmer
    TV & Radio Spots - Texas
    Clayton B. Williams

V. Other Business.

Chairman's Staff: Robert A. Saunders
American Cancer Society, Inc.

CRUSADE SUBCOMMITTEE ON HONORS
Edward J. Schneider, Chairman

Waldorf Astoria Hotel
New York, N.Y.
Room: #507
Tuesday, November 4, 1969
3:45 P.M.

AGENDA

I. CALL TO ORDER

II. REVIEW OF APPLICATIONS FOR HONORS CITATIONS:

A. FLORIDA DIVISION
   "Send a Mouse to College" Program
   Bay County Unit
   "Independent Crusade Activities"
   Hillsborough County Unit
   "Babe Zaharias All-Sports Week"

B. GEORGIA DIVISION
   Fannin County Unit
   "My Brother's Keeper"

C. LOUISIANA DIVISION
   Pointe Coupee Unit
   "Antique Show"

D. MAINE DIVISION

E. NEVADA DIVISION
   Clark County Unit
   "Buck Cancer with a Button and a Buck"

F. OHIO DIVISION
   Scioto County Unit
   "Clark's Cancer Control Days"

G. WESTCHESTER DIVISION
   "A Most Beautiful Child" Contest

III. OTHER BUSINESS

Chairman's Staff: Victor O. Swanson
AGENDA

I. CALL TO ORDER

II. REVIEW OF APPLICATIONS FOR HONORS CITATIONS:
   A. FLORIDA DIVISION
      "Send a Mouse to College" Program
      "Bay County Unit
      "Hillsborough County Unit
      "Independent Crusade Activities"
      "Babe Zaharias All-Sports Week"
   B. GEORGIA DIVISION
      Fannin County Unit
      "My Brother's Keeper"
   C. LOUISIANA DIVISION
      "Antique Show"
      "Antique Show Unit"
   D. MAINE DIVISION
      "Crusade Capers"
   E. NEVADA DIVISION
      "Buck Cancer with a Button and a Buck"
      "Clark County Unit"
      "Buck Cancer with a Button and a Buck"
   F. OHIO DIVISION
      "Clark's Cancer Control Days"
      "Scioto County Unit"
      "Clarks Cancer Control Days"
   G. WESTCHESTER DIVISION
      "A Most Beautiful Child" Contest

III. OTHER BUSINESS

Chairman's Staff: Victor O. Swanson
Waldorf Astoria Hotel
New York, New York

Thursday, November 6, 1969
1:30 P.M.
Astor Gallery
3rd Floor

AGENDA

I. Call to Order

II. Welcome of New Members

III. Items Requiring Action:

a) Approval of Minutes of the May 13, 1969 Meeting of the Medical and Scientific Committee

b) Report of the Professional Education Committee
   Dr. Lewis W. Guiss

c) Report of the Committee on New and Unproved Methods of Treatment
   Dr. David T. Carr

d) Report of the Service Committee
   Dr. A. H. Letton

e) Consideration of Miscellaneous Grant

f) Resolution on Death of Dr. Karnofsky
IV. Items for Information:

a) Digest of Actions Taken by Medical and Scientific Executive Committee July 18, 1969

b) Actions Taken by Clinical Investigation Review Committee on Clinical Investigation Applications

c) Summary of Miscellaneous Grants Program 1968-1969

d) Budget for Miscellaneous Grants Program 1969-1970

V. Other Business

Chairman’s Staff: Arthur I. Holleb, M.D.
PROFESSIONAL EDUCATION COMMITTEE
Lewis W. Guiss, M.D., Chairman

Waldorf-Astoria Hotel
New York, New York

Thursday November 6, 1969
8:30 a.m.
West Foyer
Third Floor

AGENDA

I. Call to Order

II. Approval of Minutes of May 12, 1969 meeting
   (action required)

III. Reports of Subcommittees
    a. Subcommittee on Films
       Glenn H. Leak, M.D.
       (action required)
    b. Subcommittee on Honors
       Walter H. Rath, M.D.
       (action required)
    c. Program Committee for the National Conference on
       Cancer of the Colon and Rectum, Hotel del Coronado,
       San Diego, California, January 7, 8 and 9, 1971
       H. Marvin Pollard, M.D.
    d. Subcommittee on Conferences (Eighth National Cancer
       Conference)
       George P. Rosemond, M.D.
       (action required)

IV. Consideration of Miscellaneous Grant Applications

   MGA 531 University of Oregon Medical School, Portland
   Oregon. To partially finance publication of
   book on completed studies of the Comparative
   Pathology of Tumors of Bone. Period of Grant:
   One Time. Amount: $6,000.

   Report of Ad Hoc Subcommittee to study MGA
   531
   Murray M. Copeland, M.D.
   (action required)
Universities Associated for Research and Education in Pathology, Inc., Bethesda, Maryland. As partial support for writing, reviewing, editing, printing and distributing a comprehensive second series of Fascicles illustrating and characterizing the various types of tumors, both benign and malignant that plague the human race. Period of Grant: 1/1/70 - 12/31/70. Amount: $36,424.

The James Ewing Society, Oakland, California. To prepare an exhibit of historical interest in the field of cancer to be displayed at the Tenth International Cancer Congress in Houston, Texas, May 24-29, 1970. Period of Grant: 5/24/70 - 5/29/70. Amount: $5,000.


V. Consideration of Request from Hawaii Division to Accept Regional Medical Program Grant to support a Regional Cooperative Chemotherapy Program
   Samuel D. Allison, M.D.
   (action required)

VI. Consideration of Request from Idaho Division to participate in Mountain States Regional Medical Program on Professional Education in (Comparative) planning data and epidemiology
   Alfred M. Popma, M.D.
   (action required)

VII. Discussion of:
   a. Chairs in Oncology at Medical Schools
   b. Proposal for a federation of clinical oncological societies.
      Roald N. Grant, M.D.
      Arthur I. Holleb, M.D.
   c. Professional Education and its Clinical Application
      H. Marvin Pollard, M.D.
d. Multiple Fecal Blood Testing in the Detection of Asymptomatic Colon Cancer
David H. Gregor, M.D.

VIII. Progress Report on Short-term Cancer Courses by US teachers visiting Latin America (a project of the Committee to Advance the Worldwide Fight Against Cancer)
H. Marvin Pollard, M.D.

IX. Progress Report on the Tenth International Cancer Congress, Houston, Texas, May 22-29, 1970
Murray M. Copeland, M.D.

X. Demonstration of new CBS "EVR" (Electronic Video Recording) system for playback on any TV set
Harry Randall (and Representative from CBS)

XI. Other Business

Chairman's Staff: Roald N. Grant, M.D.
AGENDA

I. Call to Order.

II. Approval of Minutes of Meeting of the Committee on New or Unproved Methods - May 12, 1969.

III. Reports on New or Unproved Methods (For Action)
   b. Lewis Test, proposed by Andrew J. Lewis, President, Lewis 3-D Test, Inc., Shaker Heights, Ohio 44120
   c. M-P Virus, proposed by Norman Molomut, Ph.D. and Morton Padnos, Ph.D., Waldemar Medical Research Foundation, Woodbury, L.I., New York.
   d. Ultraviolet Blood Irradiation Therapy, proposed by Robert C. Olney, M.D., Lincoln, Nebraska.

IV. New and Additional Information (For Information)
   a. Chaparral Tea, proposed by Hugh H. Hogle, M.D., Salt Lake City, Utah.
   b. Dr. Ernesto Contreras and the Good Samaritan Clinic, Tijuana, Mexico.
   c. Fresh Cell Therapy, proposed by Paul Niehans, M.D., Vevey, Switzerland.
   e. International Association of Cancer Victims and Friends, Inc.
   f. KC-555, proposed by the Kegan Research Laboratories, Englewood, New Jersey.
   g. 29 Unproven Methods promoted by Mrs. Joseph Schumacher, Scranton, Pa.

V. Annual Review of the Index on New or Unproved Methods of Treatment (For Action).

VI. Discussion of Cancer Quackery Control Acts (For Information).

VII. Report on American Cancer Society Chiropractic Statement (For Information).

VIII. Report on Film: "Journey Into Darkness" (For Information).

IX. Report on Symposium on Unproven Methods of Cancer Diagnosis and Treatment, Integrated Cancer Congresses, Sao Paulo, Brazil, September 12, 1969 (For Information).

X. Other Business.

Chairman's Staff: Roald N. Grant, M.D.
AMERICAN CANCER SOCIETY, INC.
219 East 42nd Street
New York, New York 10017

SERVICE COMMITTEE
A. H. Letton, M.D., Chairman

Waldorf Astoria Hotel
New York, New York

Thursday, November 6, 1969
8:30 A.M.
Park Avenue South
4th Floor

AGENDA

I. Call to Order

II. Items Requiring Action:
   
   A. Approval of the Minutes of the Meeting held May 12, 1969
   
   B. Consideration of Miscellaneous Grant:

      MGA #534 - The Johns Hopkins University, Baltimore, Maryland
      
      To support an Irrigation Cytology Training and Screening Center for the period from January 1, 1970 to December 31, 1970 in the amount of $58,636
   
   C. Report of the Subcommittee on Rehabilitation of the Colostomy Patient
      William O. Wuester, M.D.
   
   D. Report of the Subcommittee on Rehabilitation of the Mastectomy Patient
      George P. Rosemond, M.D.
   
   E. Report of the Service Subcommittee on Honors
      Burton A. Nault, M.D.

III. Other Business

CHAIRMAN'S STAFF - WILLIAM M. MARKEL, M.D.
AGENDA

I. Call to Order

II. Approval of the Minutes of the Meeting held May 12, 1969

III. Report on Service Questionnaire (Existing Resources for the Rehabilitation of the Colostomy Patient)

IV. Items for Discussion:
   a) Colostomy Literature
   b) Enterostomal Therapists Training
   c) Division and Unit Affiliation with Ostomy Clubs

V. Other Business
AGENDA

I. Call to Order

II. Approval of the Minutes of the Meeting held May 11, 1969

III. Items Requiring Action:

Acceptance of publication "Always A Woman-What Every Woman Should Know About Breast Surgery" as a National Stock Item

IV. Progress Report on Reach to Recovery

V. Other Business
AGENDA

I. Call to Order

II. Review of Applications for Honors Citations:
   a) California
   b) California (Los Angeles Unit)
   c) Illinois (Chicago Unit)
   d) Maine
   e) New York State
   f) New York State (Onondaga Unit)
   g) Pennsylvania (Monroe Unit)
   h) Virginia (Richmond Area Unit)
   i) Virginia (Richmond Area Unit)

III. Other Business

Tuesday, November 4, 1969
3:45 P.M.
Pillement Suite
4th Floor

Chairman's Staff - William M. Markel, M.D.
AMERICAN CANCER SOCIETY, INC.
FINANCE COMMITTEE

W. Armin Willig, Chairman

Regency "A"
Hotel Waldorf-Astoria
New York, New York

Park Avenue North

Thursday November 6, 1969
10:30AM

Friday November 7, 1969
Breakfast 8AM

AGENDA

1. Approval of report of meeting held July 17, 1969.
5. Report of contributions by Divisions in support of Research and other National Programs.
6. Consideration of special projects and restricted gifts.
7. Consideration of Division requests to participate in Regional Medical Programs.
8. Consideration of proposal to increase the percentage of the Retirement Fund invested in equities.
9. Consideration of proposed Retirement Plan revision.
10. Consideration of Division requests for financial assistance
11. Other business.

Chairman's Staff, George Krogenas
AMERICAN CANCER SOCIETY, INC.
219 EAST 42ND STREET • NEW YORK, N.Y. 10017 • (212) 867-370

September 29, 1969

TO: MEMBERS OF THE HOUSE OF DELEGATES
OF AMERICAN CANCER SOCIETY, INC.

FROM: JOSEPH S. SILBER, Secretary

SUBJECT: NOTICE OF ANNUAL MEETING OF MEMBERS

RESEARCH
EDUCATION
SERVICE

Pursuant to the provisions of Article XI, Section 1 of the Bylaws, notice is hereby given that the Annual Meeting of Members (House of Delegates) of the Society will be held on Wednesday, November 5, 1969, at 9:00 A.M. in the New Empire Room (Sert Room) at the Waldorf Astoria Hotel, Park Avenue at 49th Street, New York, New York. The meeting will be recessed after resolutions and other matters have been referred to the Reference and Standing Committees of the Members. Such reference and Standing Committees will hold hearings and refer back to the Adjudicating Meeting of the House of Delegates which will convene at 3:45 P.M. on Thursday, November 6, 1969, in the New B Room (Sert Room) at the Waldorf Astoria Hotel, and will continue completion of its business.

This meeting is required to be held annually by the Laws of the State of New York and by the Bylaws of the Society. The business to be transacted is that required by law and the Bylaws of the Society such meeting, and any other business that may properly come before meeting.

The House of Delegates will consider amendments to the Bylaws as be referred to it by the Constitution, Bylaws and Organization Committee, in accordance with the provisions of Article XI of the Bylaws. At this time, no proposed amendments have been referred to the Constitution, Bylaws and Organization Committee for its consideration.

In case any Member of the House of Delegates is unable to attend the meeting in person, he or she may appoint any other Member of the House of Delegates to act as his or her proxy. For your convenience, you are hereby notified for the purposes of designating a proxy and a list of the Members of the House of Delegates is attached.
Members of the House of Delegates  
September 29, 1969

In accordance with the requirements of the Bylaws, a Report of the Lay and Professional Nominating Committees' recommendations for Directors-at-Large and Honorary Life Members of the Board of Directors and a Report of the Delegate Director Nominating Committee's recommendations for Delegate Directors are attached for your information.

Attachments:

1. Form for Designation of Proxy
2. List of Members of the House of Delegates
3. Report of Lay Nominating Committee
4. Report of Professional Nominating Committee
5. Report of Delegate Director Nominating Committee

Copy to: All Divisions  
Past Officer Directors  
Honorary Life Members of Board
KNOW ALL MEN BY THESE PRESENTS:

That the undersigned Member of the House of Delegates of the American Cancer Society, Inc., a corporation duly organized under the Membership Laws of the State of New York, hereby constitutes and appoints:

(Please Type or Print Name of Delegate)

or in the event that he or she shall not be present at the meeting or further adjournment thereof, any one of the persons listed below:

Sidney Farber, M.D. - President
William B. Lewis - Chairman, Board of Directors
Charles R. Ebersol - Chairman, Executive Committee
H. Marvin Pollard, M.D. - Chairman, Medical & Scientific Committee

and each or any of them, his true and lawful attorneys, and proxies, in his name to vote at the Annual Meeting of Members of the House of Delegates of said corporation to be held at New York, New York, on November 5-6, 1969, or at any further adjournment or adjournments thereof, with all the powers the undersigned would possess if personally present, hereby ratifying and confirming all that his said attorneys and proxies may do by virtue thereof.

WITNESS my hand and seal this ______ day of ______________________, 1969

(L.S.)

(Please Type or Print Name)

(If a Division or Proportional Delegate, Please Indicate Division.)
MEMBERS OF THE HOUSE OF DELEGATES
OF THE AMERICAN CANCER SOCIETY, INC., AS OF NOVEMBER 5, 1969

LAY

Mr. John L. Cameron
5179 Hidden Harbor Road
Siesta Key
Sarasota, Florida 33581

Mr. John Mack Carter
Editor & Publisher
Ladies' Home Journal
641 Lexington Avenue
New York, New York 10022

James A. Colston, Ph.D.
President
Bronx Community College
120 East 184th Street
Bronx, New York 10468

Mr. Charles R. Ebersol
Ebersol, Roraback & Brower
24 Mason Street
P. O. Box 598
Torrington, Connecticut 06790

Mr. G. Keith Funston
Chairman of the Board
Olin Corporation
120 Long Ridge Road
Stamford, Connecticut 06904

Mr. Stanton G. Hale
President
Pacific Mutual Life Insurance Co.
Los Angeles, California 90014

Mr. William E. Hutton
W. E. Hutton & Company
14 Wall Street
New York, New York 10005

Mrs. Albert D. Lasker
Suite 10-E
870 United Nations Plaza
New York, New York 10017

MEDICAL

W. A. D. Anderson, M.D.
Director of Laboratories
Jackson Memorial Hospital
Miami, Florida 33136

Edward J. Beattie, Jr., M.D.
Chief Medical Officer
Memorial Hospital for Cancer
and Allied Diseases
444 East 68th Street
New York, New York 10021

Lester Breslow, M.D.
Professor of Health Services Administration
School of Public Health
University of California at Los Angeles
Los Angeles, California 90024

David T. Carr, M.D.
Mayo Clinic
Rochester, Minnesota 55901

William M. Christopherson, M.D.
Department of Pathology
University of Louisville
School of Medicine
Louisville, Kentucky 40202

J. Englebert Dunphy, M.D.
Professor of Surgery
University of California
San Francisco Medical Center
San Francisco, California 94122

Kenneth M. Endicott, M.D.
National Cancer Institute
Bethesda, Maryland 20014

Sidney Farber, M.D.
Children's Hospital
Boston, Massachusetts 02115
Delegates-at-Large - Cont’d.

Mr. Herman W. Lay
Frito-Lay Corporation
P. O. Box 35034
Dallas, Texas 75235

Mr. T. Vincent Learson
President
International Business Machines
Old Orchard Road
Armonk, New York 10504

Mr. William B. Lewis
16 Sutton Place
New York, New York 10022

Mr. Arthur L. Montgomery
The Atlanta Coca-Cola Bottling Co.
P. O. Box 4268
Atlanta, Georgia 30302

Sen. Maurine B. Neuberger
3000 N. W. Cornell Road
Portland, Oregon 97210

Mrs. John T. Pitie, Jr.
1351 East Westleigh Road
Lake Forest, Illinois 60045

Mrs. Elmer E. Rasmussen
P. O. Box 600
Anchorage, Alaska 99591

Mr. H. I. Rommes
Chairman of the Board
American Tel. & Tel. Co.
195 Broadway
New York, New York 10007

Mr. Matthew B. Rosenhaus
The J. B. Williams Co., Inc.
The General Motors Building
767 Fifth Avenue
New York, New York 10022

Mr. Victor A. Sholis
WHAS, Inc.
520 W. Chestnut Street
Louisville, Kentucky 40202

MEDICAL

James T. Grace, Jr., M.D.
Director
Roswell Park Memorial Institute
666 Elm Street
Buffalo, New York 14203

Roger A. Harvey, M.D.
Department of Medical Radiology
University of Illinois
P. O. Box 6998
Chicago, Illinois 60680

Robert S. Jason, M.D.
Coordinator, Design & Planning
Hospital and Medical Center
Howard University
Washington, D. C. 20001

B. J. Kennedy, M.D.
Professor of Medicine
University of Minnesota
Minneapolis, Minnesota 55455

Roy W. Osterkamp, D.D.S.
Doctors Building
100 North Euclid Avenue
St. Louis, Missouri 63108

H. Marvin Pollard, M.D.
2012 Vinewood Boulevard
Ann Arbor, Michigan 48104

Jonathan E. Rhoads, M.D.
Department of Surgery
Hospital of the University of Pa.
3400 Spruce Street
Philadelphia, Pennsylvania 19104

William L. Ross, M.D.
Chief, Cancer Control Branch
Division of Chronic Diseases
Public Health Service
4040 North Fairfax Drive
Arlington, Virginia 22203

Harold P. Rusch, M.D.
Director, McArdle Memorial
Laboratory for Cancer Research
University of Wisconsin
Madison, Wisconsin 53706

Justin J. Stein, M.D.
Department of Radiology
UCLA Center for Health Sciences
Los Angeles, California 90024
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<td>Mr. Henry P. Johnston</td>
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<td>Mr. W. Quinn Jordan</td>
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<td>Mrs. Robert L. Brown</td>
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<td>Mr. Kenneth L. Smith</td>
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<td>Mr. Morgan M. Klime</td>
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<td>1 Constitution Plaza</td>
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<td>DELAWARE</td>
<td>Mrs. David C. Porter</td>
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<td>DISTRICT OF</td>
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<tr>
<td>COLUMBIA</td>
<td>1000 Connecticut Avenue, N.W. #407</td>
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<td>Washington, D. C. 20006</td>
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</table>
DIVISION & Proportional Delegates - Cont'd.

DIVISION

FLORIDA
Mr. W. Joseph Reynolds
202 Parkview Building
330 Fourth Street, North
St. Petersburg, Florida 33701

GEORGIA
Mrs. R. W. Huff
301 Clarke Drive
Rome, Georgia 30161

HAWAII
Mr. E. Bert Darr
Sunday Star-Bulletin & Advertiser
605 Kapiolani Boulevard
Honolulu, Hawaii 96813

IDAHO
Mr. Woodrow W. Benson
101 Horizon Drive
Boise, Idaho 83702

ILLINOIS
Mr. Charles W. Ebersold
Illinois Bell Telephone Co.
225 West Randolph Street, 28-C
Chicago, Illinois 60606

INDIANA
Mr. George C. Carroll
Merchants National Bank
Terre Haute, Indiana 47801

KANSAS
Mr. Don A. McNeal
Editor
Council Grove Republican
Council Grove, Kansas 66846

KENTUCKY
Mr. W. Armin Willig
2200 River Bluff Road
Louisville, Kentucky 40207

MEDICAL
Newton W. Larkum, M.D.
8955 Dorchester Street
Mr. Myers, Florida 33901

Joseph J. Zavertnik, M.D.
307 Huntington Medical Bldg.
Miami, Florida 33131

Robert L. Brown, M.D.
Emory University Clinic
P. O. Box 459
Atlanta, Georgia 30322

Samuel D. Allison, M.D.
305 Royal Hawaiian Avenue
Honolulu, Hawaii 96815

Everett N. Jones, Jr., M.D.
318 Idaho First Natl. Bank Bldg.
Boise, Idaho 83702

H. A. Hindman, Jr., M.D.
301 East Springfield
Champaign, Illinois 61822

Robert L. Schumitz, M.D.
55 East Washington Street
Chicago, Illinois 60602

Daniel P. Slaughter, M.D.
30 North Michigan Avenue
Chicago, Illinois 60602

Richard A. Silver, M.D.
712 Hume Mansur Building
Indianapolis, Indiana 46204

Robert M. Kretzschmar, M.D.
Dept. of Obstetrics & Gynecology
University of Iowa
Iowa City, Iowa 52240

Lee S. Fent, M.D.
316 Oak Street
Newton, Kansas 67114

Richard F. Grise, M.D.
1549 Ashley Circle
Bowling Green, Kentucky 42101
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<th>Division &amp; Proportional Delegates - Cont'd.</th>
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<td>Mr. Joseph M. Carriere</td>
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<td>Mr. Samuel M. Seegal</td>
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<td>Mr. Milo P. Woodson</td>
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<td>Havre, Montana 59501</td>
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<td>MEDICAL</td>
<td>Ronald A. Walsh, M.D.</td>
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<td>LSU School of Medicine</td>
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<td>Charles O. Long, M.D.</td>
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<td>L. J. Van Hecke, M.D.</td>
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<td>Mrs. Harry Weintraub&lt;br&gt;325 Morris Avenue&lt;br&gt;Rockville Centre, New York 11570</td>
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<td><strong>NEBRASKA</strong></td>
<td>Mr. George C. Pardee&lt;br&gt;5127 Jones Street&lt;br&gt;Omaha, Nebraska 68106</td>
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<td><strong>NEVADA</strong></td>
<td>Mr. Michael A. Mirabelli&lt;br&gt;Capitol-Building&lt;br&gt;Carson City, Nevada 89701</td>
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<td><strong>NEW HAMPSHIRE</strong></td>
<td>Mr. Howard T. Wagner&lt;br&gt;BPD #37&lt;br&gt;Central, New Hampshire 03301</td>
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<td><strong>NEW JERSEY</strong></td>
<td>Mr. William O. Barnes, Jr.&lt;br&gt;1180 Raymond Boulevard&lt;br&gt;Newark, New Jersey 07102</td>
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<td>Mr. Charles J. Reesing&lt;br&gt;Mutual of New York&lt;br&gt;80 Pine Street&lt;br&gt;New York, New York 10005</td>
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<td><strong>NEW MEXICO</strong></td>
<td>Mr. Marvin C. Colton&lt;br&gt;1500 University Drive, N.E.&lt;br&gt;Albuquerque, New Mexico 87106</td>
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<tr>
<td><strong>NEW YORK CITY</strong></td>
<td>Mr. Nathaniel Whitehorn&lt;br&gt;Hotein, Jaffs, Sklar &amp; Herzberg&lt;br&gt;200 Park Avenue&lt;br&gt;New York, New York 10016</td>
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<td>Mr. Robert Thompson&lt;br&gt;2077 Elmwood Avenue&lt;br&gt;Buffalo, New York 14207</td>
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<td><strong>NEW YORK STATE</strong></td>
<td>Mr. Walter B. Love, Jr.&lt;br&gt;204 North Wayne Street&lt;br&gt;P. O. Box 278&lt;br&gt;Monroe, North Carolina 28201</td>
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<td><strong>NORTH CAROLINA</strong></td>
<td>Mr. George H. Hufnagel&lt;br&gt;360 Ash Street&lt;br&gt;Chapel Hill, North Carolina 28018</td>
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<td><strong>NORTH DAKOTA</strong></td>
<td>Mr. Elmer N. Reed&lt;br&gt;635 61st Avenue&lt;br&gt;Washington Court House, Ohio 43160</td>
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<td><strong>OHIO</strong></td>
<td>Mr. Gustave L. Seungling, III&lt;br&gt;2100 Massachusetts Avenue&lt;br&gt;Cincinnati, Ohio 45225</td>
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<td>DIVISION</td>
<td>LAY</td>
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<td>OHIO (Cont'd.)</td>
<td>Mr. Joseph S. Silber</td>
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<td>Mr. M. Vincent Wills</td>
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<td>Mr. James E. Reid</td>
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<td>Mr. Americo G. Cardi</td>
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<td>Cardi Corporation</td>
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<td>SOUTH</td>
<td>Mr. James E. Reid</td>
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<td>CAROLINA</td>
<td>Long Island City, New York</td>
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<td>Columbia, South Carolina 29205</td>
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<td>SOUTH</td>
<td>Rev. George E. Meeke, D.D.</td>
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<td>DAKOTA</td>
<td>3500 Dingman Street</td>
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<td>Pierre, South Dakota 57501</td>
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<td>SUFFOLK</td>
<td>Mr. Joseph A. Pieter</td>
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<td>Carriage Path</td>
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<td>Deer Park, New York 11729</td>
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Division & Proportional Delegates - Cont'd.

<table>
<thead>
<tr>
<th>DIVISION</th>
<th>LAT</th>
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</table>
| TENNESSEE   | Mrs. Ernest Jones, Jr.  
410 Continental Apartments  
3513 West End Avenue  
Nashville, Tennessee 37203 |
| TEXAS       | Mr. James S. Get Vert  
Joske's-Alamo Plaza  
San Antonio, Texas 78206 |
|             | Mr. William D. DeSanders  
2311 Rose Avenue  
Hollis, Texas 75201 |
|             | Mr. Clayton B. Williams  
P.O. Box 1058  
Sweetwater, Texas 79556 |
| UTAH        | Mr. Ralph J. Hilt  
1422 Benbury Road  
Salt Lake City, Utah 84108 |
| VERMONT     | Mr. Raymond J. Delaney  
International Business Machines  
Box A  
Lexington Junction, Vermont 05452 |
| VIRGINIA    | Mr. James W. Kaves  
State National Bank  
挡住商业机器  
Richmond, Virginia 23214 |
| WASHINGTON  | Mr. John E. Westford  
1331 Broadway  
Bellingham, Washington 98225 |
| WESTCHESTER | Mrs. Henry Kirschbaum  
Sylvan Lawn Road  
Purchaser, New York 10577 |
| WEST        | Mrs. D. N. Thomas  
3292 Potlodes Drive  
Beckett, West Virginia 26303 |
| VIRGINIA    | Mrs. Donald B. Morrissey  
703 E. Longview Drive  
Appleton, Wisconsin 54911 |
| WISCONSIN   | Mr. Robert L. Duncan  
Suit 207, Teton Building  
Cheyenne, Wyoming 82001 |
| WYOMING     |                |

**MEDICAL**

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| Benjamin F. Byrd, Jr., M.D.  
Vanderbilt University  
1224 West End Avenue  
Nashville, Tennessee 37203 |
| R. L. Aronoff, M.D.  
112 N. Washington  
Delaware, Texas 75226 |
| Hanes H. Brindley, M.D.  
Skitt & White Clinic  
Temple, Texas 76501 |
| John F. Thomas, M.D.  
121 East 32nd Street  
Austin, Texas 78705 |
| Wallace E. Chambers, M.D.  
1200 West 3500 South  
Salt Lake City, Utah 84119 |
| Walter H. Rait, M.D.  
92 South Main Street  
Erlanger, Vermont 05478 |
| Robert J. Paulcener, M.D.  
201 Norfolk Medical Center  
Norfolk, Virginia 23507 |
| Walter Bicker, M.D.  
67 Cobb Building  
Seattle, Washington 98101 |
| Robert E. Green, M.D.  
52 South High Avenue  
Glasgow, New York 10562 |
| Vernon E. Buckwal, M.D.  
120 Grandview Avenue  
Elkins, West Virginia 26241 |
| Ralph C. Frank, M.D.  
3609 Pine Place  
Zoned, Wisconsin 54701 |
| John A. Em, M.D.  
St. Galen Medical Clinic  
Buffalo, Wyoming 82834 |
REPORT OF LAY NOMINATING COMMITTEE

TO THE HOUSE OF DELEGATES

The Lay Nominating Committee is pleased to present the following slate of nominees for election as Honorary Life Member of the Board of Directors and Lay Directors-at-Large for a two-year term.

For Honorary Life Member of the Board:

HON. WALTER J. KOHLER - Sheboygan, Wisconsin

For Reelection:

CHARLES R. EBERSOL - Litchfield, Connecticut
G. KEITH FUNSTON - Greenwich, Connecticut
STANTON G. HALE - Los Angeles, California
HERMAN W. LAY - Dallas, Texas
T. VINCENT LEARSON - Rye, New York
WILLIAM B. LEWIS - New York, New York
SENATOR MAURINE B. NEUBERGER - Portland, Oregon
MRS. ELMER E. RASMUSON - Anchorage, Alaska
MATTHEW B. ROSENHAUS - New York, New York

New Nominees:

MRS. WILFRED D. KEITH - Westport, Connecticut
PAUL W. WILLIAMS - New York, New York

(Biographical data for the above nominees will be included in the agenda for the Meeting of the House of Delegates.)
REPORT OF PROFESSIONAL NOMINATING COMMITTEE

TO THE HOUSE OF DELEGATES

The Professional Nominating Committee is pleased to present the following slate of nominees for election as Honorary Life Members of the Board of Directors and Medical Directors-at-Large for a two-year term:

For Honorary Life Member of the Board:

THOMAS CARLILE, M.D. - Seattle, Washington

JOHN W. CLINE, M.D. - San Francisco, California

For Reelection:

W. A. D. ANDERSON, M.D. - Miami Florida

EDWARD J. BEATTIE, JR., M.D. - New York, New York

WILLIAM M. CHRISTOPHERSON, M.D. - Louisville, Kentucky

SIDNEY FARBER, M.D. - Boston, Massachusetts

ROBERT S. JASON, M.D. - Washington, D.C.

JONATHAN E. RHOADS, M.D. - Philadelphia, Pennsylvania

New Nominees:

R. LEE CLARK, M.D. - Houston, Texas

A. H. LETTON, M.D. - Atlanta, Georgia

(Biographical data for the above nominees will be included in the agenda for the Meeting of the House of Delegates.)
REPORT OF DELEGATE DIRECTOR NOMINATING COMMITTEE

SLATE OF NOMINEES RECOMMENDED FOR ELECTION AS DELEGATE DIRECTORS

(DELEGATE AND STATE)

<table>
<thead>
<tr>
<th>Lay</th>
<th>Medical</th>
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<tbody>
<tr>
<td>CHARLES J. BUESING (New Jersey)</td>
<td>SOL R. BAKER, M.D. (California)</td>
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<tr>
<td>JOSEPH M. CARRIERE (Louisiana) - 1 YR.*</td>
<td>HAROLD E. BOWMAN, M.D. (Michigan)</td>
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<td>REUBEN D. GETZ (Oregon)</td>
<td>BENJAMIN F. BYRD, JR., M.D. (Tennessee)</td>
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<td>MAURUS T. GOETZ (Illinois)</td>
<td>WALLACE L. CHAMBERS, M.D. (Utah)</td>
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<td>HAL E. HAYWARD (Mississippi)</td>
<td>JOHN N. ELSWORTH, M.D. (North Dakota)</td>
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<td>MRS. R. W. HUFF (Georgia)</td>
<td>ROBERT C. EYERLY, M.D. (Pennsylvania)</td>
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<td>HENRY P. JOHNSTON (Alabama)</td>
<td>ROBERT J. FAULCONER, M.D. (Virginia)</td>
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<td>ALLAN K. JONAS (California)</td>
<td>LEE S. FENT, M.D. (Kansas)</td>
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<td>W. QUINN JORDAN (Arizona)</td>
<td>JEAN C. GLADDEN, M.D. (Arkansas)</td>
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<tr>
<td>MRS. JOHN A. LIERCKE (Iowa)</td>
<td>GEORGE E. HALE, M.D. (Alaska)</td>
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<tr>
<td>WALTER B. LOVE, JR. (North Carolina)</td>
<td>ARTHUR G. JAMES, M.D. (Ohio)</td>
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<tr>
<td>SELMER E. SKOTVOLD (South Dakota)</td>
<td>JOHN A. KNEBEL, M.D. (Wyoming)</td>
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<tr>
<td>JOHN E. WESTFORD (Washington)</td>
<td>C. ROGER KURTZ, M.D. (Dist. of Col.) - 1 YR.*</td>
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<tr>
<td>NATHANIEL WHITEHORN (New York)</td>
<td>NEWTON W. LARKUM, M.D. (Florida)</td>
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<td>CLAYTON B. WILLIAMS (Texas)</td>
<td>GLENN H. LEAK, M.D. (New York)</td>
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<td>JOSEPH H. YOUNG (Maryland)</td>
<td>LOUIS A. LEONE, M.D. (Rhode Island)</td>
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<td></td>
<td>JOHN S. LYLE, M.D. (New Hampshire) - 1 YR.*</td>
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<td>RICHARD A. SILVER, M.D. (Indiana)</td>
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<td>ERNEST W. STEIN, M.D. (Maine)</td>
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<td>JOHN F. THOMAS, M.D. (Texas)</td>
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<td>N. WILLIAM WAWRO, M.D. (Connecticut)</td>
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*To fill an unexpired term.

(Biographical data for above nominees will be included in the agenda for the Meeting of the House of Delegates.)
Dear Dave:

Thanks for your letter of 19 November and for the comments about those to be included among the cancer institute directors that the AACI is to entertain in Houston.

As soon as I have all further suggestions, I shall send them on to you and the others.

With every good wish,

Yours sincerely,

Frank L. Horsfall, Jr., M.D.
President, Association of American Cancer Institutes

Dr. David A. Wood
Director
Cancer Research Institute
University of California Medical Center
San Francisco, California 94122

cc: Dr. R. Lee Clark
    Dr. Murray M. Copeland
    Dr. Robert C. Hickey
    Dr. Edwin A. Mirand
November 19, 1969

Dear Lee & Murray:

I enjoyed greatly my recent visit with you - the glow lingers on. Enclosed for each of you is a copy of the list of foreign cancer institutes sent to Bob Hickey November 11 by Frank Horsfall with copies to Bob Taylor, other officers of American Association of Cancer Institutes and "R. Lee Clark and Murray M. Copeland." It is probable that your copies will catch up with you eventually, if not already. As we discussed in Houston the present list appears incomplete and includes the names of one or two characters who might well be deleted. Later after I have had an opportunity to review the International Institutes as a whole I shall communicate with you again. In the meantime I would appreciate any suggestions you might care to offer.

Cordially,

[Signature]

David A. Wood, M.D.

DAW:cg
Encl.
Dear Bob:

I am grateful for your letter of 6 November concerning the agreement we reached in Buffalo about inviting the directors of cancer institutes from various parts of the world to meet with our Association at the 6th International Cancer Congress next May.

Like you, I hope that each of the member institutions of our Association will be willing to contribute the small sum necessary to defray the cost of the gathering, which I am glad to learn you plan to hold at the Anderson-Mayfair.

As requested, I enclose a copy of the list that Dr. Taylor sent me and have also sent copies to Ed Mirand and have good on the possibility that they may wish to add names of other cancer institute directors. Should Lee Clark or Murray Copeland wish to make additions, I hope they will do so.

I plan to invite each of those named on behalf of our Association and would like to send the invitations off early in January. In consequence, it would be helpful if I could have any suggested additions to the list from each of you within the next few weeks.

With every good wish,

Yours sincerely,

Frank L. Horsfall, Jr., Ph.D.
President, Association of American Cancer Institutes

Dr. Robert C. Hickey
Executive Vice President and Director
M.D. Anderson Hospital and Tumor Institute
The University of Texas at Houston
Texas Medical Center
Houston, Texas 77025

Enclosure

cc: Dr. R. Lee Clark
    Dr. Murray M. Copeland
    Dr. Edwin A. Mirand
    Dr. R. M. Taylor
    Dr. David A. Wood
Dr. T. Yoshida, Director
Cancer Institute
Nishi-Sugamo,
Yoshima-ku
Tokyo

A. Claude, Director
Institut Jules Bordet
rue Heger Bordet 1
Brussels

H. Maisin
Institut du Cancer
37, Voer des Capucins
Louvain

A. O. Roxo Nobre, Director
Instituto Central do Cancer -
Hospital A.C. Camargo
Rua Jose Getulio 211
Sao Paulo

Dr. J. E. Till, Head
Division of Biological Research
Ontario Cancer Institute
500 Sherbourne Street
Toronto 5, Canada

Dr. Roger Baouste, Director
Montreal Cancer Institute
Notre-Dame Hospital
Montreal 133, Canada

Dr. E. Raventos, Director
Fundacion Lopez Perez
Av. del Salvador 552
Santiago

Dr. Juan Jacobo Munoz, President
National Cancer Institute
Calle 1 a No. 9-85
Bogota

Dr. Karl-Heinrich Bauer, Director
Deutsches Krebsforschungszentrum
Braunsteinstrasse 27
Heidelberg
Prof. Pierre Denoix, Directeur
Institut Gustave Roussy,
16 bis, Avenue P. Vaillant-Couturier
94 Villejuif

Dr. André Lwoff
Centre de Recherches sur la
Cellule Normale et Cancéreuse
16, Avenue P. Vaillant-Couturier
94 Villejuif

Dr. G. Mathé, Directeur,
Institut de Cancérologie et
d'Immunogénétique
Hôpital Paul-Brousse
14, Avenue P. Vaillant-Couturier
94 Villejuif

Prof. P. Bucalossi, Director
Istituto Nazionale per lo
Studio e la Cura dei Tumori
Piazzale Gorini 22
Milano

Dr. Rafael Martinez, Director,
Hospital de Oncologia
Centro Medico Nacional IMSS
Avenida Central 17
Mexico 7 DF

Prof. O. Mühlbock
Netherlands Institute for Cancer Research
(Prof. J.J. van Loghem, President)
Antoni van Leeuwenhoek-Huis, Sarphatistraat 108,
Amsterdam C

Dr. Erik Poppe
The Norwegian Radium Hospital
Oslo

Dr. Eduardo Caceres, Director
Instituto Nacional de Enfermedades Neoplásicas
Avenida Alfonso Ugarte 825
Lima

Karolinska Institutet
Stockholm 60

Dr. M. Kuru, President
National Cancer Centre
Tsukiji 5-chome
Chuo-ku, Tokyo
Geneva, September 19, 1969

Dr. H. Isliker, Directeur,
Institut Suisse de Recherches
Expérimentales sur le Cancer
Bugnon 21
1005 Lausanne

Chester Beatty Research Institute
Fulham Road
London S.W. 3

Prof. M.G.P. Stoker, Director
Imperial Research Fund
Lincoln's Inn Fields
London W.C. 2

Dr. E.C. Easson
Director of Radiotherapy
Christie Hospital &
Holt Radium Institute
Withington,
Manchester 20

[Signature]
[Address]
Dear Bob:

I am grateful for your letter of 6 November concerning the agreement we reached in Buffalo about inviting the directors of cancer institutes from various parts of the world to meet with our Association at the 6th International Cancer Congress next May.

Like you, I hope that each of the member institutions of our Association will be willing to contribute the small sum necessary to defray the cost of the gathering, which I am glad to learn you plan to hold at the Anderson-Mayfair.

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With every good wish,

Yours sincerely,

Frank L. Horsfall, Jr., M.D.
President, Association of American Cancer Institutes

Dr. Robert C. Hickey
Executive Vice President and Director
M.D. Anderson Hospital and Tumor Institute
The University of Texas at Houston
Texas Medical Center
Houston, Texas 77025

Enclosure

cc: Dr. R. Lee Clark
Dr. Murray M. Copeland

Dr. Edwin A. Mirand
Dr. R. M. Taylor
Dr. David A. Wood

RESEARCH UNIT OF MEMORIAL SLOAN-KETTERING CANCER CENTER
November 6, 1969

Dr. Frank L. Horsfall
President and Director
Sloan-Kettering Institute
444 East 68th Street
New York, New York 10021

Dear Frank:

I think we made the proper decision in agreeing to include the cancer institute directors from the various parts of the World at the Xth International Cancer Congress in May, 1970.

I do not think the $25 assessment from each institution is unreasonable. We shall make every effort to keep this cost down and will hold the meeting at the Anderson-Mayfair.

If you would be kind enough to send to me the list of names we can check and add to it, if indicated, from the list of institutions that have been visited in the face-to-face promotion of the Congress by Doctor Clark and also, in particular, Doctor Copeland.

For myself, I would like to get this settled fairly soon: we have several gatherings that we need to help host including our own postgraduate returnees, etc.

Many thanks for your help.

Cordially,

Robert C. Hickey, M. D.
Executive Vice President and Director

cc: Dr. Edwin A. Mirand
Roswell Park Memorial Institute

Dr. David Wood
Cancer Research Institute

bc: Dr. R. Lee Clark
Dr. M. M. Copeland
November 10, 1969

Dr. Frank L. Horsfall, Jr.
Sloan-Kettering Institute for
Cancer Research
New York, New York 10021

Dear Frank:

We very much enjoyed having you and the other members of the American Association of Cancer Institutes with us recently. I also am sorry that Election Day prevented a tour of the facilities. I hope that if you or any of the other members of the Association are in this area in the future that you will stop by and let us give you the belated tour.

I felt the meeting went off very well and I think that a number of quite important issues were discussed. As we get a clearer picture of the current research funding picture, we will pass it on to you.

Best personal regards.

Sincerely,

James T. Grace, Jr., M.D.
Director

cc Dr. Copeland
Dr. Taibot
Dr. Warren
Dr. Foley
Dr. Simpson
Dr. Baker
Dr. Miranda
Dr. Murphy
Dr. Pressman
Minutes

Business Meeting

Association of American Cancer Institutes
November 3, 1969

Roswell Park Memorial Institute
Buffalo, New York 14203

The meeting was called to order at 3:30 p.m. by the President, Dr. Horsfall. The meeting was then turned over to Dr. Carl Baker, Acting Director, NCI, who discussed the fiscal status of NCI. He informed the group that Dr. Endicott had assumed a new position as Head of the Bureau of Health Manpower. No decision has been made as to the next Director of NCI. Dr. Baker indicated that he envisioned no major changes in NCI since he has been at NCI for 20 years and worked closely with Dr. Endicott. Dr. Baker related the budget problems that NIH was having and the current emphasis of the legislators appears to be more concerned about poverty, welfare, economic problems, and transportation. He pointed out that Congress appears currently to be more interested in health care delivery than biomedical research. He stated trends of funding in the health category have moved very significantly, calling for more delivery of health care and less for medical research. Moreover, the death of Mr. Fogarty in the House and the termination of Senator Hill's tenure in the Senate have left a vacancy in the Congress in the area of support and leadership for biomedical research.

Dr. Baker said that the Johnson Administration budget (Fiscal 1970 budget) for NCI was put in to the level of 184.4 million dollars. However, the Nixon Administration budget dropped this to 180.7 million. The House has voted this level for appropriation (the Senate has not yet voted). This reduction will present more serious problems to NCI than what appears because there are additional restrictions that NCI has to face. These result from an Act (Expenditures Control) passed by the Congress which requires the Administration to reduce Federal expenditures $3.5 billion and government employment levels back to 1966. This has produced a further reduction in NCI's budget by $10 million.

In meeting the restrictions, Dr. Baker said the Cancer Institute will try to negotiate downward on the committed continuation grants to try to recover about 10% of the dollars toward required reductions, but to prevent too much chaos in the process no individual grant will be reduced more than 15%. He said one of the institutes at NIH is going to cut by straight formula basis at 15% for each grant. NCI will use a different kind of fiscal approach with each grant negotiated to take into account as best as possible local needs. However, Dr. Baker said the most serious situation is in the new grant applications. For non-committed continuations, about 50% will be paid. However, for new project grant applications, the percent paid will probably be 15%. This is lower than for previous years.

Dr. Baker warned there are indications that next year will also be another unfavorable year. He also stated that in the 1970 budget there will likely be some reduction in the training funds. For example, the Johnson budget contained 11.2 million dollars for training and 4.2 for fellowships. The Nixon budget has, respectively, 10.8 and 3.6. He also stated that there will be cuts in contracts slightly larger than those in grants. He expects the overall reduction in expenditures to be 6 to 8%. Dr. Baker concluded by saying that in reality NCI would probably have to operate under the figure of $173 million for 1970.
Dr. Simpson brought up the subject of the help we had received over the years from Mr. Fogarty, Mr. Hill and Dr. Shannon and what was needed were spokesmen like these men to act favorably for increased funds for the medical sciences.

Dr. Baker, as well as others, felt that what was indicated was that all of us would have to spend more time in public relations work to present the case for increased funds for biomedical research as well as health delivery.

Dr. Grace and Dr. Horsfall discussed the fact that they had heard that 1 or 2 medical schools in New York State might have to close down. They indicated, as a shocking thing since more physicians were needed. Dr. Condit wondered what influence Health Manpower might have to prevent these cut-backs. Dr. Baker said his was not clear but that it may have some. Dr. Baker also indicated that the regional Medical Program has suffered a reduction in funds.

Dr. Simpson asked if there was any usefulness in negotiating with NIH for matching funds if one has plans for construction and has some of his matching money. Dr. Baker said that for this year, it is very unlikely that it would be worthwhile.

Dr. Horsfall then discussed the matter of the budget cut and how it has affected Joan-Kettering. Mr. Merritt also entered the discussion as did Dr. Wade. A lengthy discussion followed as to whether each Institute should report their reduction of federal money and its effect on their staff and programs to Senators and Congressmen. Dr. Baker thought it might be good to inform them of these effects.

Dr. Ruch asked whether this would be done as a group. Dr. Horsfall then asked whether to proceed. It was the consensus of the group that any reporting of the facts must be done on an individual basis. However, Dr. Baker thought perhaps the 1D group could pool such data together in one place and send it to each one in the association. This would require someone pulling it together from each institution and summarizing it so that it could be useful to all.

Dr. Talbot made a point that this should be done very carefully, for AICD should be a lobbying group. Dr. Baker agreed, and suggested that this be done in a low key.

Dr. Simpson brought up a discussion about Dr. Farber's appearance before the congressional committees as has been done for several years. A discussion followed about the effectiveness of the appearances. Dr. Copeland brought up a discussion about Senator Thurmond and his willingness to support research. He indicated if he is re-elected, Senator Thurmond might be another Mr. Hill. A discussion followed as to whom and the influence Health Manpower might have to prevent these cut-backs. Dr. Baker noted that Senator Thurmond has been favorable to research.

Dr. Ruch asked whether this would be done as a group. Dr. Horsfall then asked whether to proceed. It was the consensus of the group that any reporting of the facts must be done on an individual basis. However, Dr. Baker thought perhaps the group could pool such data together in one place and send it to each one in the association. This would require someone pulling it together from each institution and summarizing it so that it could be useful to all.

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Dr. Talbot made a point that this should be done very carefully, for AICD should be a lobbying group. Dr. Baker agreed, and suggested that this be done in a low key.

Dr. Mirand brought up the third party and let him be a subject. Dr. Ruch wondered whether this should be done on an individual basis.

Dr. Mirand then said that if so, he would be glad to comply.

Mr. Merritt brought up the question of whether this should be done at all members of the group.

Discussion again followed a good science writer. Dr. Horsfall then took the floor. He brought it up before the Cancer Society.

Dr. Grace suggested that we should propose to do so on its own.

Dr. Horsfall then stated that the information could be done on its own.

Dr. Baker felt that as much of their support or cut-backs were needed.

The next point of business was proposed by Dr. Co and the International Cancer Congress in the kind invitation of Dr. O' in Baltimore.

Dr. Copeland stated that the Cancer Congress begin on May 2 and that we could have an evening business session afterward. It was agreed to.

Dr. Copeland noted that time and possibly could be held up to Drs. Copeland and Hickey.

Dr. Horsfall then discussed a Nominating Committee and Copeland serving on as President, Dr. Wood as Vice President, and Dr. Grace moved that the nomination be carried.
Dr. Mirand brought up the point whether we should submit this information to a third party and let him be a spokesman for the people in the biomedical field.

Dr. Rusch wondered whether Dr. Farber or Mrs. Lasker or even Dr. Grace could present this information to a Congressional Committee. Again, it was stressed that this should be done on an individual basis.

Dr. Mirand then said that if the group was going to send information of this sort, he would be glad to compile such information.

Mr. Merritt brought up a point that a report previously compiled by Dr. Grace might be sent to all members of the ACID group and could serve as a guide for all of us.

Discussion again followed about having a third party act as a spokesman, such as a good science writer. Dr. Horsfall suggested a press writer. Dr. Simpson suggested taking it before the Cancer Society and get them to proceed with the data.

Dr. Grace suggested Lou Quinn, a P. R. man who works closely with Mary Lasker. Again the point was made that each Institute should approach someone they know who is influential in trying to effect any change against a cut-back.

Dr. Talbot suggested that if one writes to a Senator, it should be a simple letter, one page in length, and then attach pertinent data as appendices.

Dr. Horsfall then stated that each Institute who wished to provide such information could do so on its own.

Dr. Baker felt that in any report, each Institute might wish to indicate how much of their support or cut-back was federal and how much was non-federal.

The next point of business was a discussion of future meetings. The next meeting was proposed by Dr. Copeland and others to be held in Houston at the time of the International Cancer Congress in May and should only be a business meeting. At the kind invitation of Dr. Owens from Johns Hopkins, the Fall meeting will be held in Baltimore.

Dr. Copeland stated that preliminary special sessions at the International Cancer Congress begin on May 27th and go through May 29th. Dr. Horsfall suggested that we could have an evening meeting which could include dinner followed by a short business session afterward. It was suggested that possibly Monday, May 25th, would be a good date. Dr. Copeland said we could arrange this specifically at a later time and possibly could be held at the Mayfair Hotel. It was decided to leave this up to Drs. Copeland and Hickey and it was felt that Sunday might be a better time.

Dr. Horsfall then discussed the election of officers for next year. He had appointed a Nominating Committee and Dr. Simpson served as Chairman with Drs. Talbot, Foley and Copeland serving on the Committee. The Committee nominated Dr. Horsfall as President, Dr. Wood as Vice-President, and Dr. Mirand, Secretary-Treasurer.

Dr. Grace moved that the nominations be closed. This was seconded and the motion carried.
Report of the Ad Hoc Committee on Training in Oncology. Dr. Hickey reported
there was a meeting of the Committee while in San Francisco and there will be further
discussion of this meeting. They thought it might be well to propose an organization
to evaluate the oncology training program in this country by the various specialty
groups. The Committee decided it would be well not to take action at this time.

Dr. Horsfall read the regrets of Dr. Farber and Dr. Clark who were unable to be
present at the meeting because of conflicts with other obligations.

Dr. Horsfall then brought to the attention of the Association the application
request received from Dr. G. Costa Mandry of the Hospital de Oncologia Dr. I. Gonzalez
Martinez, San Juan, Puerto Rico, to join the Association. Dr. Horsfall commented that
to date the Association has only had institutions from the Continental United States
as members.

Dr. Simpson stated we had invited other foreign institutions to participate in
some of the meetings but never offered formal membership.

Dr. Horsfall indicated that it was only a hospital — a hospital concerned with
cancer. He could see very little indication where it was concerned much in the way
of research, except possibly clinical investigation.

Dr. Condit inquired if they had a training program.

Dr. Grace asked if there was anything in the charter to prevent taking them into
the Association. Dr. Simpson replied that he didn’t think there was.

Dr. Warren spoke at length about the hospital and of his knowledge of it. He
said he thought at the present time the hospital wasn’t very active or very promising
as far as research activities go. He suggested that we turn to Dr. Endicott who had
worked closely with them in some aspects of the regional medical center and could
give us more information.

Dr. Baker stated Dr. Endicott was very favorably impressed with several of the
senior staff. They have a good system of collecting data and they also have a good
cancer registry.

Dr. Horsfall then asked if it would be agreeable to all if we took Dr. Warren’s
advice and inform them that we are looking into the matter but will not have a
decision until sometime after the Houston meeting. All agreed.

Dr. Copeland then took over the meeting and reported that Dr. Taylor, Secretary
of the North American UICC, had provided us with a list of 75 cancer institute
directors from various parts of the world who wish to meet with us during the May
meeting in Houston. The question is how best could we entertain them. Possibly
could have cocktails, say 5 to 7 in the evening, under the auspices of this organization.

Dr. Warren felt it was an excellent idea and very worthwhile.

Dr. Condit asked how much money would be involved.
Dr. Hickey said he didn't think we needed a formal occasion. He suggested that we could have some type of an affair in the afternoon, say from 4 to 5:30 p.m., then have a short business meeting to get acquainted and perhaps some type of cocktails, and that could be the end of it.

Dr. Copeland and Dr. Horsfall both expressed the opinion that they didn't think they had ever talked about an elaborate dinner or anything of that magnitude. However, they felt that we would never have another opportunity like this to meet with all these various institute directors.

Dr. Mirand suggested the possibility of a cocktail party and felt it might cost about $500.00, and wondered how we could support this.

Dr. Hickey felt that we should not have ACID support it but should try to get the money from another source.

Dr. Simpson suggested Parke-Davis or some drug company could pick up the cost of the cocktail party.

Dr. Copeland replied that they had already tried to put the touch to the pharmaceutical houses.

Dr. Warren said that if there was going to be a cocktail party, to count on him for an individual contribution of $50.00 and perhaps we could persuade one of our friends in the drug houses to help out also.

A discussion followed and it appeared the consensus of opinion was that each institute make a donation. This donation could vary from $100 per individual down to $50 or $25.00.

Dr. Copeland then discussed the plans for the Houston International Cancer Congress meeting. They have had approximately 1,343 papers submitted, 114 foreign and 529 from the United States. About 187 talks are going to be given during the 10-day period and most of these people have accepted.

Concerning commercial exhibits, Dr. Copeland said there were approximately 42 who have indicated interest for exhibits and that 31 exhibits are definitely available to date.

Dr. Copeland also reported there were 854 members and 269 associate members registered to date, making a total of 1,123 registrations.

Dr. Copeland then discussed at length the meeting of the U. S. National Committee on the International Union Against Cancer (UICC) on October 2, 1969, in Washington. D. C. He informed us who the delegates were to the Xth General Assembly by various U. S. members of UICC. Also, recommendation of candidates for offices of the UICC, particularly the Vice-President for North America and the Chairman of the Finance Committee. He went into some detail on the apportionment of U. S. A. dues obligation to the UICC. Dr. Copeland mentioned that the UICC was getting from various sources in the U. S. A. over $500,000 a year. Some of these sources were the American Cancer Society, the Eleanor Roosevelt Fund, NIH, etc. He felt that the cancer institutes should pay their nominal dues. Dr. Copeland informed us, too, that the General Assembly of UICC will meet May 19, 1970, and a draft agenda has been established.
Dr. Shields Warren has retired as Director of Cancer Research Institute at the New England Deaconess Hospital and was replaced by Dr. George Nichols, Jr. Dr. Horsfall and other members of ACID paid particular praise to Dr. Warren for his efforts in behalf of ACID and will miss seeing him as a member.

Meeting was adjourned at 5:15 p.m.

E. A. Mirand
Secretary-Treasurer, ACID

EAM/0
HEW Secretary Finch has attacked biomedical research. The U.S. should be spending less on research grants and more on developing medical manpower, he said in Los Angeles this month. "So long as our medical programs take the form largely of research grants, we necessarily have a bias toward the lab, rather than the general practitioner's consulting room, toward the glass test tube, rather than the dirty work of treating sick bodies," he said.

This latest broadside from such a high Administration official signals another crunch in the ability of the NIH and the Public Health Service to finance biomedical research.
FOR INFORMATION ONLY -- DO NOT DUPLICATE.

Honorable ________________________________

My dear Senator:

I am a member of the Board of Trustees of The Institute for Cancer Research in Philadelphia. For this reason, I am probably better informed than the vast majority of our population regarding the serious consequences that have already resulted from the reductions in Federal support of biomedical research.

As a citizen who is concerned for the health and welfare of the entire nation and my own community, I should like to urge you to do everything that you can to restore the budgets of the National Institutes of Health and the National Science Foundation to at least a level that will preserve the great investment that we, as a nation, have already provided for our research and educational activities. We should at least prevent a decline.

Many competent authorities have made it clear that a stand-still budget in absolute dollars is equivalent to a rapid decline in our research capacity. It has been estimated that, at the present rate of declining support, we will be able to conduct 68% as much biomedical research in 1972 as we were able to perform in 1968.

The downward trend in NIH research and training grants will also have a deleterious effect on the supply of high quality faculty and on the economic stability of both new and existing medical schools.

Thus, our pre-eminence as a nation is being seriously endangered.

Attached is a very brief presentation of facts that illustrate the effects on The Institute for Cancer Research of the diminishing Federal support of research.

Your consideration of these facts and opinions is deeply appreciated and your help could contribute effectively to the future of this country.

Sincerely yours,
THE INSTITUTE FOR CANCER RESEARCH

1. The Institute for Cancer Research operating budget for the period September 1, 1969 to August 31, 1970, was planned to be $4,371,775.

2. As of September 1, 1969, the total of committed grants from the National Institutes of Health was $2,036,916. At the present time, it is expected that there will be a loss of NIH funds amounting to $350,000.

3. During the years 1963 and 1965, The Institute for Cancer Research spent $2,783,944 for the construction of new research laboratories. Of this total, $250,000 was provided by the Health Research Facilities Branch of NIH.

4. In January 1970, a new building costing $1,389,850 will be ready for occupancy. Federal funds from the Health Research Facilities Branch of NIH amounted to $472,000 (this is in addition to item 3 above).

We will not be able to occupy this building for an indeterminate period of time due to our deteriorating financial position resulting from reductions in NIH support. Several new programs, especially in studies of viruses as related to cancer, and in the effects of nutrition of aging on cancer, must be delayed - we hope not lost forever.

5. Good scientific research cannot be turned on and off like a faucet - it takes years to develop a sound program, and lost years cannot be recaptured.
BIOMEDICAL RESEARCH IN CRISIS

James T. Grace, Jr., M. D.
Director
Roswell Park Memorial Institute
Buffalo, New York
Introduction

Benjamin Disraeli stated "The health of the people is really the foundation upon which all their happiness, and all their powers as the state, depend." The road to health clearly traverses the corridors of research laboratories. The solution of major health problems requires biomedical research.

Biomedical research in this country is now in crisis! This is no overstatement--documentation will follow. This conclusion is based on a personal recent nationwide survey of major medical and scientific institutions engaged in such research. Prompt corrective measures are mandatory if we are able to prevent catastrophic decimation of the magnificent biomedical research system in this country.
Factors in Crisis

The major precipitating factors are in the 1968-69 and proposed 1969-70 NIH budgets.

The first jolt was felt in the fiscal '69 budget: This was a standstill budget—$1,200, 255,000 for '68, $1,204,255,000 for '69 (excluding the Bureau of Health Manpower and Library of Medicine consolidated within the NIH in 1968).

But the impact was severe because:

1. The cost of doing research rose 8 to 16%.
2. Two new Institutes were in beginning development: Environmental Health Science Institute and the National Eye Institute. New Institutes cannot share budget cuts and if they are created within an already established ceiling, damage to the other Institutes occurs. Creation or expansion of other programs within an Institute does the same, e.g., the population program of the National Institute of Child Health and Development.

3. The full appropriations were not made available by the Bureau of the Budget; reserves within the Executive Branch totalled over $6 million in 1968 and $2 million in 1969. Construction funds were cut in half.

4. The expenditure limitations which accompanied the surtax further reduced funds available for obligations in 1969 below appropriation levels. The impact was particularly damaging to grant
and contract programs. For only about 40% of funds for these purposes are disbursed in the year in which obligated.

5. Increased costs, reduced appropriations and expenditure limitations forced a 10% to 15% reduction of ongoing grants—those with moral commitments to the investigators.

The next jolt appears in the proposed fiscal '70 budget.

The proposed NIH budget for fiscal '70 (excluding the Bureau of Health Manpower and Library of Medicine consolidated within NIH in 1968) is $1,210,887,000 which is $6,632,000 more than fiscal '69. However, this includes $25,000,000 for a new Eye Institute which reduces the amount for present NIH programs by $18,368,000.

When translated (taking into account inflation, the increased cost of research due to increased complexity, etc.) this means a fiscal '70 reduction of 10 to 20% in research support from the already badly beleaguered fiscal '69 level.

The budget for Health Research Facilities in fiscal '69 was cut down to $20,6 million. For fiscal '70 the budget figure is ZERO!

The quickest way to halt research momentum is to stop building new facilities. This has been done! Even when funds are restored it takes 3 to 5 years before new research space is available.
Impact

If the fiscal '70 NIH budget is passed in its present form, the long term consequences for biomedical research in the United States are grave. Those making the decisions must be aware of it.

There will be a major disbanding of research teams, further closing of research facilities, curtailment or cessation of large numbers of important research programs and a severe jolt to the morale of biomedical researchers. It will require many years to regain the precious research base that we already had two years ago.

The up-and-down funding of research will have taken its predictable toll. The Nixon budget proposes reductions of $28 million in NIH research programs.

Another very serious aspect of the NIH fiscal plight is the reduction of training funds. For the first time in 20 years a cut in training funds is proposed—$7,000,000 to $8,000,000,000 reduction. This coming at a time when there is talk of the need for 20 new medical schools that will require a faculty of 8,000. Faculty requirements cannot be met unless we train more not less! We are approaching an untenable situation!

The products of the "birth explosion" after World War II are now coming out of college—3,000,000 this year. These young people are sorely needed in health and scientific fields. If funds and facilities to train them are not available—this golden opportunity is lost forever. They enter other fields. The problem is further
compounded when funds to support research of those now coming out of the pipeline are unavailable.

Medical schools have come to depend heavily on grants for research and construction. Now about a dozen of the financially weaker schools are in serious difficulty; some are in danger of closing unless federal funds begin to flow again. Among the ailing medical schools are those at Boston University, Georgetown, George Washington, Marquette, Tufts, and Hahnemann College of Medicine in Philadelphia. Even Harvard Medical School, which probably has the greatest financial resources of any private medical school in the country, is in trouble. Says an administrator there: "We are going to have a very tough time making good on the commitments we feel to our people--faculty, staff, employees, and students."

**Why Has This Happened?**

It is apparent that there has been a shift in national priorities. Perhaps much of the fault lies with doctors and scientists who are, by nature, reluctant to lobby for federal funds. Most of us lack the know-how. We're so engrossed in our own fields of interest that we have failed to adequately present our case to the Congress and the people. Therefore, in any struggle for money, the labor unions, the business firms and the professional groups all do a much better job of coming out on top than do members of the medical-scientific community.
Priority Perspective

Since my primary interest is cancer I should like to examine the fiscal '70 budget from that standpoint of both general health and cancer.

1. Cancer:
   a. Will strike one of four living Americans during their lifetime.
   b. Leading disease killer of children.
   c. Cost estimated at 15 billion dollars annually--untold suffering and grief.
   d. Measurable progress in control:
      1900 - most cancer patients died
      1930 - 1 out of 5 patients cured
      1940 - 1 out of 4 patients cured
      1960 - 1 out of 3 patients cured
      1968 - Estimates indicate that about 40% are being cured. Might be slightly higher or lower.
   e. Very encouraging research leads during past year.

2. Proposed budget for the National Cancer Institute (provides the bulk of cancer research funds in this country) for fiscal '70 is $180,725,000 ($2,760,500 less than fiscal '69). That's not much for a wealthy country in which 50,000,000 of its present citizens will get the disease. The increases since 1962 have not kept pace even with
the increases in the cost of living. If they had, the 1969 budget would have been $220,000,000 instead of the actual $186,000,000.

3. The overall national budget for fiscal '70 is $192.9 billion--roughly equivalent to $964 for every American now living. Of that amount, each American's share of the Vietnam War is $125.

Each American's share of the total national defense outlays is $389.

Each American's share of cancer research is $.90. I wonder if this reflects the American citizen's version of the nation's true priorities.

4. One billion dollars was poured into an atomic-powered airplane program--and 10 million dollars into a structure to hold it--to hold an airplane that was never built. This is nearly six times the current N. C. I. budget.

5. The F-111 has been controversial since its inception. The Navy version of the plane has been cancelled outright; the strategic-bomber version is under heavy fire. The fighter-bomber models in Thailand after three crashed, have been called home. Australia has refused to accept any more of its order at this time. Britain preferred to lose about $450 million in penalties rather than take the plane, so they cancelled their entire order of 50 planes.
The cost of the planes, originally pegged at $3 million each, has soared to $7 million. Recently, the 13th plane crashed since January of 1967. The plane represents a $4 billion investment for the American people—$20 for every man, woman and child in the country. Yet the Pentagon is asking Congress to buy at least 60 more models at a total cost of about $500 million. That's nearly three times the amount allocated for cancer research this year. I wonder if that situation truly represents the priorities of the American taxpayer?

President Nixon's budget shows $553.5 million for the Alliance for Progress in Latin America. That compares with a 1969 total of $336 million. That increase—not the total budgeted amount, but just the increase—is 1 1/4 times the total budget for cancer research. Is this a proper priority?

The 1970 budget for foreign aid has risen sharply. Economic aid increased from $1.3 billion in 1969 to $2.3 billion in the 1970 budget. That increase—again, not the total budgeted amount, but just the increase—would pay for nearly all medical research in the U.S. this year.

Again—not the total budgeted amount for 1970, but just the increase—for airway modernization, highways and other activities in the Department of Transportation is $333 million. That's nearly twice the total budget for cancer research. Again, how does one justify to
the American who has one chance in four of getting cancer an increase in transportation outlays that's more than three times the total annual budget for cancer research?

There are increases in many, many other areas far less urgent than cancer research. We're spending $3,897,000,000 on space. How do we justify spending on NASA three times the total health research budget?

We are spending $164,000,000 on projects relating to fish and wildlife resources. Important as these resources are, should their budget compare so favorably with the amount being spent on human resources? The budget for fish and wildlife resources is 90% of that allocated for cancer research.

We're spending $143,000,000 on the National Park Service--80% of the total annual budget for cancer research.

There is--literally--nothing that will more surely improve the quality of American life than health research. Our only hope of really controlling devastating diseases and their enormous costs is through research. A cure for cancer would do more for our citizens than a thousand Regional Medical Programs--at a fraction of the cost--and it can only come through research.
Plan of Action

1. Funds to at least hold the line in research and training. This would represent a 15% to 20% increase in the proposed NIH budget (bailout funds).

2. Increases only to the extent of cost of living increases over the next two years or three years or until the picture improves. This will at least preserve the present research base.

3. Immediate long range planning for stable support of biomedical research and training. Consistent support is much more important than the absolute level of support. Abolish up-and-down funding!

4. The long range planning should be done within the framework of a rational overall science policy for the nation.

5. Restore to medical research some of its lost priority.
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5. Restore to medical research some of its lost priority.
SUMMARY

1. Biomedical research in the United States is in serious crisis.

2. NIH has been on a "standstill" budget for five years. The cost of doing research has risen more than 8% (8%-16% estimates) per annum.

3. Fiscal '70 NIH budget is worse than fiscal '69--the result will be a further 10% to 20% reduction of research and training support.

4. The proposed budget for new Health Research Facilities has been reduced to ZERO.

5. The precious biomedical research base in the nation, requiring years to build, is being rapidly destroyed. It will require years to rebuild.

6. A 7 to 8 million dollar reduction in NIH training funds is proposed when we are faced with the need for 8,000 faculty members to staff 20 new medical schools.

7. National priorities have shifted away from biomedical research at a time when important medical advances are starting to pour in.

8. Up and down funding is lethal to research. Research teams disband, researchers enter other fields and programs disappear when funds are cut. The researchers are not apt to return when the funds are returned. Thus a lag of support of two or three years creates a loss of research momentum requiring years to regain.

9. Cancer research particularly has promise of significant new advances for the cancer patient in the foreseeable future. It is also in serious crisis.

10. Suggested plan of action:

   a. "Hold the line" by increasing the NIH budget 15%-20%. (Bailout money)

   b. A "cost-of-living" NIH increase only in the next 2 or 3 years.

   c. Realistic planning for future consistent support within the framework of a rational science policy for the nation.
PARTICIPANTS
ASSOCIATION OF AMERICAN CANCER INSTITUTES
Meeting - November 2-3, 1969

Dr. Carl Baker, Acting Director
National Cancer Institute
National Institutes of Health
Bethesda, Maryland 20014

Dr. Paul T. Condit
Head, Cancer Section
Oklahoma Medical Research Foundation
825 Northeast Thirteenth Street
Oklahoma City, Oklahoma 73104

Dr. Murray M. Copeland
Vice-President, University Cancer Foundation
University of Texas
M. D. Anderson Hospital
6723 Bertner Drive
Houston, Texas 77025

Dr. G. diMayorca
Eppley Institute for Research in Cancer
42nd and Dewey Avenue
Omaha, Nebraska 68105

Dr. George E. Foley
Chief, Laboratory of Microbiology
Children's Cancer Research Foundation
35 Binney Street
Boston, Massachusetts 02115

Dr. James T. Grace, Director
Roswell Park Memorial Institute
666 Elm Street
Buffalo, New York 14203

Dr. Robert C. Hickey
Deputy Director
M. D. Anderson Hospital and Tumor Institute
6723 Bertner Drive
Houston, Texas 77025

Dr. Frank L. Horsfall, Jr.
President and Director
Sloan-Kettering Institute for Cancer Research
444 East 68th Street
New York, New York 10021

Mr. Russell E. Merritt
Cancer Research Center
Business Loop 70 & Garth Avenue
Columbia, Missouri 65201

Dr. E. A. Mirand
Roswell Park Memorial Institute
666 Elm Street
Buffalo, New York 14203

Dr. Bayard H. Morrison, III
National Cancer Institute
National Institutes of Health
Bethesda, Maryland 20014

Dr. George Nichols, Jr.
Cancer Research Institute
New England Deaconess Hospital
185 Pilgrim Road
Boston, Massachusetts 02215

Dr. Albert H. Owens, Jr.
Associate Professor
Department of Medicine
Johns Hopkins Hospital
Baltimore, Maryland 21205

Mr. Robert D. Pence
Business Manager
Cancer Research Institute
New England Deaconess Hospital
185 Pilgrim Road
Boston, Massachusetts 02215

Dr. Harold P. Rusch, Director
McArdle Laboratory for Cancer Research
University of Wisconsin
Madison, Wisconsin 53706

Mr. Howard Schurr
Fels Research Institute
Temple University
Philadelphia, Pennsylvania 19140

Dr. William L. Simpson
Scientific Director
Detroit Institute of Cancer Research
4811 John R Street
Detroit, Michigan 48201

Dr. Timothy R. Talbot, Jr.
Director, The Institute for Cancer Research
7701 Burholme Avenue
Philadelphia, Pennsylvania 19111
AACI PARTICIPANTS
Meeting - November 2-3, 1969

Dr. Leo Wade
Sloan-Kettering Institute for Cancer Research
444 East 68th Street
New York, New York 10021

Dr. Shields Warren
Cancer Research Institute
New England Deaconess Hospital
185 Pilgrim Road
Boston, Massachusetts 02215

Dr. David A. Wood, Director
Cancer Research Institute
University of California
San Francisco, California 94122

ROSSELL PARK MEMORIAL INSTITUTE STAFF

Dr. Julian Ambrus
Director, Springville Laboratories

Dr. Merrill Bender
Chief, Department of Nuclear Medicine

Dr. Thomas Dao
Chief, Breast Service

Dr. James Holland
Chief, Medicine "A" Service

Dr. Gerald P. Murphy
Associate Institute Director and Chief, Urology Service

Dr. David Pressman
Associate Institute Director and Director of Research, Chemistry

Dr. Joseph Sokal
Chief, Medicine "B" Service

Dr. John Webster
Chief, Radiation Therapy Service
October 15, 1969

Dr. Edwin A. Mirand  
Roswell Park Memorial Institute  
666 Elm Street  
Buffalo, New York 14203  

Dear Doctor Mirand:

In reply to your request dated September 15, the following have been designated as representatives from this institution to attend the American Association of Cancer Institutes meetings:

R. Lee Clark, M. D.  
President  
The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston  
6723 Bertner Avenue  
Houston, Texas 77025

Murray M. Copeland, M. D.  
Vice President  
University Cancer Foundation  
The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston  
6723 Bertner Avenue  
Houston, Texas 77025

Robert C. Hickey, M. D.  
Executive Vice President and Director  
The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston  
6723 Bertner Avenue  
Houston, Texas 77025

Sincerely yours,

R. Lee Clark, M. D.  
President
A brief business meeting was held Sunday evening, May 18, during which Dr. Endicott reviewed the present budget of the National Cancer Institute and the outlook for the next fiscal year. The Institute's budget was reduced $3,000,000 from the original 1970 estimate, with the largest cuts being in the collaborative research area and in fellowships and training. With the projected FY '70 budget, $80,495,000, the Institute will be able to fund slightly over 50% of new grants and competing continuations. Dr. Endicott mentioned two matters now receiving congressional attention which are of particular concern to those in the cancer field: (1) the cigarette labeling act which expires June 30, and (2) pesticides, as they relate to both environmental pollution and tumorigenesis.

A discussion followed ranging over topics of government commitment to medical education, shifts of federal support from categorical to general or educational programs, stipends and income supplements for residents and interns, and demands being made on medical schools for community involvement.

Before adjourning the evening meeting, Dr. Horsfall introduced Dr. Higginson and Dr. Taylor as honored guests who had been invited to present their respective programs and to discuss possibilities of international coordination in cancer research.

The Monday morning session on May 19th convened at the Cancer Research Center to hear presentations on the administration and scientific program of the Center and a review of its relationship to the Ellis Fischel Hospital.

The afternoon session was opened with a business meeting. Dr. Horsfall accepted the resignation of Dr. Leonard Eliel as Secretary-Treasurer, and Dr. Edwin A. Mirand was elected to fill that position. It was voted to accept Dr. Mirand's invitation to hold the next meeting on November 2-4, 1969, in Buffalo.

Discussion then moved to international aspects of cancer research. Dr. Robert Hickey, who has acted as chairman of an ad hoc committee concerned with this subject, reported that a technique for fostering acquaintance among cancer institutes, or their equivalents, could prove valuable. Such an arrangement might permit exploration of staff and faculty exchange on sabbatical leaves, development of communications systems, and a milieu in which directors of institutes could meet face-to-face.

Dr. R. M. Taylor, Secretary-General of the International Union Against Cancer (UICC) described in some detail the purposes of the Union and its functions. An estimated 30 institutes and 105 organizations are now members of the Union, acting as advisory resources and training facilities and providing financial support. Dr. Taylor felt it would be an advantage for him to maintain liaison with an established AACI secretariat.

Dr. John Higginson, Director of the International Agency for Research in Cancer (IARC) reviewed the history of that organization which developed from a suggestion made by the French government in 1965. Dr. Higginson stated the IARC was founded to undertake research, develop collaborative research, and work no other group can do as effectively.
The organization has acquired laboratory space, and concentrates essentially in the field of cancer epidemiology.

At the close of the discussion and presentations on international matters, the members voted to hold a meeting with international representation in Houston in the spring of 1970 in conjunction with the 10th International Congress. Dr. Hickey will work out the details, with mailing and minor expenses to be handled by the secretariat of the 10th Congress. Dr. Endicott recommended that the meeting be kept relatively small and that invitees be screened by the UICC.

Drs. Copeland and Clark then reviewed plans for the 10th International Congress. After lengthy discussion it was decided that the AACI, as an organization, would not send out any informational materials to participants from other countries. Visits to U. S. Cancer Institutes before or after the Congress should be arranged through individual correspondence.

The meeting was adjourned by Dr. Horsfall at 5:30 p.m.

Edwin A. Mirand
Secretary-Treasurer
PARTICIPANTS
AMERICAN ASSOCIATION OF CANCER INSTITUTES
Meeting - May 18-19, 1969

Dr. R. Lee Clark, President
University of Texas
M. D. Anderson Hospital & Tumor Institute
6723 Bertner Drive
Houston, Texas 77025

Dr. Murray M. Copeland
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University Cancer Foundation
University of Texas
Houston, Texas 77025

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M. D. Anderson Hospital & Tumor Institute
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Dr. Leonard P. Eliel
Vice President - Director of Research
Oklahoma Medical Research Foundation
825 Northeast Thirteenth Street
Oklahoma City, Oklahoma 73104

Dr. Paul T. Condit
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825 Northeast Thirteenth Street
Oklahoma City, Oklahoma 73104

Dr. Kenneth M. Endicott, Director
National Cancer Institute
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Bethesda, Maryland 20014

Miss Pauline H. Stephan
Staff Assistant
National Cancer Institute
National Institutes of Health
Bethesda, Maryland 20014

Dr. George E. Foley
Chief, Labs of Microbiology
Children's Cancer Research Foundation
35 Binney Street
Boston, Massachusetts 02115

Dr. John E. Ultmann
Director of Clinical Oncology
Argonne Cancer Research Hospital
950 East 59th Street
Chicago, Illinois 60637

Dr. Edwin A. Mirand
Roswell Park Memorial Institute
666 Elm Street
Buffalo, New York 14203

Dr. H. Gunter Seydel
The American Oncologic Hospital
Central & Shelmire Avenues
Philadelphia, Pennsylvania 19111

Dr. Frank L. Horsfall, Jr.
President & Director
Sloan-Kettering Institute for Cancer Res.
444 East 68th Street
New York, New York 10021

Dr. Leo Wade
Vice President & Deputy Director
Sloan-Kettering Institute for Cancer Res.
444 East 68th Street
New York, New York 10021

Dr. Francis T. Kenney
Scientific Director, Carcinogenesis Program
Oak Ridge National Laboratory
P. O. Box Y
Oak Ridge, Tennessee 37830

Dr. Albert H. Owens, Jr.
Associate Professor
Department of Medicine
Johns Hopkins Hospital
Baltimore, Maryland 21205

Dr. Donald P. Pinkel
Medical Director
St. Jude Children's Research Hospital
332 North Lauderdale Street
Memphis, Tennessee 38101

Dr. Philippe Shubik, Director
Eppley Institute for Research in Cancer
42nd and Dewey Avenue
Omaha, Nebraska 68105

Dr. John S. Spratt, Jr., Director
Cancer Research Center
Business Loop 70 & Garth Avenue
Columbia, Missouri 65201
AACI PARTICIPANTS
Meeting – May 18-19, 1969

Dr. Timothy R. Talbot, Jr., Director
The Institute for Cancer Research
7701 Burholme Avenue
Philadelphia, Pennsylvania 19111

Mr. Robert D. Pence
Business Manager
Cancer Research Institute
New England Deaconess Hospital
185 Pilgrim Road
Boston, Massachusetts 02215

Dr. David A. Wood, Director
Cancer Research Institute
University of California
San Francisco, California 94122

SPECIAL GUESTS

Dr. R. M. Taylor
Secretary-General
International Union Against Cancer
National Cancer Institute of Canada
25 Adelaide Street, East
Toronto 1, Ontario

Dr. John Higginson, Director
International Agency for Research in Cancer
Lyon, France

CANCER RESEARCH CENTER STAFF

Mr. Russell E. Merritt
Assistant Director of Administration
Cancer Research Center
Columbia, Missouri 65201

Dr. Harry D. Brown, Director
Biochemistry Section
Cancer Research Center
Columbia, Missouri 65201

Dr. Yeu-Tsu N. Lee
Assistant Scientist – Surgery
Cancer Research Center
Columbia, Missouri 65201

Dr. Francis Watson, Director
Biomathematics Section
Cancer Research Center
Columbia, Missouri 65201

Dr. Galen B. Cook, Director
Applied Medical Engineering
Cancer Research Center
Columbia, Missouri 65201

Dr. Reginald P. Pugh, Chief
Internal Medicine
Ellis Fischel State Cancer Hospital
Columbia, Missouri 65201
Dear Dr. Taylor:

I am grateful for your letter of 3 October and the enclosed list of the directors of cancer institutes in many countries who might be participants in the informal meeting we hope to arrange at the time of the Xth International Cancer Congress.

After the next meeting of the Association of American Cancer Institutes early in November, I expect to have appropriate invitations sent out.

Yours sincerely,

Frank L. Horsfall, Jr., M.D.
President, Association of American Cancer Institutes

Dr. R. M. Taylor
Secretary-General
International Union Against Cancer
National Cancer Institute of Canada
25 Adelaide Street East
Toronto 1, Ontario, Canada

cc: Dr. R. Lee Clark
    Dr. Murray M. Copeland
    Dr. Robert C. Hickey
    Dr. Edwin A. Mirand
 Radiation Therapy Center
Planned by Mass. General

BOSTON—A $9,000,000 Radiation Therapy and Cancer Center is planned by Massachusetts General Hospital.

Dr. John H. Knowles, general director of the hospital, said that M.G.H. has outgrown its present cramped and scattered cancer-treatment facilities and that the new center will bring under one roof the specialists who are now spread over the 6,000-employee complex.

The center will be housed in a new five-story structure occupying the present site of the Thayer Building, used for offices and research laboratories, which has been slated for demolition for many years.
MEMORANDUM

January 2, 1969

TO : Members of the American Association of Cancer Institutes

FROM : Pauline Stephan, Assistant Secretary, AACI

SUBJECT: Report of Meeting, November 1968

Enclosed are the minutes of the November 24-26, 1968 AACI meeting. There are three attachments: a list of attendees at the meeting, a list of Association membership, and a list of cancer centers receiving support from the National Cancer Institute.

At the November meeting some members requested a chart indicating the Regional Medical Program Funds awarded to Cancer Institutes and members of the Association. The Division of Regional Medical Programs has been unable to supply this information to date. It will be sent to you as soon as it becomes available.
The Association of Cancer Institutes met in Bethesda, Maryland, on November 24-26, 1968. The meeting consisted of informal sessions on Sunday and Monday evenings, and business sessions Monday and Tuesday. A list of those attending is attached.

The morning session, November 25th, was devoted to presentations by senior National Cancer Institute staff. Dr. Carl Hansen reported on the status of the Institute's Radiotherapy Research and Training Program. He gave a brief history of the program and described the steps taken by the Institute to relieve the intense shortage of radiation therapists. Dr. C. Gordon Zubrod then reported on the Cancer Chemotherapy Program as it developed from its original empirical approach to its present in-depth analysis of data gathered over the past ten years.

Following a coffee break Dr. Carl Baker presented the broad objectives of the Etiology program and its use of both the targeted research approach and the traditional grants mechanisms.

The afternoon session was opened with a brief business meeting during which the nominating committee presented its recommendations for officers for the coming year. All recommendations were approved and stand as follows:

President : Dr. Frank L. Horsfall, Jr.
Vice-President : Dr. David A. Wood
Secretary-Treasurer: Dr. Leonard P. Eliel

In addition, Miss Pauline H. Stephan was appointed Assistant Secretary-Treasurer.

Two new memberships were proposed and approved: Dr. Albert H. Owens, Jr., Associate Professor of Medicine, Johns Hopkins University, and Dr. Donald P. Pinkel, Medical Director, St. Jude Children's Research Hospital. The City of Hope Medical Center was also proposed for membership but this motion was tabled pending the appointment of a new director.

Dr. Talbot will notify the new president, Dr. Horsfall, of the decisions regarding proposed members so that Dr. Horsfall may communicate with those to whom membership will be extended.

The next meeting of the association will be May 18-19, 1969, in Columbia, Missouri. The Cancer Research Center will be the host institution.
When the brief business meeting had ended Dr. J. Palmer Saunders gave a review of the NCI centers program. He described the growth of the program, the several types of centers, and the diversity of their various roles. In discussing the Institute's current emphasis on the centers program, Dr. Saunders referred to research grants, contracts, training and program project grants, and combinations of these mechanisms, all of which are used in the overall program.

Dr. William L. Ross followed with a report on the Cancer Control Program, referring to the recent Department of Health, Education, and Welfare reorganization which placed the Program in the Regional Medical Program Service of the Health Services and Mental Health Administration. He further described the Program's objectives of public education, and training of medical and ancillary medical personnel.

Next was a report on the NCI Clinical Cancer Training Grants Program presented by the program's director, Dr. Margaret H. Edwards. Now in its third year this program supports 109 grants with a total budget of $5.9M. The program is entirely clinical, and primarily aims to improve the quality of cancer training in grantee institutions. Dr. Edwards described the manner in which the program relates to Dr. Ross' program and the Regional Medical Programs. Effort is currently being directed to evaluation of the Clinical Cancer Training Program's effectiveness.

To close the first day's meeting Dr. Robert Q. Marston, Director of the National Institutes of Health, addressed the Association. He discussed the recent reorganization of the Department, describing it as an attempt to make a broader distinction between the political aspects in the Secretary's office, and health sciences activities under the Assistant Secretary for Health. He reviewed the present National Institutes of Health structure and senior personnel. Dr. Marston stated that his own organizational recommendations had recently gone forward to the Secretary's office. He further commented that the biggest problems facing NIH are the political uncertainties of the future and the anticipated continuing curtailment of funds.

After a brief discussion of the Regional Medical Programs the meeting was adjourned at 5:30 p.m.
The November 26th session was opened at 9:00 a.m. by Dr. Endicott with some general remarks concerning NCI budget and the fiscal picture in general within the NIH. He also reported briefly on the activities of the International Agency for Research on Cancer. This agency, under the direction of Dr. John Higginson, functions independently although it is set up under the World Health Organization. The suggestion was made to invite Dr. Higginson to the next meeting of the AACI.

Dr. Jesse L. Steinfeld then took over the chair and recognized Dr. David A. Wood. Dr. Wood discussed some of the opposition organized to fight renewal of California's anti-quackery law. His comments prompted some general discussion of the problems of preventing unethical treatment of cancer patients.

Dr. R. Lee Clark then reported on progress in plans for the Tenth International Cancer Congress. Individuals who would like to have their institutions visited at the time of the Congress should communicate with Dr. Copeland. Discussion followed on the desirability of having a meeting of International Cancer Institute Directors at the Congress in Houston.

The following committee was appointed to consider this possibility and report to the Association at the next meeting:

Dr. Robert C. Hickey, Chairman
Dr. R. Lee Clark      ) ex officio
Dr. Frank L. Horsfall, Jr.)

The final presentation was a report on the Regional Medical Programs given by Miss Pauline H. Stephan, NCI liaison to the Division. Considerable discussion ensued concerning the lack of participation of cancer institutes, the paucity of cancer-oriented projects, and other more general fiscal and geographical problems within the program.

The meeting was adjourned at 12 noon.

Pauline H. Stephan
Assistant Secretary
PARTICIPANTS
AMERICAN ASSOCIATION OF CANCER INSTITUTES
Meeting - November 24-26, 1968

Dr. Baruch S. Blumberg
Associate Director for Clinical Research
The Institute for Cancer Research

Dr. Michael J. Brennan
Medical & Scientific Director
Michigan Cancer Foundation
Detroit, Michigan

Dr. Harry D. Brown
Chairman, Biochemistry Section
Cancer Research Center
Columbia, Mo.

Dr. R. Lee Clark
Director & Surgeon-in-Chief
M.D. Anderson Hospital & Tumor Inst.
Houston, Texas

Dr. Paul T. Condit
Head, Cancer Section
Oklahoma Medical Research Found.
Oklahoma City, Okla.

Dr. Anthony R. Curreri
Chairman, Dept. of Surgery
University Hospital-1300 Univ. Ave.
Madison, Wisc.

Dr. Leonard P. Eliel
Vice-President & Director of Research
Oklahoma Medical Research Foundation
Oklahoma City, Okla.

Dr. Kenneth M. Endicott
Director, National Cancer Institute
Bethesda, Md.

Dr. Sidney Farber
Director of Research
Children's Cancer Research Foundation
Boston, Mass.

Dr. George E. Foley
Chief, Labs of Microbiology
Children's Cancer Research Foundation
Boston, Mass.

Dr. Melvin Greenblatt
representing
Eppley Institute for Cancer Research
Omaha, Nebraska

Dr. Paul J. Grotzinger
Medical Director
The American Oncologic Hospital

Dr. Robert C. Hickey
Deputy Director
M.D. Anderson Hospital & Tumor Inst.
Houston, Texas

Dr. Robert F. Kimball
Director, Biology Division
Oak Ridge National Laboratory
Oak Ridge, Tenn.

Dr. James L. Liverman
Assistant Director
Oak Ridge National Laboratory
Oak Ridge, Tenn.

Dr. Russell E. Merritt
Assistant Director for Administration
Cancer Research Center
Columbia, Mo.

Dr. Edwin A. Mirand
Associate Institute Director
Roswell Park Memorial Institute
Buffalo, N.Y.

Dr. Albert Owens
Associate Professor of Medicine
Johns Hopkins Hospital
Baltimore, Md.
Mr. Robert D. Pence
Business Manager
Cancer Research Institute
New England Deaconess Hospital
185 Pilgrim Road
Boston, Mass.

Dr. Reginald P. Pugh
representing
Cancer Research Center
Columbia, Mo.

Dr. Harold P. Rusch
Director, McArdle Lab. for Cancer Res.
University of Wisconsin
Madison, Wisconsin

Dr. Michael B. Shimkin
Assistant Vice-President for Research
Temple University

Dr. William L. Simpson
Scientific Director
Detroit Institute for Cancer Research
Detroit, Mich.

Dr. John S. Spratt, Jr.
Director, Cancer Research Center
Columbia, Mo.

NIH Staff

Dr. Carl G. Baker
Scientific Director for Etiology
National Cancer Institute
Bethesda, Md.

Dr. Margaret H. Edwards
Program Director, Clinical Cancer Training Grants
National Cancer Institute
Bethesda, Md.

Dr. Jesse L. Steinfeld
Associate Director for Program
National Cancer Institute
Bethesda, Md.

Miss Pauline H. Stephan
Staff Assistant
National Cancer Institute
Bethesda, Md.

Dr. Timothy R. Talbot, Jr.
Director, The Institute for Cancer Research

Dr. John E. Ultmann
Director of Clinical Oncology
Argonne Cancer Research Hospital
Chicago, Ill.

Dr. Leo Wade
Vice-President & Deputy Director
Sloan-Kettering Inst. for Cancer Research
New York, N.Y.

Dr. Shields Warren
Director, Cancer Research Institute
New England Deaconess Hospital
Boston, Mass.

Dr. David A. Wood
Director, Cancer Research Institute
University of California
San Francisco, California

Dr. Carl Hansen, Deputy Associate
Director for Extramural Activities
National Cancer Institute
Bethesda, Md.

Mrs. Elizabeth E. Hooks
Liaison Representative, Office of Director
National Cancer Institute
Bethesda, Md.

Mr. Robert E. Learmouth
Executive Officer
National Cancer Institute
Bethesda, Md.
Dr. Robert Q. Marston  
Director, National Institutes of Health  
Bethesda, Md.

Dr. J. Palmer Saunders  
Associate Director, Extramural Activities  
National Cancer Institute  
Bethesda, Md.

Dr. Ian A. Mitchell  
Assistant Director  
National Cancer Institute  
Bethesda, Md.

Dr. C. Gordon Zubrod  
Scientific Director for Chemotherapy  
National Cancer Institute  
Bethesda, Md.

Dr. Bayard H. Morrison III  
Assistant Director  
National Cancer Institute  
Bethesda, Md.

HMSHA Staff

Dr. William Ross  
Chief, Cancer Control Program  
Division of Chronic Disease Programs  
Arlington, Va.
Primary Members

Dr. Michael J. Brenan
Medical & Scientific Director
The Michigan Cancer Foundation
4811 John R Street
Detroit, Mich. 48201

Dr. R. Lee Clark
Director & Surgeon-in-Chief
M.D. Anderson Hosp. & Tumor Inst.
6723 Bertner Drive
Houston, Texas 77025

Dr. A.R. Curreri
Chairman, Department of Surgery
University Hospital
1300 University Avenue
Madison, Wisconsin 53706

Dr. Leonard P. Eliel
Vice-Pres.-Director of Research
Oklahoma Medical Research Foundation
825 Northeast Thirteenth St.
Oklahoma City, Oklahoma 73104

Dr. Kenneth M. Endicott, Director
National Cancer Institute
National Institutes of Health
Bethesda, Maryland 20014

Dr. Sidney Farber
Director of Research
Children's Cancer Research Foundation
35 Binney Street
Boston, Massachusetts 02115

Dr. Alfred Gellhorn
Dean, The School of Medicine
University of Pennsylvania
Philadelphia, Pa. 19104

Additional or Alternate Members

- Dr. Murray M. Copeland
  (Vice-Pres., Univ. Cancer Foundation
  (Univ. of Texas
  )
  (Dr. Robert C. Hickey
  (Deputy Director, M.D. Anderson Hosp. &
  ( Tumor Inst.

- Dr. Paul T. Condit
  Head, Cancer Section

- Dr. Jesse L. Steinfeld
  (Associate Director for Program
  (Miss Pauline H. Stephan
  (Staff Assistant

- Dr. George E. Foley
  Chief, Labs of Microbiology
Primary Members

Dr. Alexander Gottschalk
Director, Argonne Cancer Research Hosp.
950 E. 59th Street
Chicago, Illinois 60637

Dr. James T. Grace, Jr.
Director, Roswell Park Memorial Inst.
666 Elm Street
Buffalo, New York 14203

Dr. Paul J. Grotzinger
Medical Director
The American Oncologic Hospital
Central & Shelmire Avenues
Philadelphia, Pa. 19111

Dr. Frank L. Horsfall, Jr.
President & Director
Sloan-Kettering Inst. for Cancer Res.
444 East 68th Street
New York, N.Y. 10021

Dr. James L. Liverman
Assistant Director
Oak Ridge National Laboratory
Post Office Box Y
Oak Ridge, Tennessee 37830

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Associate Professor, Dept. of Medicine
Johns Hopkins Hospital
Baltimore, Md. 21205

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St. Jude Children's Research Hospital
332 N. Lauderdale Street
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Madison, Wisconsin 53706

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Director, Eppley Inst. for Research in Cancer
42nd and Dewey Avenue
Omaha, Nebraska 68105

Additional or Alternate Members

Dr. John E. Ultmann
Director of Clinical Oncology

(Dr. Robert K. Ausman
(Director, Health Research, Inc.

Dr. Edwin A. Mirand
(Associate Institute Director

Dr. Leo Wade
Vice-Pres. & Deputy Director

Dr. Robert F. Kimball
Director, Biology Division

Dr. Melvin Greenblatt
Associate Professor of Pathology
Primary Members

Dr. William L. Simpson
Scientific Director
Detroit Institute of Cancer Research
4811 John R Street
Detroit, Michigan 48201

Dr. Howard E. Skipper
Vice-President & Director
Kettering-Meyer Laboratories
Southern Research Institute
2000 Ninth Avenue South
Birmingham, Alabama 35205

Dr. John S. Spratt, Jr.
Director, Cancer Research Center
Business Loop 70 & Garth Avenue
Columbia, Missouri 65201

Dr. Timothy R. Talbot, Jr.
Director, The Inst. for Cancer Research
7701 Burholme Avenue
Philadelphia, Pa. 19141

Dr. Shields Warren
Director, Cancer Research Inst.
New England Deaconess Hospital
185 Pilgrim Road
Boston, Mass. 02215

Dr. Sidney Weinhouse
Director, Fels Research Inst.
Temple University
Philadelphia, Pa. 19140

Dr. David A. Wood
Director, Cancer Research Institute
University of California
San Francisco, Calif. 94122

Additional or Alternate Members

Dr. Baruch S. Blumberg
Assoc. Dir. for Clinical Research

Dr. Michael B. Shimkin
Editor, Cancer Research
<table>
<thead>
<tr>
<th>Institution</th>
<th>Investigator</th>
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<tr>
<td>Johns Hopkins University</td>
<td>A. H. Owens</td>
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<td>U. of Wisconsin (RAD.)</td>
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<td>Cancer Research Center (Columbia, Mo.)</td>
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<td>R. L. Clark</td>
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<td>M. D. Anderson</td>
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Marion: This was on round table--believe from AACI mgt.

Think okay to file--or should I ask him about?
AGENDA
American Association of Cancer Institutes
May 18-19, 1969
Ramada Inn
Interstate Highway 70 & Highway 63
Columbia, Missouri 65201

SUNDAY, MAY 18
(Ramada Inn)
6:00 p.m. Dinner Meeting - Welcome and Brief Business Meeting
Dr. Kenneth M. Endicott, Director, National Cancer Institute

MONDAY, MAY 19
(Cancer Research Center)
9:00 a.m. Welcome, historical resume and future plans of the EFSCH-CRC
Dr. John S. Spratt, Jr., Director, CRC and Chief of Staff, EFSCH
9:20 a.m. Administrative Overview of CRC
Russell E. Merritt, Assistant Director for Administration, CRC
9:45 a.m. Approaches to Supplementary Funding in Biochemistry
Dr. Harry D. Brown, Director, Biochemistry Section, CRC
10:15 a.m. Coffee Break
10:30 a.m. Missouri Regional Medical Program
Dr. Yeu-Tsu N. Lee, Assistant Scientist-Surgery, CRC
11:00 a.m. Planning a Cancer Information System
Dr. Francis Watson, Director, Biomathematics Section, CRC; and
Dr. Galen B. Cook, Director, Applied Medical Engineering, CRC
11:30 a.m. Treatment of Actinic Keratoses and its Application Within the
Regional Medical Program
Dr. Reginald Pugh, Chief, Internal Medicine, Ellis Fischel
State Cancer Hospital
12:00 Noon Lunch - Ramada Inn
1:30 p.m.  Business Meeting. Dr. Frank L. Horsfall, Jr. presiding.

Introduction of Dr. R. M. Taylor, Secretary General, International Union Against Cancer, by Dr. Horsfall.


10th International Cancer Congress
Dr. R. Lee Clark, Jr., President, M.D. Anderson Hospital and Tumor Institute, Houston, Texas; and
Dr. Murry M. Copeland, Vice-President, University Cancer Foundation, University of Texas, Houston, Texas

6:00 p.m.  Social Hour and Dinner, Ramada Inn
What about the Telephone Inquiry in Dnp?

2. Management Training Ed. program now at Selis F.

3. Applied Engineering Div. NACA to really an Operation Research unit
   and carry on by a member line of S.F.

Post-Retiring Training Fellowship program for Managerial
Skills in Chnl., Cal Res. Techniques - hopefully with an M.S. degree.

4. Do not hire staff competing for professors.

5. Non-regular appointees in Res. Senior Med. Sch. in Corresponding
   or Appropriate Dept. - they are not appointees of the Bd. of
   Governors but those who meet the same criteria. Administratively
   and financially independent of the med. Sch.

Mr. Russell Merritt, C.P.C. Admin.

Research # 1 - 14,000 sq ft Cost 250,000

Research # 2 - now planned, 6,000 sq ft for enzymology, biochemistry, and
   remainder for storage. Programmed total 40,000 sq ft

Cancer Res. Center


Card: forecasting now done in case of a letter of credit.

Antibiotic expenses are now budgeted.

Administration

- 4 full time - Res. Path. Board
- 3 part time - in Clinical area
- Research Budget - 750,000
- Postdoc - 80

Chemistry - 7,000 sq ft, Dr. King Brown

1. Goals
   a. Development of new compounds of long-lasting quality (data on dose,
      compound).
   b. Study new Hepatoma in man.

2. C. Chromatography - 125 Metabolites - Chromatophony (Spinit)
   a. Enzyme adaptation of the cell to

3. Automation of Multipurpose screening program for diagnosis.
Bertha Davis-Clark, M.D.
5031 Braesvalley
Houston, Texas

Dear Dr. Davis-Clark,

An early cancer detection device has been developed by the bio-medical division of a small publicly held company. The device, which has been well tested in Canada, is entering the distribution phase.

In my opinion, this company has appeal as an investment vehicle for high risk accounts.

If you would like information about this company, please call me at the number listed above.

Sincerely,

Ian Goldfoot
Registered Representative
Ken Endicott -
app - 184 m 1st 180 by Adon.
Cuts - fellowships 5 TR - 5
Contracts - small cuts.
Res; GR. - Some
Funded 1/2 of competing grants.
Human Budget:
- allocate fellowships + 12 GR.
  up to 90 M for NIH and
  finally ended for an 18 M cut
  change in net. cut
  (1) Ca Res, could be fairly supported
  (2) Med Ed - in bound to be support
  for itself.

Endicott -
Institutional Support, or rather
Institutes of Research to get block
Support for: Programs
Separate from Medical School
& Health Sc. Support in Ed.
CONSTITUTION*

UNITED STATES OF AMERICA NATIONAL COMMITTEE
on the INTERNATIONAL UNION AGAINST CANCER

(Throughout the text of this Constitution, the abbreviation "USANCIUAC" will be used to mean "United States of America National Committee on the International Union Against Cancer")

Article I. Objects:

The objects of the USANCIUAC shall be (1) to foster world-wide cancer control, research, and education, and (2) to represent the United States in the International Union Against Cancer.

Article II. Duties:

The duties of the USANCIUAC shall be (1) to select and instruct representatives to meeting of the International Union Against Cancer, (2) to devise means for the support of the functions of the USANCIUAC, its delegates and representatives in relation to the general and specific functions, (3) to provide for the payment of dues to the International Union Against Cancer on behalf of the United States, (4) to establish an office or facilities for the transmission of information relating to cancer to the Union or its members in the several countries and to receive similar material for appropriate distribution in the United States, and (5) to approve all groups from the United States that may apply for membership in the Union and otherwise to encourage membership in the Union so as to foster its activities.

Article III. Membership:

A. Membership of the USANCIUAC shall consist of one representative of each Full Member of the International Union Against Cancer except that in view of the major financial contributions of the American Cancer Society and the National Cancer Institute they shall have two representatives.

B. These representatives shall be named by their organizations and appointed for a tenure of three years by the President of the National Academy of Sciences upon recommendation of the Chairman, Division of Medical Sciences.

C. It is required that those organizations eligible to be represented on the USANCIUAC contribute annually a minimum to the budget of the Committee as follows:

<table>
<thead>
<tr>
<th>Professional societies</th>
<th>$ 300</th>
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<tbody>
<tr>
<td>Cancer institutes</td>
<td>500</td>
</tr>
<tr>
<td>American Cancer Society</td>
<td>6,000</td>
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<tr>
<td>National Cancer Institute</td>
<td>6,000</td>
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</table>

*Adopted in 1952 and revised in May 1969
D. Officers of the International Union Against Cancer residing in the United States shall be members ex officio of the USANCIUAC.

E. The Chairman, Division of Medical Sciences, and the Foreign Secretary, National Academy of Sciences, shall be members ex officio of the USANCIUAC.

Article IV. **Dues to International Union Against Cancer**

The full dues obligation of the United States shall be the obligation of the USANCIUAC, which shall attempt to meet this obligation by soliciting additional voluntary contributions from the organizations represented.

Article IV. **Officers:**

The Chairman of the USANCIUAC shall be appointed by the Academy-Research Council from among the membership of the Committee to serve for a period of one year.

Article V. **Meetings:**

Meetings of the USANCIUAC shall be called by the Chairman at times and places designated by him. It shall be his duty to call at least one such meeting each calendar year. A meeting may also be called by the Chairman, Division of Medical Sciences, Academy-Research Council. Three members of the Committee shall constitute a quorum. A regularly called meeting attended by fewer may, however, act tentatively, subject to veto of any action by mail ballot by a majority of the full membership.

Article VI. **Selection of National Representatives:**

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CONSTITUTION*

UNITED STATES OF AMERICA NATIONAL COMMITTEE on the INTERNATIONAL UNION AGAINST CANCER

(Throughout the text of this Constitution, the abbreviation "USANCIUAC" will be used to mean "United States of America National Committee on the International Union Against Cancer")

Article I. Object:

The objects of the USANCIUAC shall be (1) to foster world-wide cancer control, research, and education, and (2) to represent the United States in the International Union Against Cancer.

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C. It is required that those organizations eligible to be represented on the USANCIUAC contribute annually a minimum to the budget of the Committee as follows:

<table>
<thead>
<tr>
<th>Professional societies</th>
<th>$300</th>
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<tr>
<td>Cancer institutes</td>
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Communion:
(1) Original draft of speech.
(2) Arguments about joining.
(3) Role in training -
  in research - general & demographic
  in acceleration of service
  in planning institute.

Dr. Taylor - on for int. ass.
Dr. Higgins

Copeland on K. Congress
1. Exhibites, Mexico,
2. Publications
   (1) Abstracts
   (2) Daily paper
   (3) W.I.C.C.
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   Translation
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by Dr John Higginson*

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In addition, the Agency is empowered to develop its own research programmes, including those laboratory studies necessary for the implementation of its field projects.

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The IARC is an autonomous body within WHO, with its own Governing Council and budget. The Governing Council is composed of one representative of each Participating State and the Director-General of WHO. The present Participating States are Australia, France, the Federal Republic of Germany, Israel, Italy, the Netherlands, the United Kingdom, the USA, and the USSR.

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The basic budget is provided by the Participating States on an equal basis, but the Governing Council is empowered to accept grants or special contributions from any individual body or government.

The Scientific and Governing Councils are determined that the staff should be composed of qualified scientists with research interests. To attract such staff, the IARC must provide an academic environment and facilities similar to those found in national research institutes. It is hoped that continued contact and movement of staff between the Agency and established research institutes will develop as the natural consequence of specific research needs. This should help to maintain research standards and also facilitate the return of staff to their own countries, thus avoiding the danger of building up a bureaucratic hierarchy within the Agency.

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This test should provide a method of establishing prevalence rates in populations in which they have hitherto been difficult to obtain.

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Cancer in experimental animals has been studied by numerous advanced techniques in relation to immunological, biochemical, and hormonal status, and it is universally accepted that similar studies in man are essential. However, the logistic difficulties are very great. It is hoped that the IARC will prove to be a suitable organization for carrying out such studies, making full use of the newer laboratory techniques now available.
Much is already known regarding the proximate etiological factors in communicable diseases, which can often be prevented by the application of this knowledge, provided the appropriate public health and economic measures can be taken. This, however, is not true for most cancers, despite some important exceptions. Accordingly, the Agency must direct its programme from the beginning to the acquisition of new knowledge and remain fully cognizant of modern trends in cancer research.

During the past 30 years extensive experimental studies have been carried out on carcinogenic mechanisms, and many new possibilities have been opened up by recent progress in molecular biology. While the long-term potential of such studies as a means of understanding basic mechanisms at the cellular level is obvious, it must not be forgotten that epidemiological studies have contributed (and will continue to contribute) extensively to the identification of carcinogenic stimuli in man, often with immediate practical implications.

Although considerable information is available on the etiology of certain cancers, especially cancer of the lung and mouth, a large number of cancers still exist for which no satisfactory etiological hypotheses are available. Thus, despite significant progress, much remains to be done. The direction of further studies will depend on two considerations—first, that it is difficult to extrapolate to man the results obtained with experimental animals, and, secondly, that the majority of human cancers are caused, or are modified significantly, by external factors.

While it is desirable to avoid, if possible, the exposure of man to exogenous agents that can cause cancer in experimental animals, it is necessary to be cautious in extrapolating from animals to man and vice versa. These agents may be of considerable pharmacological importance, and many more deaths might occur through failure to use them than from such cancer as they might cause. It can be considered a fortunate accident that the original testing methods were inadequate to demonstrate the carcinogenic potential of isoniazid in mice, thus permitting its use in tuberculosis therapy in man, in whom it would appear to be non-carcinogenic.

Since the number of new chemical or therapeutic agents in industry or medicine is constantly increasing and since facilities for adequate experimental testing are limited, the public health official will in the future be increasingly required to make decisions about such agents, often in the absence of supporting data. Thus, society will have increasingly to live with situations involving calculated risks.

The extent to which the so-called idiopathic cancers are influenced by exogenous agents is a matter of considerable practical and theoretical interest. It would appear that the present high rate of 304 per 100,000 in males in Connecticut, USA, could theoretically be reduced to 19.5. Thus, even if the last figure is a considerable underestimate, it seems that prevention on a very large scale may be possible. Furthermore, there is adequate evidence from immigrant populations that low rates are dependent on environmental rather than on genetic or racial factors.

The Agency is organized into five units on the basis of programmes and disciplines. Each of these units has developed field and laboratory activities both within the Agency and in collaboration with national institutions and outside scientists. A sixth unit is responsible for the fellowship and education programme.

**Epidemiology**

The Unit of Epidemiology, in collaboration with WHO, the International Union against Cancer, and other interested organizations, is developing the collection of cancer data, and eventually it should be possible to have detailed morbidity statistics from 40 or more representative registries. Close attention is also being given to the problem of comparability. In addition, the desirability of expanding the registry programme is being explored by ratio studies to indicate areas with unusual cancer patterns. These data will be utilized in collaboration with the Unit of Biostatistics to determine whether any general etiological correlations can be established for specific cancers as a basis for further testing in depth.
Tumours of the gastro-intestinal tract form a large proportion of all malignant neoplasms. However, there are very wide variations in incidence between countries, and at present no satisfactory etiological hypotheses exist to explain them. The Agency is now developing a systematic programme to study the etiology of these tumours, in collaboration with established institutions in many countries. Specific attention will be given to cancer of the oesophagus, which reaches pandemic proportions in certain parts of the world and in which not only alcohol and cigarette smoking but other factors seem to be involved.

A study on the role of naturally occurring carcinogens in liver cancer—a problem of great significance in many countries—has been started.

Studies are in progress on the pathological and anatomical classification of hepatic cirrhosis by discriminatory analysis and on the relationship of primary carcinoma of the liver to cirrhosis of differing etiology. This work is being done in collaboration with the Department of Pathology in the Medical School at Botucatu, São Paulo, Brazil.

In collaboration with WHO, the Agency is investigating the classification of reticulo-endothelial tumours (with particular reference to their relationship to Burkitt’s tumour), so as to facilitate future epidemiological studies. The observation that repeated stimulation of the reticulo-endothelial system diminishes the frequency of spontaneous tumours in animals is being further investigated, since it may help to explain the observed differences in cancer incidence between West African and Jamaican populations.

Since variations in cancer patterns in migrant populations are of particular significance in determining the role of environmental factors, studies of migrants are being developed through contracts with appropriate research groups.

The feasibility of epidemiological studies of spontaneous tumours in domesticated and experimental animals is being investigated to determine their potential value in the study of human cancer and to identify features common to animal and human oncology.

Analytical environmental carcinogenesis

Owing to the multifactorial origin of cancer, it is desirable to determine the distribution of known environmental carcinogens and correlate it with local cancer patterns. The implementation of extensive analytical studies is clearly beyond the capabilities of the IARC, but much information is available in governmental and national institutes. Accordingly, the Unit of Analytical Environmental Carcinogenesis is working on the application and collation of such information, in collaboration with established institutes, in order to provide the Epidemiology Unit with satisfactory data.

A study is being carried out under contract in different countries to establish the role, in cancer of the lung and other sites, of the various types of asbestos.

The unit will also promote the standardization of analytical methods for the detection of carcinogens in the environment, and it is working in close collaboration with the Unit of Chemical Carcinogenesis.

Biostatistics

The Unit of Biostatistics is responsible for providing statistical advice, and it collaborates in all research programmes. It is essential that strict statistical methods be applied to both laboratory and field research in the planning as well as in the analytical stage.

The unit is carrying out the necessary auxiliary work on large-scale digital computers; this work includes the flow charting of problems and their programming in suitable language. It also carries out its own basic research on biomathematical models in a variety of medical fields. Because of the inherent unpredictability of biological systems, these models are, of necessity, stochastic in nature. The experience gained and data gathered through consultative and computer activities will contribute substantially to the construction of useful mathematical models.

Finally, members of the unit will pursue research problems in their own particular fields. At present these studies embrace stochastic processes, theoretical statistics, the refining of the Monte Carlo techniques, and numerical analysis.
Biological carcinogenesis

The Unit of Biological Carcinogenesis is studying laboratory techniques likely to prove helpful in determining the possible viral etiology of cancer in man. Preliminary studies have been made to adapt the techniques of D. Pressman (using iodine-labelled antibodies) for the detection of virus-specific antigens at the cellular level.

The unit is correlating field and laboratory studies, both at Headquarters and in collaboration with established institutes. Particular importance is attached to a wider distribution of human material between different national institutes as part of a programme designed to explore the fundamental biology of human neoplasms.

A major interest of this unit will be to assist in the investigation of cancer of the nasopharynx in South-East Asia and in the comparative study of similar conditions in other parts of the world. Studies have been initiated under contract with the Singapore Regional Centre, the Queen Elizabeth Hospital in Hong Kong, and the Regional Centre and Kenyatta General Hospital in Nairobi, Kenya. A virus has been identified in this type of tumour for the first time.

Chemical carcinogenesis

The Unit of Chemical Carcinogenesis is responsible for studying the application of knowledge of chemical carcinogenesis to man with special reference to the mechanisms involved, including the practical and theoretical implications of the simultaneous action of several carcinogenic factors at low doses, since comparatively little is known about the possible significance of "total carcinogenic load". The information available, even from experimental studies, is limited, and further work is required on co-carcinogenesis and synergism when multiple carcinogenic agents are involved.

The unit is at present organizing an extensive study on the potential carcinogenic hazard of DDT in various species and on the evaluation of DDT levels in human tissue in various parts of the world. Both the experimental investigation of animals and the evaluation of DDT levels in human tissue will be performed in collaboration with national laboratories. Under a contract with the Weizmann Institute of Science, Jerusalem, Israel, a project is at present being carried out on the metabolism of dimethylnitrosamine and diethylnitrosamine, with emphasis on determining human exposure to these chemicals. The unit will study the organization of a computerized registry of all substances tested for carcinogenicity, including both positive and negative data.

The following example may give a better indication of the type of programme in which the Agency is becoming involved. Some time ago, aflatoxin was identified in many tropical countries as a naturally occurring carcinogen contaminating foodstuffs, especially those utilized as protein supplements for young children. In the laboratory it has proven the most powerful hepatocarcinogen identified to date in rats. While considerable knowledge of its distribution in western countries is now available, little is known of the actual intake in man in countries where primary liver cancer is very frequent and where, for the moment, aflatoxin is the primary etiological suspect on circumstantial evidence. In investigating this problem the Agency has established an analytical chemical laboratory in its Regional Centre in Nairobi to determine the actual intake of aflatoxin in certain population groups who show an increased incidence of liver cancer. Studies on the level of exposure will be extended to other populations showing varying incidences of primary carcinoma. Laboratory studies are also being undertaken with baboons to obtain a better knowledge of the lesions caused in sub-human primates and to identify metabolites which may provide a more satisfactory indication of previous exposure in man. Owing to its international status, the Agency is particularly suitable for this type of project, which requires both epidemiological skills and an adequate knowledge of the toxicology of aflatoxin. In its study of the epidemiology of liver cancer, the Agency is evaluating the potential of a recent serological test that can identify an embryonal alpha globulin (fetuin) produced by 75% of human liver cancers.
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During the past 30 years extensive experimental studies have been carried out on carcinogenic mechanisms, and many new possibilities have been opened up by recent progress in molecular biology. While the long-term potential of such studies as a means of understanding basic mechanisms at the cellular level is obvious, it must not be forgotten that epidemiological studies have contributed (and will continue to contribute) extensively to the identification of carcinogenic stimuli in man, often with immediate practical implications.

Although considerable information is available on the etiology of certain cancers, especially cancer of the lung and mouth, a large number of cancers still exist for which no satisfactory etiological hypotheses are available. Thus, despite significant progress, much remains to be done. The direction of further studies will depend on two considerations—first, that it is difficult to extrapolate to man the results obtained with experimental animals, and, secondly, that the majority of human cancers are caused, or are modified significantly, by external factors.

While it is desirable to avoid, if possible, the exposure of man to exogenous agents that can cause cancer in experimental animals, it is necessary to be cautious in extrapolating from animals to man and vice versa. These agents may be of considerable pharmacological importance, and many more deaths might occur through failure to use them than from such cancer as they might cause. It can be considered a fortunate accident that the original testing methods were inadequate to demonstrate the carcinogenic potential of isoniazid in mice, thus permitting its use in tuberculosis therapy in man, in whom it would appear to be non-carcinogenic.

Since the number of new chemical or therapeutic agents in industry or medicine is constantly increasing and since facilities for adequate experimental testing are limited, the public health official will in the future be increasingly required to make decisions about such agents, often in the absence of supporting data. Thus, society will have increasingly to live with situations involving calculated risks.

The extent to which the so-called idiopathic cancers are influenced by exogenous agents is a matter of considerable practical and theoretical interest. It would appear that the present high rate of 304 per 100,000 in males in Connecticut, USA, could theoretically be reduced to 19.5. Thus, even if the last figure is a considerable underestimate, it seems that prevention on a very large scale may be possible. Furthermore, there is adequate evidence from immigrant populations that low rates are dependent on environmental rather than on genetic or racial factors.

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The feasibility of epidemiological studies of spontaneous tumours in domesticated and experimental animals is being investigated to determine their potential value in the study of human cancer and to identify features common to animal and human oncology.

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Owing to the multifactorial origin of cancer, it is desirable to determine the distribution of known environmental carcinogens and correlate it with local cancer patterns. The implementation of extensive analytical studies is clearly beyond the capabilities of the IARC, but much information is available in governmental and national institutes. Accordingly, the Unit of Analytical Environmental Carcinogenesis is working on the application and collation of such information, in collaboration with established institutes, in order to provide the Epidemiology Unit with satisfactory data.

A study is being carried out under contract in different countries to establish the role, in cancer of the lung and other sites, of the various types of asbestos.

The unit will also promote the standardization of analytical methods for the detection of carcinogens in the environment, and it is working in close collaboration with the Unit of Chemical Carcinogenesis.

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The Unit of Biostatistics is responsible for providing statistical advice, and it collaborates in all research programmes. It is essential that strict statistical methods be applied to both laboratory and field research in the planning as well as in the analytical stage.

The unit is carrying out the necessary auxiliary work on large-scale digital computers; this work includes the flow charting of problems and their programming in suitable language. It also carries out its own basic research on biomathematical models in a variety of medical fields. Because of the inherent unpredictability of biological systems, these models are, of necessity, stochastic in nature. The experience gained and data gathered through consultative and computer activities will contribute substantially to the construction of useful mathematical models.

Finally, members of the unit will pursue research problems in their own particular fields. At present these studies embrace stochastic processes, theoretical statistics, the refining of the Monte Carlo techniques, and numerical analysis.
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The Unit of Biological Carcinogenesis is studying laboratory techniques likely to prove helpful in determining the possible viral etiology of cancer in man. Preliminary studies have been made to adapt the techniques of D. Pressman (using iodine-labelled antibodies) for the detection of virus-specific antigens at the cellular level.

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The Unit of Chemical Carcinogenesis is responsible for studying the application of knowledge of chemical carcinogenesis to man with special reference to the mechanisms involved, including the practical and theoretical implications of the simultaneous action of several carcinogenic factors at low doses, since comparatively little is known about the possible significance of “total carcinogenic load”. The information available, even from experimental studies, is limited, and further work is required on co-carcinogenesis and synergism when multiple carcinogenic agents are involved.

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In addition, the Agency is empowered to develop its own research programmes, including those laboratory studies necessary for the implementation of its field projects.

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The IARC is an autonomous body within WHO, with its own Governing Council and budget. The Governing Council is composed of one representative of each Participating State and the Director-General of WHO. The present Participating States are Australia, France, the Federal Republic of Germany, Israel, Italy, the Netherlands, the United Kingdom, the USA, and the USSR.

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The basic budget is provided by the Participating States on an equal basis, but the Governing Council is empowered to accept grants or special contributions from any individual body or government.

The Scientific and Governing Councils are determined that the staff should be composed of qualified scientists with research interests. To attract such staff, the IARC must provide an academic environment and facilities similar to those found in national research institutes. It is hoped that continued contact and movement of staff between the Agency and established research institutes will develop as the natural consequence of specific research needs. This should help to maintain research standards and also facilitate the return of staff to their own countries, thus avoiding the danger of building up a bureaucratic hierarchy within the Agency.

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**Research programmes**

Although the Agency's programmes are still in the formative stage, certain principles are becoming evident. Clearly, the IARC must not merely duplicate investigations that could equally well be undertaken in national institutions; efforts should rather be directed to problems particularly suited to the Agency's international role.

Thus, while its mandate permits it to engage in all aspects of cancer research, the initial programmes are concentrated on the role of the environment in human cancer, in view of the urgency of the ecological problems created by increasing industrialization and technical progress in many countries. The IARC plans to use a multidisciplinary laboratory and epidemiological approach covering all aspects of environmental carcinogenesis.
This test should provide a method of establishing prevalence rates in populations in which they have hitherto been difficult to obtain.

Education and fellowships

The IARC does not make grants to institutions, but it assists in the development of cancer research through a fellowship programme. It grants fellowships of one or two years' duration to junior scientists wishing to pursue a career in cancer research; these are awarded by an international selection committee of scientists. Close liaison is maintained between this programme and the programmes of WHO and the International Union against Cancer (administering the Eleanor Roosevelt International Cancer Fellowships of the American Cancer Society).

Travel fellowships for periods of up to three months are awarded to senior scientists wishing to visit selected centres for consultation, collaboration, or instruction in new techniques. The Agency, recognizing the need for clinical workers to develop cancer research programmes in parallel with improved cancer services in many countries, has approved the creation of training fellowships for this purpose.

In 1966 a total of 22 research training fellowships and 15 travel fellowships were awarded. The equivalent figures for 1967 were 27 and 40.

The Agency is organizing intensive and specialized courses on selected fields of cancer research for workers who are not experts in those fields but who wish to bring their knowledge of them up to date. The

lectures will eventually be published in an IARC Training Monograph series. The first course, "Biostatistics and epidemiology in cancer research", was held in Lyons from 24 June to 4 July 1968. In 1969 the subject of the course will be "Techniques with experimental animals in cancer research".

Other activities

In order to implement its field programmes, the IARC has established regional centres in areas that show unusual cancer patterns, and other centres are under consideration. The present regional centres are in Nairobi, Singapore, and Jamaica. They will undertake studies in depth on the correlation of cancer patterns and environmental factors. The term "collaborating centre" denotes a centre where the Agency is undertaking a specific research project, usually in association with an established research organization. The Agency also supports the IARC Tumour Transplantation Reference Centre, Stockholm, and the IARC Reference Centre for the Provision of Tumour-Bearing Animals, Amsterdam.

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A study on the role of naturally occurring carcinogens in liver cancer—a problem of great significance in many countries—has been established.

Studies are in progress on the pathological and anatomical classification of hepatic cirrhosis by discriminatory analysis and on the relationship of primary carcinoma of the liver to cirrhosis of differing etiology. This work is being done in collaboration with the Department of Pathology in the Medical School at Botucatu, Sao Paulo, Brazil.

In collaboration with WHO, the Agency is investigating the classification of reticuloendothelial tumours (with particular reference to their relationship to Burkitt's tumour), so as to facilitate future epidemiological studies. The observation that repeated stimulation of the reticuloendothelial system diminishes the frequency of spontaneous tumours in animals is being further investigated, since it may help to explain the observed differences in cancer incidence between West African and Jamaican populations.

Since variations in cancer patterns in migrant populations are of particular significance in determining the role of environmental factors, studies of migrants are being developed through contracts with appropriate research groups.

The feasibility of epidemiological studies of spontaneous tumours in domesticated and experimental animals is being investigated to determine their potential value in the study of human cancer and to identify features common to animal and human oncology.

**Analytical environmental carcinogenesis**

Owing to the multifactorial origin of cancer, it is desirable to determine the distribution of known environmental carcinogens and correlate it with local cancer patterns. The implementation of extensive analytical studies is clearly beyond the capabilities of the IARC, but much information is available in governmental and national institutes. Accordingly, the Unit of Analytical Environmental Carcinogenesis is working on the application and collation of such information, in collaboration with established institutes, in order to provide the Epidemiology Unit with satisfactory data.

A study is being carried out under contract in different countries to establish the role, in cancer of the lung and other sites, of the various types of asbestos.

The unit will also promote the standardization of analytical methods for the detection of carcinogens in the environment, and it is working in close collaboration with the Unit of Chemical Carcinogenesis.

**Biostatistics**

The Unit of Biostatistics is responsible for providing statistical advice and collaborating rates in all research programmes. It is essential that strict statistical methods be applied to both laboratory and field research in the planning as well as to the analytical stage.

The unit is carrying out the necessary auxiliary work on large-scale digital computers; this work includes the flow charting of problems and their programming in suitable language. It also carries out its own basic research on biomathematical models in a variety of medical fields. Because of the inherent unpredictability of biological systems, these models are, of necessity, stochastic in nature. The experience gained and data gathered through consultative and computer activities will contribute to the construction of useful mathematical models.

Finally, members of the unit will pursue research problems in their own particular fields. At present these studies embrace stochastic processes, theoretical statistics, the refining of the Monte Carlo techniques, and numerical analysis.

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The Unit of Biological Carcinogenesis is studying laboratory techniques likely to prove helpful in determining the possible viral etiology of cancer in man. Preliminary studies have been conducted using the technique of D. P. E. Pessman (using iodine-labelled antibodies) for the detection of virus-specific antigens at the cellular level.

The unit is correlating field and laboratory studies, both at Headquarters and in collaboration with established institutes. Particular importance is attached to a wider distribution of human material between different national institutes as part of a programme designed to explore the fundamental biology of human neoplasms.

A major interest of this unit will be to assist in the investigation of cancer of the nasopharynx in South-East Asia and in the comparative study of similar conditions in other parts of the world. Studies have been initiated under contract with the Singapore Regional Centre, the Queen Elizabeth Hospital in Hong Kong, and the Regional Centre and Kenyatta General Hospital in Nairobi, Kenya. A virus has been identified in this type of tumour for the first time.

**Chemical carcinogenesis**

The Unit of Chemical Carcinogenesis is responsible for studies including the application of knowledge of chemical carcinogenesis to man with special reference to the mechanisms involved, including the practical and theoretical implications of the simultaneous action of several carcinogenic factors at low doses, since comparatively little is known about the possible significance of "total carcinogenic load". The information available, even from experimental studies, is limited, and further work is required on co-carcinogenesis and synergism when multiple carcinogenic agents are involved.

The unit is at present organizing an extensive study on the potential carcinogenic hazard of DDT in various species and on the evaluation of DDT levels in human tissue in various parts of the world. Both the experimental investigation of animals and the evaluation of DDT levels in human tissue will be performed in collaboration with national laboratories. Under a contract with the Weizmann Institute of Science, Jerusalem, Israel, a project is at present being carried out on the metabolism of dimethylnitrosamine and diethylnitrosamine, with emphasis on determining human exposure to these chemicals. The unit will study the organization of a computerized registry of all substances tested for carcinogenicity, including both positive and negative data.

The following example may give a better indication of the type of programme in which the Agency is becoming involved. Some time ago, aflatoxin was identified in many tropical countries as a natural occurring carcinogen. The unit and the Unit of Parasitology at the International Centre for Medical Research and Biological Standardization in Cairo, Egypt, have organized a comparison of aflatoxin levels in foods of certain parts of the world. This study will be followed by a similar study of aflatoxin in a group of countries where it is currently not known to be present. The agencies will then be in a position to provide advice on preventive measures.
This test should provide a method of establishing prevalence rates in populations in which they have hitherto been difficult to obtain.

**Education and fellowships**

The IARC does not make grants to institutions, but it assists in the development of cancer research through a fellowship programme. It grants fellowships of one or two years' duration to junior scientists wishing to pursue a career in cancer research; these are awarded by an international selection committee of scientists. Close liaison is maintained between this programme and the programmes of WHO and the International Union against Cancer (administering the Eleanor Roosevelt International Cancer Fellowships of the American Cancer Society).

Travel fellowships for periods of up to three months are awarded to senior scientists wishing to visit selected centres for consultation, collaboration, or instruction in new techniques.

The Agency, recognizing the need for clinical workers to develop cancer research programmes in parallel with improved cancer services in many countries, has approved the creation of training fellowships for this purpose.

In 1966 a total of 22 research training fellowships and 15 travel fellowships were awarded. The equivalent figures for 1967 were 27 and 40.

The Agency is organizing intensive and specialized courses on selected fields of cancer research for workers who are not experts in those fields but who wish to bring their knowledge of them up to date. The lectures will eventually be published in an IARC Training Monograph series. The first course, "Biostatistics and epidemiology in cancer research", was held in Lyons from 24 June to 4 July 1968. In 1969 the subject of the course will be "Techniques with experimental animals in cancer research".

**Other activities**

In order to implement its field programmes, the IARC has established regional centres in areas that show unusual cancer patterns, and other centres are under consideration. The present regional centres are in Nairobi, Singapore, and Jamaica. They will undertake studies in depth on the correlation of cancer patterns and environmental factors. The term "collaborating centre" denotes a centre where the Agency is undertaking a specific research project, usually in association with an established research organization.

The Agency also supports the IARC Tumour Transplantation Reference Centre, Stockholm, and the IARC Reference Centre for the Provision of Tumour-Bearing Animals, Amsterdam.

Cancer in experimental animals has been studied by numerouls advanced techniques in relation to immunological, biochemical, and hormonal status, and it is universally accepted that similar studies in man are essential. However, the logistic difficulties are very great. It is hoped that the IARC will prove to be a suitable organization for carrying out such studies, making full use of the newer laboratory techniques now available.

Much is already known regarding the proximate etiological factors in communicable diseases, which can often be prevented by the application of this knowledge, provided the appropriate public health and economic measures can be taken. This, however, is not true for many cancers, despite some important exceptions. Accordingly, the Agency must direct its programme from the beginning to the acquisition of new knowledge and remain fully cognizant of modern trends in cancer research.

During the past 30 years extensive experimental studies have been carried out on carcinogenic mechanisms, and many new possibilities have been opened up by recent progress in molecular biology. While the long-term potential of such studies as a means of understanding basic mechanisms at the cellular level is obvious, it must not be forgotten that epidemiological studies have contributed (and will continue to contribute) extensively to the identification of carcinogenic stimuli in man, often with immediate practical implications.

Although considerable information is available on the etiology of certain cancers, especially cancer of the lung and mouth, a large number of cancers still exist for which no satisfactory etiological hypotheses are available. Thus, despite significant progress, much remains to be done. The direction of further studies will depend on two considerations—first, that it is difficult to extrapolate to man the results obtained with experimental animals, and, secondly, that the majority of human cancers are caused, or are modified significantly, by external factors.

While it is desirable to avoid, if possible, the exposure of man to exogenous agents that can cause cancer in experimental animals, it is necessary to be cautious in extrapolating from animals to man and vice versa. These agents may be of considerable epidemiological importance, and many more deaths might occur through failure to use them than from such cancer as they might cause. It can be considered a fortunate accident that the original testing methods were inadequate to demonstrate the carcinogenic potential of ionized in mice, thus permitting its use in tuberculosis therapy in man, in whom it would appear to be non-carcinogenic.

Since the number of new chemical or therapeutic agents in industry or medicine is constantly increasing and since facilities for adequate experimental testing are limited, the public health official will in the future be increasingly required to make decisions about such agents, often in the absence of supporting data. Thus, society will have increasingly to live with situations involving calculated risks.

The extent to which the so-called idiopathic cancers are influenced by exogenous agents is a matter of considerable practical and theoretical interest. It would appear that the present high rate of 304 per 100,000 in males in Connecticut, USA, could theoretically be reduced to 19.5. Thus, even if the last figure is a considerable underestimate, it seems that prevention on a very large scale may be possible. Furthermore, there is adequate evidence from immigrant populations that low rates are dependent on environmental rather than genetic or racial factors.

The Agency is organized into five units on the basis of programmes and disciplines. Each of these units has developed field and laboratory activities both within the Agency and in collaboration with national institutions and outside scientists. A sixth unit is responsible for the fellowship and education programme.

**Epidemiology**

The Unit of Epidemiology, in collaboration with WHO, the International Union against Cancer, and other interested organizations, is developing the collection of cancer data, and eventually it should be possible to have detailed morbidity statistics from 40 or more representative registries. Close attention is also being given to the problem of comparability. In addition, the desirability of expanding the registry programme is being explored by ratio studies to indicate areas with unusual cancer patterns. These data will be utilized in collaboration with the Unit of Biostatistics to determine whether any general etiological correlations can be established for specific cancers as a basis for further testing in depth.
The IARC moved its administrative headquarters to a temporary building put at its disposal by the Municipality of Lyons, France, in May 1967, and a small amount of laboratory accommodation has been rented. A permanent centre in close proximity to the Lyons medical school will be built within three years by the French authorities. The new building will have 14 floors and a highly flexible lay-out permitting a ready conversion of offices to laboratories and vice versa.

Research programmes

Although the Agency's programmes are still in the formative stage, certain principles are becoming evident. Clearly, the IARC must not merely duplicate investigations that could equally well be undertaken in national institutions; efforts should rather be directed to problems particularly suited to the Agency's international role.

Thus, while its mandate permits it to engage in all aspects of cancer research, the initial programmes are concentrated on the role of the environment in human cancer, in view of the urgency of the ecological problems created by increasing industrialization and technical progress in many countries. The IARC plans to use a multidisciplinary laboratory and epidemiological approach covering all aspects of environmental carcinogenesis.
INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

by Dr John Higginson*

In 1965, on the initiative of certain eminent French savants, the Eighteenth World Health Assembly established the International Agency for Research on Cancer (IARC) within the framework of the World Health Organization. The statute of the Agency states:

The objective of the International Agency for Research on Cancer shall be to promote international collaboration in cancer research. The Agency shall serve as a means through which Participating States and the World Health Organization, in liaison with the International Union Against Cancer and other interested international organizations, may cooperate in the stimulation and support of all phases of research related to the problem of cancer.

In addition, the Agency is empowered to develop its own research programmes, including those laboratory studies necessary for the implementation of its field projects.

Organization of the IARC

The IARC is an autonomous body within WHO, with its own Governing Council and budget. The Governing Council is composed of one representative of each Participating State and the Director-General of WHO. The present Participating States are Australia, France, the Federal Republic of Germany, Israel, Italy, the Netherlands, the United Kingdom, the USA, and the USSR.

A Scientific Council is responsible for evaluating the activities of the Agency and advising the Director and Governing Council on scientific policy and programmes. It is composed of 12 scientists selected by the Governing Council on the basis of their technical competence in cancer and allied research fields and irrespective of geographic representation.

The basic budget is provided by the Participating States on an equal basis, but the Governing Council is empowered to accept grants or special contributions from any individual body or government.

The Scientific and Governing Councils are determined that the staff should be composed of qualified scientists with research interests. To attract such staff, the IARC must provide an academic environment and facilities similar to those found in national research institutes. It is hoped that continued contact and movement of staff between the Agency and established research institutes will develop as the natural consequence of specific research needs. This should help to maintain research standards and also facilitate the return of staff to their own countries, thus avoiding the danger of building up a bureaucratic hierarchy within the Agency.

* Director, International Agency for Research on Cancer, 16, avenue Marshal Foch, Lyons, France.

The present members of the Scientific Council are: Professor J. Berenblum, Department of Experimental Biology, Weizmann Institute of Science, Jerusalem, Israel; Professor N. N. Blonsky, Director of the Institute of Experimental and Clinical Oncology, Academy of Medical Sciences, Moscow, USSR; Professor P. Bozzini, Director of the Istituto Nazionale per lo Studio e la Cura dei Tumori, Milan, Italy; Professor P. C. Dumas, Directeur de l’Institut Gersaint Roux, Villejuif, France; Professor P. E. Dutt, Medical Research Council National Research Unit, London, England, UK; Professor F. Harcourt, Director of the Pathology Department, British Columbia Institute of Cancer Research, Vancouver, B.C., Canada; Professor H. Koler, National Institute for Cancer Research, Naples, Italy; Professor J. O. Lindgren, Karolinska Institute, Stockholm, Sweden; Professor A. Lübeke, St. Elizabeth’s Hospital, Stockholm, Sweden; Professor G. Klein, Institute for Tumour Biology, Karolinska Institute, Stockholm, Sweden; Professor O. Mullard, Memorial Hospital, Berne, Switzerland; Professor D. M. Sinha, IARC, Berlin, Germany; Professor P. N. White, Head of the Department of Pathology, St. Bartholomew’s Hospital, London, England, UK; and Dr D. J. Mears, Walter and Eliza Hall Institute for Medical Research, Melbourne, Australia.
Tumours of the gastro-intestinal tract form a large proportion of all malignant neoplasms. However, there are very wide variations in incidence between countries, and at present no satisfactory etiological hypotheses exist to explain them. The Agency is now developing a systematic programme to study the etiology of these tumours, in collaboration with established institutions in many countries. Specific attention will be given to cancer of the oesophagus, which reaches pandemic proportions in certain parts of the world and in which not only alcohol and cigarette smoking but other factors seem to be involved.

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The feasibility of epidemiological studies of spontaneous tumours in domesticated and experimental animals is being investigated to determine their potential value in the study of human cancer and to identify features common to animal and human oncology.

Analytical environmental carcinogenesis

Owing to the multifactorial origin of cancer, it is desirable to develop a rational classification of known environmental carcinogens and correlate it with local cancer patterns. The implementation of extensive analytical programmes is therefore beyond the capabilities of the IARC, but much information is available in governmental and national institutes.

Accordingly, the Unit of Analytical Environmental Carcinogenesis is working on the application and collation of such information, in collaboration with established institutes, in order to provide the Epidemiology Unit with satisfactory data.

A study is being carried out under contract in different countries to establish the role, in cancer of the liver and other sites, of the various types of asbestos.

The unit will also promote the standardization of analytical methods for the detection of carcinogens in the environment, and it is working in close collaboration with the Unit of Chemical Carcinogenesis.

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A major interest of this unit will be to assist in the investigation of cancer of the nasopharynx in South-East Asia and in the comparative study of similar conditions in other parts of the world. Studies have been initiated under contract with the Singapore Regional Centre, the Queen Elizabeth Hospital in Hong Kong, and the Regional Centre and Kenyatta General Hospital in Nairobi, Kenya. A virus has been identified in this type of tumour for the first time.

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The Unit of Chemical Carcinogenesis is responsible for studying the application of knowledge of chemical carcinogenesis to man with special reference to the mechanisms involved, including the practical and theoretical implications of the simultaneous action of several carcinogenic factors at low doses, since comparatively little is known about the possible significance of "total carcinogenic load". The information available, even from experimental studies, is limited, and further work is required on co-carcinogenesis and synergism when multiple carcinogenic agents are involved.

The unit is at present organizing an extensive study on the potential carcinogenic hazard of various species and on the evaluation of DDT levels in human tissue in various parts of the world. Both the experimental investigation of animals and the evaluation of DDT levels in human tissue will be performed in collaboration with national laboratories. Under a contract with the Weizmann Institute of Science, Jerusalem, a project is in progress being carried out on the metabolism of dimethylnitrosamine and diethylnitrosamine, with emphasis on determining human metabolism and excretion of the carcinogens.

The unit will study the organization of a computerized registry of all substances tested for carcinogenicity, including both positive and negative data.

The following example may give a better indication of the type of programme in which the Agency is becoming involved. Some time ago, aflatoxin was identified in many tropical countries as a natural occurring carcinogen contaminating foodstuffs, especially those utilized as protein supplements for young children. In the laboratory it has proven to be the most powerful hepato-carcinogen identified to date in rats. While considerable knowledge of its distribution in western countries is now available, little is known of the actual intake in man in countries where primary liver cancer is very frequent and where, for the moment, aflatoxin is the primary etiological suspect or circumstantial evidence. In investigating this problem the Agency has established an analytical chemical laboratory in its Regional Centre in Nairobi to determine the actual intake of aflatoxin in certain population groups who show an increased incidence of liver cancer. Studies on the level of exposure will be extended to other populations showing varying incidences of primary carcinoma. Laboratory studies are also being undertaken with baboons to obtain a better knowledge of the lesions caused in sub-human primates and to identify metabolites which may provide a more satisfactory indication of previous exposure in man. Owing to its international status, the Agency is particularly suitable for this type of project which requires both epidemiological skills and an adequate knowledge of the toxicology of aflatoxin. In its study of the epidemiology of liver cancer, the Agency is evaluating the potential of a recent serological test that can identify an embryonal alpha globulin ( fetuin) produced by 75% of human liver cancers.
The IARC Training Monograph series. The first course, “Biostatistics and epidemiology in cancer research”, was held in Lyons from 24 June to 4 July 1968. In 1969 the subject of the course will be “Techniques with experimental animals in cancer research”.

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Biostatistics

The Unit of Biostatistics is responsible for providing statistical advice, and it collaborates in all research programmes. It is essential that strict statistical methods be applied to both laboratory and field research in the planning as well as in the analytical stage. It also carries out its own basic research, especially on the application of non-computer techniques such as the use of tables in large-scale research programmes. It is necessary to investigate the role of environmental factors, studies of migrants are being carried out, and the use of statistical methods to evaluate the results is essential.

Biological carcinogenesis

The Unit of Biological Carcinogenesis is studying laboratory techniques likely to prove helpful in determining the possible virulence of cancer in man. Preliminary studies have been made to adopt the techniques of D. Presman (using iodine-labelled antibodies) for the detection of virus-specific antigens at the cellular level. The unit is correlating field and laboratory studies, both at Headquarters and in collaboration with others. Particular importance is attached to a wider distribution of human material between different national institutes as part of a programme designed to explore the fundamental biology of human neoplasms.

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Chemical carcinogenesis

The Unit of Chemical Carcinogenesis is responsible for research groups with knowledge of chemical carcinogenesis to man with special reference to the mechanisms involved, including the practical and theoretical implications of the simultaneous action of several carcinogenic factors at low doses. The information available from experimental studies is then compared with historical data from other populations showing varying incidences of primary carcinomas. Laboratory studies are also being undertaken with animals to provide a better knowledge of the lesions caused in sub-human primates and to identify metabolic pathways which may provide a more satisfactory indication of the incidence of liver cancer.

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This test should provide a method of establishing prevalence rates in populations in which they have hitherto been difficult to obtain.

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Travel fellowships for periods of up to three months are awarded to senior scientists wishing to visit selected centres for consultation, collaboration, or instruction in new techniques.

The Agency, recognizing the need for cancer workers to develop cancer research programmes in parallel with improved cancer services in many countries, has approved the creation of training fellowships for this purpose.

In 1966 a total of 22 research training fellowships and 15 travel fellowships were awarded. The equivalent figures for 1967 were 27 and 40.

The Agency is organizing intensive and specialized courses on selected fields of cancer research for workers who are not experts in those fields but who wish to bring their knowledge of them up to date. The lectures will eventually be published in an IARC Training Monograph series. The first course, "Biostatistics and epidemiology in cancer research", was held in Lyons from 24 June to 4 July 1968. In 1969 the subject of the course will be "Techniques with experimental animals in cancer research".

**Other activities**

In order to implement its field programmes, the IARC has established regional centres in areas that show unusual cancer patterns, and other centres are under consideration. The present regional centres are in Nairobi, Singapore, and Jamaica. They will undertake studies in depth on the correlation of cancer patterns and environmental factors. The term "collaborating centre" denotes a centre where the Agency is undertaking a specific research project, usually in association with an established research organization.

The Agency also supports the IARC Tumour Transplantation Reference Centre, Stockholm, and the IARC Reference Centre for the Provision of Tumour-Bearing Animals, Amsterdam.

Cancer in experimental animals has been studied by numerous advanced techniques in relation to immunological, biochemical, and hormonal status, and it is universally accepted that similar studies in man are essential. However, the logistic difficulties are very great. It is hoped that the IARC will prove to be a suitable organization for carrying out such studies, making full use of the newer laboratory techniques now available.

Much is already known regarding the proximate etiological factors in communicable diseases, which can often be prevented by the application of this knowledge, provided the appropriate public health and economic measures can be taken. This, however, is not true for most cancers, despite some important exceptions. Accordingly, the Agency must direct its programme from the beginning to the acquisition of new knowledge and remain fully cognizant of modern trends in cancer research.

During the past 30 years extensive experimental studies have been carried out on carcinogenic mechanisms, and many new possibilities have been opened up by recent progress in molecular biology. While the long-term potential of such studies as a means of understanding basic mechanisms at the cellular level is obvious, it must not be forgotten that epidemiological studies have contributed (and will continue to contribute) extensively to the identification of carcinogenic stimuli in man, often with immediate practical implications.

Although considerable information is available on the etiology of certain cancers, especially cancer of the lung and mouth, a large number of cancers still exist for which no satisfactory etiological hypotheses are available. Thus, despite significant progress, much remains to be done. The direction of further studies will depend on two considerations: first, that it is difficult to extrapolate from the results obtained with experimental animals, and, secondly, that the majority of human cancers are caused, or are modified significantly, by external factors.

While it is desirable to avoid, if possible, the exposure of man to exogenous agents that cause cancer in experimental animals, it is necessary to be cautious in extrapolating from animals to man and _vice versa_. These agents may be of considerable pharmacological importance, and many more deaths might occur through failure to use them than from such cancer as they might cause. It can be considered a fortunate accident that the original testing methods were inadequate to demonstrate the carcinogenic potential of isoniazid in mice, thus permitting its use in tuberculosis therapy in man, in whom it would appear to be non-carcinogenic.

Since the number of new chemical or therapeutic agents in industry or medicine is constantly increasing and since facilities for adequate experimental testing are limited, the public health official will in the future be increasingly required to make decisions about such agents, often in the absence of supporting data. Thus, society will have increasingly to live with situations involving calculated risk.

The extent to which the so-called idiopathic cancers are influenced by exogenous agents is a matter of considerable practical and theoretical interest. It would appear that the present high rate of 304 per 100,000 in males in Connecticut, USA, could theoretically be reduced to 19.5. Thus, even if the last figure is a considerable underestimate, it seems that prevention on a very large scale may be possible.

Furthermore, there is adequate evidence from immigrant populations that low rates are dependent on environmental rather than on genetic or racial factors.

The Agency is organized into five units on the basis of programmes and disciplines. Each of these units has developed field and laboratory activities both within the Agency and in collaboration with national institutions and outside scientists. A sixth unit is responsible for the fellowship and education programmes.

**Epidemiology**

The Unit of Epidemiology, in collaboration with WHO, the International Union against Cancer, and other interested organizations, is developing the collection of cancerg data, and eventually it should be possible to have detailed morbidity statistics from 40 or more representative registries. Close attention is also being given to the problem of comparability. In addition, the desirability of expanding the registry programme is being explored by ratio studies to indicate areas with unusual patterns of cancer. These data will be utilized in collaboration with the Unit of Biostatistics to determine whether any general etiological correlations can be established for specific cancers as a basis for further testing in depth.
The IARC moved its administrative headquarters to a temporary building put at its disposal by the Municipality of Lyons, France, in May 1967, and a small amount of laboratory accommodation has been rented. A permanent centre in close proximity to the Lyons medical school will be built within three years by the French authorities. The new building will have 14 floors and a highly flexible lay-out permitting a ready conversion of offices to laboratories and vice versa.

**Research programmes**

Although the Agency's programmes are still in the formative stage, certain principles are becoming evident. Clearly, the IARC must not merely duplicate investigations that could equally well be undertaken in national institutions; efforts should rather be directed to problems particularly suited to the Agency's international role.

Thus, while its mandate permits it to engage in all aspects of cancer research, the initial programmes are concentrated on the role of the environment in human cancer, in view of the urgency of the ecological problems created by increasing industrialization and technical progress in many countries. The IARC plans to use a multidisciplinary laboratory and epidemiological approach covering all aspects of environmental carcinogenesis.
INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

by Dr John Higginson *

In 1965, on the initiative of certain eminent French savants, the Eighteenth World Health Assembly established the International Agency for Research on Cancer (IARC) within the framework of the World Health Organization. The statute of the Agency states:

The objective of the International Agency for Research on Cancer shall be to promote international collaboration in cancer research. The Agency shall serve as a means through which Participating States and the World Health Organization, in liaison with the International Union Against Cancer and other interested international organizations, may cooperate in the stimulation and support of all phases of research related to the problem of cancer.

In addition, the Agency is empowered to develop its own research programmes, including those laboratory studies necessary for the implementation of its field projects.

Organization of the IARC

The IARC is an autonomous body within WHO, with its own Governing Council and budget. The Governing Council is composed of one representative of each Participating State and the Director-General of WHO. The present Participating States are Australia, France, the Federal Republic of Germany, Israel, Italy, the Netherlands, the United Kingdom, the USA, and the USSR.

A Scientific Council1 is responsible for evaluating the activities of the Agency and advising the Director and Governing Council on scientific policy and programmes. It is composed of 12 scientists selected by the Governing Council on the basis of their technical competence in cancer and allied research fields and irrespective of geographic representation.

The basic budget is provided by the Participating States on an equal basis, but the Governing Council is empowered to accept grants of special contributions from any individual body or government.

The Scientific and Governing Councils are determined that the staff should be composed of qualified scientists with research interests. To attract such staff, the IARC must provide an academic environment and facilities similar to those found in national research institutes. It is hoped that continued contact and movement of staff between the Agency and established research institutes will develop as the natural consequence of specific research needs. This should help to maintain research standards and also facilitate the return of staff to their own countries, thus avoiding the danger of building up a bureaucratic hierarchy within the Agency.

* Director, International Agency for Research on Cancer, 11, avenue Maréchal Foch, Lausanne, Switzerland.

1 The present members of the Scientific Council are: Professor J. Boniol, Department of Experimental Biology, Institute of Biomedical Sciences, Académie de la Salute, Montpellier, France; Professor W. J. R. Davies, Institute of Medical Research, London, United Kingdom; Professor F. D. E. Heidenreich, University of Heidelberg, Germany; Professor H. L. Hoffer, Institute for Cancer Research, Philadelphia, USA; Professor M. J. H. Hori, Institute of Cancer Research, Accra, Ghana; Professor J. E. Pirotta, Institute for Cancer Research, Campania, Italy; Professor S. P. S. Reddy, International Agency for Research on Cancer, Lyon, France; Professor G. F. R. Simon, Institute of Medical Research, Melbourne, Australia; Professor O. M. Schild, Netherlands Cancer Institute, Amsterdam, Netherlands; Professor P. N. V. Quirt, Head of the Department of Pathology, Serono Medical College, Agri, India.
Tumours of the gastro-intestinal tract form a large proportion of all malignant neoplasms. However, there are wide variations in incidence between countries, and at present no satisfactory etiological hypotheses exist to explain them. The Agency is now developing a systematic approach to study the etiology of these tumours, in collaboration with established institutions in many countries. Specific attention will be given to cancer of the oesophagus, which reaches epidemic proportions in certain parts of the world and in which not only alcohol and cigarette smoking but other factors seem to be involved.

A study on the role of naturally occurring carcinogens in liver cancer—a problem of great significance in many countries—has been started. Studies are in progress on the pathological and anatomical classification of hepatic cirrhosis, by discriminatory analysis and on the relationship of primary carcinoma of the liver to cirrhosis of differing etiology. This work is being done in collaboration with the Department of Pathology in the Medical School at Botucatu, São Paulo, Brazil. In collaboration with WHO, the Agency is investigating the classification of reticulo-endothelial tumours (with particular reference to their relationship to Burkitt's tumour), so as to facilitate future epidemiological studies. The observation that the treated stimulation of the reticulo-endothelial system diminishes the frequency of spontaneous tumours in animals is being further investigated, since it may help to explain the observed differences in cancer incidence between West African and Jamaican populations.

Since variations in cancer patterns in migrant populations are of particular significance in determining the role of environmental factors, studies of migrants are being developed through contracts with appropriate research groups.

The feasibility of epidemiological studies of spontaneous tumours in domesticated and experimental animals is being investigated to determine the potential value in the study of human cancer and to identify features common to animal and human oncology.

**Analytical environmental carcinogenesis**

Owing to the multifactorial origin of cancer, it is desirable to determine the distribution of known environmental carcinogens and to correlate it with local cancer patterns. The implementation of extensive analytical studies is clearly beyond the capabilities of IARC, but much information is available in governmental and national institutes. Accordingly, the Unit of Analytical Environmental Carcinogenesis is working on the application and collation of such information, in collaboration with established institutes, in order to provide the Epidemiology Unit with satisfactory data.

A study is being carried out under contract in different countries to establish the incidence of cancer of the lung and other sites, of the various types of asbestos.

The unit will also promote the standardization of analytical methods for the detection of carcinogens in the environment, and it is working in close collaboration with the Unit of Chemical Carcinogenesis.

**Biostatistics**

The Unit of Biostatistics is responsible for providing statistical advice, and it collaborates in all research programs. It is essential that strict statistical methods be applied to both laboratory and field research in the planning as well as in the analytical stage.

The unit is using its own basic auxiliary work on large digital computers; this work includes the charting of problems and their programming in suitable language. It also carries out its own basic research on biomathematical models in a variety of medical fields, because of the inherent unpredictability of biological systems, and because the necessary models are often stochastic in nature. The experience gained through consultation with laboratory activities will contribute substantial construction of useful mathematical models.

Finally, members of the unit will pursue research problems in their own particular fields. At present these studies include stochastic processes, theoretical statistics, the refinement of the Monte Carlo techniques, and numerical analysis.

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The Unit of Biological Carcinogenesis is studying laboratory techniques likely to prove helpful in determining the possible viral etiology of cancer in man. Preliminary studies have made it possible to adapt the techniques of D. Pressman (using iodine-labelled antibodies) for the detection of virus-specific antigens at the cellular level.

The unit is correlating field and laboratory studies, both at Headquarters and in collaboration with established institutes. Particular importance is attached to a wider distribution of human material between different national institutes as part of a programme designed to explore the fundamental biology of human neoplasms.

A major interest of this unit will be to assist in the investigation of cancer of the nasopharynx in South-East Asia and in the comparative study of similar conditions in other parts of the world. Studies have been initiated under contract with the Singapore National Cancer Institute, the Queen Elizabeth Hospital in Hong Kong, and the Regional Centre and KCMC, General Hospital in Nairobi, Kenya. A virus has been identified in this type of tumour for the first time.

**Chemical carcinogenesis**

The Unit of Chemical Carcinogenesis is conducting studies on the application of knowledge of chemical carcinogenesis to man, with special reference to the mechanisms involved, including the practical and theoretical implications of the simultaneous action of other carcinogenic factors at low doses, and the comparatively little known about the possible significance of "total carcinogenic agents." The information available, even from experimental studies, is limited, and further work is required on co-carcinogenesis and synergism when multiple carcinogenic agents are involved.

The unit is at present organizing an extensive study on the potential carcinogenic hazard of DDT in various species and on the evaluation of DDT levels in human tissue in various parts of the world. Both the experimental investigation of animals and the evaluation of DDT levels in human tissue will be performed in collaboration with national laboratories. Under a contract with the Department of Health, Jerusalem, Israel, a project is at present being carried out on the metabolism of dimethylnitrosamine and diethylaminoazone, with emphasis on determining human to animal carcinogenicity. The unit will study the organization of a computerized registry of all substances tested for carcinogeticity, including both positive and negative data.

The following example may give a better indication of the type of programme in which the Agency is becoming involved. Some time ago, aflatoxin was identified in many tropical countries as a naturally occurring carcinogen and contaminating foodstuffs, especially those utilized as protein supplements for young children. In the laboratory it has proven the most powerful hepato-carcinogen identified to date in rats. While considerable knowledge of its distribution in western countries is now available, little is known of the actual intake of aflatoxin in man, where primary liver cancer is very frequent and where, for the moment, aflatoxin is the primary etiological suspect on circumstantial evidence. In investigating this problem the Agency has established an analytical chemical laboratory in its Regional Centre in Nairobi to determine the actual intake of aflatoxin in certain population groups and to provide evidence of the incidence of liver cancer. Studies on the level of exposure will be extended to other populations showing varying incidences of primary carcinoma. Laboratory studies are also being undertaken with baboons to obtain a better knowledge of the lesions caused in sub-human primates and to identify metabolites which may provide a more satisfactory indication of previous exposure in man. Owing to its international status, the Agency is particularly suitable for this type of project, which requires both epidemiological skills and an adequate knowledge of the toxicology of aflatoxin. In its study of the epidemiology of liver cancer, the Agency is evaluating the potential of a recent serological test that can identify an embryonal alpha globulin ( fetuin) produced by 75% of human liver cancers.
Tumours of the gastro-intestinal tract form a large proportion of all malignant neoplasms. However, there are very wide variations in incidence between countries, and at present no satisfactory etiological hypotheses exist to explain them. The Agency is now developing a systematic programme to study the etiology of these tumours, in collaboration with established institutions in many countries. Specific attention will be given to cancer of the oesophagus, which reaches pandemic proportions in certain parts of the world and in which not only alcohol and cigarette smoking but other factors seem to be involved.

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The experience gained and data gathered through systematic and computer methods will contribute substantially to the construction of useful mathematical models.

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The Agency is organizing intensive and specialized courses on selected fields of cancer research for workers who are not experts in those fields but who wish to bring their knowledge of them up to date. The lectures will eventually be published in an IARC Training Monograph series. The first course, "Biostatistics and epidemiology in cancer research", was held in Lyons from 24 June to 4 July 1968. In 1969 the subject of the course will be "Techniques with experimental animals in cancer research".

Other activities

In order to implement its field programmes, the IARC has established regional centres in areas that show unusual cancer patterns, and other centres are under consideration. The present regional centres are in Nairobi, Singapore, and Jamaica. They will undertake studies in depth on the correlation of cancer patterns and environmental factors. The term "collaborating centre" denotes a centre where the Agency is undertaking a specific research project, usually in association with an established research organization.

The Agency also supports the IARC Tumour Transplantation Reference Centre, Stockholm, and the IARC Reference Centre for the Provisions of Tumour-Bearing Animals, Amsterdam.

Cancer in experimental animals has been studied by numerous advanced techniques in relation to immunological, biochemical, and hormonal status, and it is universally accepted that similar studies in man are essential. However, the logistic difficulties are very great. It is hoped that the IARC will prove to be a suitable organization for carrying out such studies, making full use of the newer laboratory techniques now available.

Much is already known regarding the proximate etiological factors in communi-
cable diseases, which can often be prevented by the application of this knowledge, provided the appropriate public health and economic measures can be taken. This, however, is not true for most cancers, despite some important exceptions. Accordingly, the Agency must direct its programme from the beginning to the acquisition of new knowledge and remain fully cognizant of modern trends in cancer research.

During the past 30 years extensive experimental studies have been carried out on cancer and other carcinogenic mechanisms, and many new possibilities have been opened up by recent progress in molecular biology. While the long-term potential of such studies as a means of understanding basic mechanisms at the cellular level is obvious, it must not be forgotten that epidemiological studies have contributed (and will continue to contribute) extensively to the identification of carcinogenic stimuli in man, often with immediate practical implications.

Although considerable information is available on the etiology of certain cancers, especially cancer of the lung and mouth, a large number of cancers still exist for which no satisfactory etiological hypotheses are available. Thus, despite significant progress, much remains to be done. The direction of further studies will depend on two considerations—first, that it is difficult to extrapolate to man the results obtained with experimental animals, and, secondly, that the majority of human cancers are caused, or are modified significantly, by external factors.

While it is desirable to avoid, if possible, the exposure of man to exogenous agents that can cause cancer in experimental animals, it is necessary to be cautious in extrapolating from animals to man and vice versa. These agents may be of considerable pharmacological importance, and many more deaths might occur through failure to use them than from such cancer as they might cause. It can be considered a fortunate accident that the original testing methods were inadequate to demonstrate the carcinogenic potential of isoniazid in mice, thus permitting its use in tuberculosis therapy in man, in whom it would appear to be non-carcinogenic.

Since the number of new chemical or therapeutic agents in industry or medicine is constantly increasing and since facilities for adequate experimental testing are limited, the public health official will in the future be increasingly required to make decisions about such agents in the absence of supporting data. Thus, society will have increasingly to live with situations involving calculated risks.

The extent to which the so-called idiopathic cancers are influenced by exogenous agents is a matter of considerable practical and theoretical interest. It would appear that the present high rate of 304 per 100,000 males in Connecticut, USA, could theoretically be reduced to 19.5. Thus, even if the last figure is a considerable underestimate, it seems that prevention on a very large scale may be possible. Furthermore, there is adequate evidence from immigrant populations that low rates are dependent on environmental rather than on genetic or racial factors.

The Agency is organized into five units on the basis of programmes and disciplines. Each of these units has developed field and laboratory activities both within the Agency and in collaboration with national institutions and outside scientists. A sixth unit is responsible for the fellowship and education programme.

Epidemiology

The Unit of Epidemiology, in collaboration with WHO, the International Union against Cancer, and other interested organizations, is developing the collection of cancer data, and eventually it should be possible to have detailed morbidity statistics from 40 or more representative registries. Close attention is also being given to the problem of comparability. In addition, the desirability of expanding the registry programme is being explored by ratio studies to indicate areas with unusual cancer patterns. These data will be utilized in collaboration with the Unit of Biostatistics to determine whether any general etiological correlations can be established for specific cancers as a basis for further testing in depth.
INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

by Dr John Higginson

In 1965, on the initiative of certain eminent French savants, the Eighteenth World Health Assembly established the International Agency for Research on Cancer (IARC) within the framework of the World Health Organization. The statute of the Agency states:

The objective of the International Agency for Research on Cancer shall be to promote international collaboration in cancer research. The Agency shall serve as a means through which Participating States and the World Health Organization, in liaison with the International Union Against Cancer and other interested international organizations, may cooperate in the stimulation and support of all phases of research related to the problem of cancer.

In addition, the Agency is empowered to develop its own research programmes, including those laboratory studies necessary for the implementation of its field projects.

Organization of the IARC

The IARC is an autonomous body within WHO, with its own Governing Council and budget. The Governing Council is composed of one representative of each Participating State and the Director-General of WHO. The present Participating States are Australia, France, the Federal Republic of Germany, Israel, Italy, the Netherlands, the United Kingdom, the USA, and the USSR.

A Scientific Council1 is responsible for evaluating the activities of the Agency and advising the Director and Governing Council on scientific policy and programmes. It is composed of 12 scientists selected by the Governing Council on the basis of their technical competence in cancer and allied research fields and irrespective of geographic representation.

The basic budget is provided by the Participating States on an equal basis, but the Governing Council is empowered to accept grants or special contributions from any individual body or government.

The Scientific and Governing Councils are determined that the staff should be composed of qualified scientists with research interests. To attract such staff, the IARC must provide an academic environment and facilities similar to those found in national research institutes. It is hoped that continued contact and movement of staff between the Agency and established research institutes will develop as the natural consequence of specific research needs. This should help to maintain research standards and also facilitate the return of staff to their own countries, thus avoiding the danger of building up a bureaucratic hierarchy within the Agency.

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Research programmes

Although the Agency’s programmes are still in the formative stage, certain principles are becoming evident. Clearly, the IARC must not merely duplicate investigations that could equally well be undertaken in national institutions; efforts should rather be directed to problems particularly suited to the Agency’s international role.

Thus, while its mandate permits it to engage in all aspects of cancer research, the initial programmes are concentrated on the role of the environment in human cancer, in view of the urgency of the ecological problems created by increasing industrialization and technical progress in many countries. The IARC plans to use a multidisciplinary laboratory and epidemiological approach covering all aspects of environmental carcinogenesis.
Tumours of the gastro-intestinal tract form a large proportion of all malignant neoplasms. However, there are very wide variations in incidence between countries, and at present no satisfactory etiological hypotheses exist to explain these differences. The Agency is now developing a systematic programme of research into the etiology of these tumours, in collaboration with established institutions in many countries. Specific attention will be given to cancer of the oesophagus, which reaches pandemic proportions in certain parts of the world and in which not only alcohol and cigarette smoking but other factors seem to be involved.

A study on the role of naturally occurring carcinogens in liver cancer—a problem of great significance in many countries—has been started.

Studies are in progress on the pathological and anatomical classification of hepatic cirrhosis by discriminatory analysis and on the relationship of primary carcinoma of the liver to cirrhosis of differing etiology. This work is being done in collaboration with the Department of Pathology in the Medical School at Botucatu, Sào Paulo, Brazil.

In collaboration with WHO the Agency is investigating the classification of reticuloendothelial tumours (with particular reference to their relationship to Burkitt's tumour), so as to facilitate future epidemiological studies. The observation that repeated stimulation of the reticuloendothelial system diminishes the frequency of spontaneous tumours in animals is being further investigated, since it may help to explain the observed differences in cancer incidence between West African and Jamaican populations.

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The feasibility of epidemiological studies of spontaneous tumours in domesticated and experimental animals is being investigated in order to determine their potential value in the study of human cancer and to identify features common to animal and human oncology.

Analytical environmental carcinogenesis

Owing to the multifactoral origin of cancer, it is desirable to determine the distribution of known environmental carcinogens and correlate it with local cancer patterns. The implementation of extensive analytical studies is clearly beyond the capabilities of the IRAC, but the techniques used in governmental and national institutes. Accordingly, the Unit of Analytical Environmental Carcinogenesis is working on the application and collation of such information in collaboration with established institutes, in order to provide the Epidemiology Unit with satisfactory data.

A study is being carried out under contract in different countries to establish the role, in cancer of the lung and other sites, of the various types of asbestos. This unit will also promote the standardization of analytical methods for the detection of carcinogens in the environment, and it is working in close collaboration with the Unit of Chemical Carcinogenesis.

Biostatistics

The Unit of Biostatistics is responsible for providing statistical advice on the rates in all research programmes. It is essential that strict statistical methods be applied to both laboratory and field research in the planning as well as in the analytical stages.

The unit is carrying out the necessary supplementary work on large-scale digital computers; this work includes the flow charting of problems and their programming in suitable language. It also carries out its own basic research on biostatistical models in a variety of medical fields. Because of the inherent unpredictability of biological systems, these models are, of necessity, stochastic in nature. The experience gathered and data gathered through consultative and computer activities will contribute substantially to the construction of useful mathematical models.

Finally, members of the unit will pursue research problems in their own particular fields. At present these studies embrace stochastic processes, theoretical statistics, the refining of the Monte Carlo techniques, and numerical analysis.

Biological carcinogenesis

The Unit of Biological Carcinogenesis is studying laboratory techniques likely to prove helpful in determining the possible viral etiology of cancer in man. Preliminary studies have been adapted to develop the techniques used by D. Pressman (using isotope-labelled antibodies) for the detection of virus-specific antigens in the animal.

The unit is correlating field and laboratory studies, both at Headquarters and in collaboration with established institutes. Particular importance is attached to a wider distribution of human material between different national institutes as part of a programme designed to explore the fundamental biology of human neoplasms.

A major interest of this unit will be to assist in the investigation of cancer of the nasopharynx in South-East Asia and in the comparative study of similar conditions in other parts of the world. Studies have been initiated under contract with the Singapore Regional Centre, the Queen Elizabeth Hospital in Hong Kong, and the Regional Centre and Kenyatta General Hospital in Nairobi, Kenya. A virus has been identified in this type of tumour for the first time.

Chemical carcinogenesis

The Unit of Chemical Carcinogenesis is responsible for the organization and application of knowledge of chemical carcinogenesis to man with special reference to the mechanisms involved, including the practical and theoretical implications of the simultaneous action of several carcinogenic factors at low doses, since comparatively little is known about the possible significance of "total carcinogenic load". The information available, even from experimental studies, is limited, and further work is required on co-carcinogenesis and synergism when multiple carcinogenic agents are involved.

The unit is at present organizing an extensive study on the potential carcinogenic hazard of DDT in various species and on the evaluation of DDT levels in human tissue in various parts of the world. Both the experimental investigation of animals and the evaluation of DDT levels in human tissue will be performed in collaboration with national laboratories. Under a contract with the Institute of Science, Jerusalem, Israel, a project is at present being carried out on the metabolism of dimethylnitosamine and diethylnitosamine, with emphasis on determining the toxicological significance of these chemicals. The unit will study the organization of a computerized registry of all substances tested for carcinogenicity, including both positive and negative data.

The following example may give a better indication of the type of programme in which the Agency is becoming involved. Some time ago, aflatoxin was identified in many tropical countries as a natural contaminant of foods; it is a potent liver carcinogen, and has been shown to occur in many foodstuffs, especially those utilized as protein supplements for young children. In the laboratory it has proven the most powerful hepatocarcinogen identified to date in rats. While considerable knowledge of its distribution in western countries is now available, little is known of the actual intake in man in countries where primary liver cancer is very frequent and where, for the moment, aflatoxin is the primary etiological agent. The unit is investigating this problem; the Agency has established an analytical chemical laboratory in its Regional Centre in Nairobi to determine the actual intake of aflatoxin in certain populations. The unit is undertaking similar investigations in sub-Saharan Africa and in Malaysia.

Laboratory studies are also being undertaken with baboons in order to obtain a better knowledge of the lesions caused in sub-human primates and to identify metabolites which may provide a more satisfactory indication of previous exposure in man. Owing to its relatively low international status, the Agency is particularly suitable for this type of project, which requires both epidemiological skills and an adequate knowledge of the toxicology of aflatoxin. In its study of the epidemiology of liver cancer, the Agency is evaluating the potential of a recent serological test that can identify an embryonal alpha globulin (fetuin) produced by 75% of human liver cancers.
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The unit is at present organizing an extensive study on the potential carcinogenic hazard of DDT in various species and on the evaluation of DDT levels in human tissue in various parts of the world. Both the experimental investigation of animals and the evaluation of DDT levels in human tissue will be performed in collaboration with national laboratories. Under a contract with the Weizmann Institute of Science, Jerusalem, Israel, a project is at present being carried out on the metabolism of dimethylnitosamine and diethylnitosamine, with emphasis on determining human exposure to these chemicals. The unit will study the organization of a computerized registry of all substances tested for carcinogenicity, including both positive and negative data.

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This test should provide a method of establishing prevalence rates in populations in which they have hitherto been difficult to obtain.

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The Agency is organizing intensive and specialized courses on selected fields of cancer research for workers who are not experts in those fields but who wish to bring their knowledge of them up to date. The lectures will eventually be published in an IARC Training Monograph series. The first course, "Biostatistics and epidemiology in cancer research," was held in Lyons from 24 June to 4 July 1968. In 1969 the subject of the course will be "Techniques with experimental animals in cancer research."

Other activities

In order to implement its field programmes, the IARC has established regional centres in areas that show unusual cancer patterns, and other centres are under consideration. The present regional centres are in Nairobi, Singapore, and Jamaica. They will undertake studies in depth on the correlation of cancer patterns and environmental factors. The term "collaborating centre" denotes a centre where the Agency is undertaking a specific research project, usually in association with an established research organization.

The Agency also supports the IARC Tumour Transplantation Reference Centre, Stockholm, and the IARC Reference Centre for the Provision of Tumour-Bearing Animals, Amsterdam.

Cancer in experimental animals has been studied by numerous advanced techniques in relation to immunological, biochemical, and hormonal status, and it is universally accepted that similar studies in man are essential. However, the logistic difficulties are very great. It is hoped that the IARC will prove to be a suitable organization for carrying out such studies, making full use of the newer laboratory techniques now available.

Much is already known regarding the proximate etiological factors in communicable diseases, which can often be prevented by the application of this knowledge, provided that appropriate public health and economic measures can be taken. This, however, is not true for most cancers, despite some important exceptions. Accordingly, the Agency must direct its programme from the beginning to the acquisition of new knowledge and remain fully cognizant of modern trends in cancer research.

During the past 30 years extensive experimental studies have been carried out on carcinogenic mechanisms, and many new possibilities have been opened up by recent progress in molecular biology. While the long-term potential of such studies as a means of understanding basic mechanisms at the cellular level is obvious, it must not be forgotten that epidemiological studies have contributed (and will continue to contribute) extensively to the identification of carcinogenic stimuli in man, often with immediate practical implications.

Although considerable information is available on the etiology of certain cancers, especially cancer of the lung and mouth, a large number of cancers still exist for which no satisfactory etiological hypotheses are available. Thus, despite significant progress, much remains to be done. The direction of further studies will depend on two considerations: first, that it is difficult to extrapolate to man the results obtained with experimental animals, and, secondly, that the majority of human cancers are caused, or are modified significantly, by external factors. While it is desirable to avoid, if possible, the exposure of man to exogenous agents that can cause cancer in experimental animals, it is necessary to be cautious in extrapolating from animals to man and vice versa. These agents may be of considerable pharmacological importance, and many more deaths might occur through failure to use them than from such cancer as they might cause. It can be considered a fortunate accident that the original testing methods were inadequate to demonstrate the carcinogenic potential of isomized in mice, thus permitting its use in tuberculosis therapy in man, in whom it would appear to be non-carcinogenic.

Since the number of new chemical or therapeutic agents in industry or medicine is constantly increasing and since facilities for adequate experimental testing are limited, the public health official will in the future be increasingly required to make decisions about such agents, often in the absence of supporting data. Thus, society will have to live with situations involving calculated risks.

The extent to which the so-called idiopathic cancers are influenced by exogenous agents is a matter of considerable practical and theoretical interest. It would appear that the present high rate of 304 per 100,000 in males in Connecticut, USA, could theoretically be reduced to 19.5. Even if the last figure is a considerable underestimate, it seems that prevention on a very large scale may be possible. Furthermore, there is adequate evidence from immigrant populations that low rates are dependent on environmental rather than on genetic or racial factors.

The Agency is organized into five units on the basis of programmes and disciplines. Each of these units has developed field and laboratory activities both within the Agency and in collaboration with national institutions and outside scientists. A sixth unit is responsible for the fellowship and education programme.

Epidemiology

The Unit of Epidemiology, in collaboration with WHO, the International Union against Cancer, and other interested organizations, is developing the collection of cancer data, and eventually it should be possible to have detailed morbidity statistics from 40 or more representative registries. Close attention is also being given to the problem of comparability. In addition, the desirability of expanding the registry programme is being explored by ratio studies to indicate areas with unusual cancer patterns. These data will be utilized in collaboration with the Unit of Biostatistics to determine whether any general etiological correlations can be established for specific cancers as a basis for further testing in depth.
Conference Memorandum

Re: David Wood's Grant

Date: March 28, 1969

From: Murray M. Copeland, M. D.

Participants:

Dear Lee:

Please find attached a copy of Dave Wood's grant notice which was approved for five years.

Sincerely,

Murray M. Copeland, M. D.
Secretary-General

Enclosure
Cancer Unit Planned

SAN FRANCISCO—The University of California San Francisco Medical Center will establish a Clinical Cancer Research Center under a $2,500,000 five-year grant from the U.S. Public Health Service.

Dr. David A. Wood, director of the Cancer Research Institute on the San Francisco campus, where the new research center will be located, will be principal investigator.

Dr. Wood will be assisted by Dr. Martin J. Cline, Associate Professor of Medicine and associate director of the institute, who will also act as program director for the center.
January 31, 1969

Dr. Carl G. Baker
Scientific Director for Etiology
National Cancer Institute
Bethesda, Maryland

Dear Carl:

Thank you for your letter of January 27 and the information regarding Herpes Virus 2. I will look forward to further studies with interest.

Sincerely yours,

R. Lee Clark, M. D.
President

RLC:jh
January 27, 1969

Dr. R. Lee Clark  
President, M.D. Anderson Hospital  
and Tumor Institute  
The University of Texas  
Houston, Texas 77025

Dear Lee:

The brief report on Herpes Virus Type 2 and its possible connection with cervical cancer was based on some recent work by Dr. Melnick and his group at Baylor and a group at Emory University. The appropriate references are:

Melnick, et al.

Rawls, W.E., Tompkins, W.A.F., Figueroa, M.E., and Melnick, J.L.:  
Herpesvirus type 2: Association with carcinoma of the cervix.  

Emory Group

Josey, W.E., Nahmias, A.J., Naib, Z.M.:  
Genital infection with type 2 herpesvirus hominis.  

Genital herpetic infection, and cervical dysplasia and cancer.  
Manuscript submitted for publication.

We have currently a contract with the pathology group at Cali, Columbia which is part of Mr. Haenszel's migrant studies where we have opportunities to obtain data on several parameters not feasible in the United States. We thus are combining the conventional epidemiology with further details on the histology in both normal conditions and the various forms of cancer through the combined skills of epidemiology—pathology and the employment of a tissue bank which collects tissues from subjects who experience sudden death. My reference to Cali, Columbia, therefore, dealt with the possibility of quickly obtaining the necessary numbers to pin down any association of Herpes Virus Type 2 and cervical cancer plus, looking for association with other conditions.
such as penile cancer and perhaps other forms. With Dr. Melnick's group conducting the necessary virological laboratory work, the results could be tied in then with extensive correlative information on the epidemiology and histology when specimens are collected from residents in the Cali area. We are exploring the possibility of doing this. There is actually no study yet in Cali, Columbia on Herpes Virus Type 2.

I hope this clarifies the situation and that the references will be useful to you. You might want to ask Joe Melnick or someone from his group to give a seminar on the latest developments. One of the interesting features of identifying Herpes Virus Type 2 from Herpes Virus Type 1 is based on the kinetics of the immunologic reactions since the general immunologic properties of the two types are closely similar. It might, therefore, make an interesting seminar, possibly with Dnochowski also reporting on some of the electron microscopy aspects.

With kind personal regards.

Sincerely yours,

Carl G. Baker, M.D.
Scientific Director for Etiology
National Cancer Institute
January 16, 1969

Dr. Carl G. Baker
Scientific Director for Etiology
National Cancer Institute
Bethesda, Maryland

Dear Carl:

At the meeting of the American Association of Cancer Institutes last November, you gave a report concerning a study on Herpes Virus Type II in Cervical Cancer. I believe the study was made in Cali, Columbia by Hensel. I would appreciate receiving a copy of this report if it is available.

Kindest regards.

Sincerely yours,

R. Lee Clark, M.D.
President

RLC:Jh
January 27, 1969

Dr. R. Lee Clark
President, M.D. Anderson Hospital
and Tumor Institute
The University of Texas
Houston, Texas 77025

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With kind personal regards.

Sincerely yours,

Carl G. Baker, M.D.
Scientific Director for Etiology
National Cancer Institute
January 16, 1969

Dr. Carl G. Baker  
Scientific Director for Etiology  
National Cancer Institute  
Baltimore, Maryland

Dear Carl:

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Kindest regards,

Sincerely yours,

R. Lee Clark, M.D.  
President

RLC:jh
Marion:

Is Hansel a Doctor or Institution? I assumed an Institution.

We have all the other material requested by Doctor Clark re my notes. The book is attached - the diagrams of which one is attached are in a folder in the files and the "slide" which Doctor Baker referred to for was attached to the minutes.

JoAnne
1/16/69
1. Get the report of the Epidemiology and demography (?) of cancer that was reported at the National Cancer Congress in Colorado in September. A book that was distributed and full of statistics. If we cannot find it we will have to write to Ken Endicott.

2. A study that was made by Hensel at National Institution. Cancer of the Cervix of Colley - Columbia, South America. Should receive the minutes of meeting and possible in that.

3. a. For the talk at Yale - Association Cancer of Research - a diagram on concept of National Program of Cancer Institutes. Would like that to take with him to Yale. Out of the Cancer program of Cancer Institutes role of the cancer institute in would like to have as part of talk to Yale.

b. Associate Director of NCI, Carl Baker had a slide of Cancer Research Centers that are funded by the NCI. If not included in the minutes need to get one from him.
11/27/68

Dr. Clark’s note from ACID meeting on 11/24/68

He has taken an outline from this to do some things that needed attention.

br
Program, new programs, research, hardware, formula

150 projects now underway - 47 projects in 1968 of 2 mm - synd. grant for fewer places

Red Therap'y Study committee is advising to NCI. and
has a Canadian representative. In 1947-48 Therap'y
now are 100 resident, 4 therapy 2.5 and 1.5 today in untreated
2-3 centers in USA in support with about 85 people supported and
50 on fellowships. 10 Red, 48 Th. Centers in USA. Apollo
A. N. M. is the first place in world for controlled study of Hyperbaric
oxygen. 10+5 grants in force. (malaria, radium at Plano.) fast
neutrons were being tried as a possible means of therapy, 30
pts. now being tried at Hammoniith by neutron beam from
Champaign. 14 MeV machine now being engineered for Hadron
Proton beams now being tried at Rochester.

New machine now being plotted by Jim Glinn & Stanford for facility
14 MeV Electron beams vs. Proton beams.

Dr. Turner - chief CONCO & NCI. Treatment activities.

Survival in fast growing tumors and failure in the slow
growers. Anemia in all soft tissue, especially tumors.
40 pt. out of 43 with advanced Hodgkin's want intervention
with multiple drug. Re-immunization.

Theory of nucleic: - Foins at mitotic cycle or mismatch
that are effective, have an effect on DNA synthesis.

\[ \text{[Scientific Strategy]} \]

\[ \text{[Chemistry - Management]} \]

Dermal

Dermal growth rate can be demonstrated by injected thyroxin.

-- in animals, that has been difficult to apply in man. Immediate
-- problem is to determine the fast growing tumor. Thyroxin helps
-- that has been a means of evaluation as a model (methotrexate) as the
delay has been a very important factor as growth rate to change
are found even within the same family. Tumors. Each
agent may also have a different degree of retentive and concen-
tration in different individuals. (3) Surgical adjunction: Tissue are
most important, as they give treatment when cells are at the least
point of concentration in the body. (4) Further study of amino acid
role in DNA synthesis (asparaginase) -- role of pyrimidine, methyl
Transferase concentration in tumors. (Krebs & Bock) (5) New 30
useful drugs & new materials. New time created in eminence post-ef.
TUESDAY, November 26
Linden Hill Hotel
(Terrace Room)

9:00 a.m. Business Meeting

A) NCI Status Report
   Dr. Kenneth M. Shulicott, Director, NCI

B) Election of Officers

C) Consideration of New Members

D) Dates and Site for Next Meeting

E) Other Business

Page 3

Eberl Cent.

Cancer Carcinogen. 5, 6, Sulfonated had.

Hazard vs mechanism of mutagenic - particular one going to be found to be hazardous.

Critical analyses of Program is get the mode. Check

Program effect. Program to interact from identify compound.

To find preventive by change of target cell effect.

Perhaps blocking by one the chemicals had.

Identification of Pop groups at different male values.

Chemicals (2 million age) to be checked

for carcinogenic - male screened - extent of expense in

Decoders - Cancer Centers. 5 the usual programs.

Res. Projects - 116 grants. $56 in Texas (35) for 47 M.

Contracts - 11 in Texas.

Grad Res. Prog. - 9 in Tex.

Program Proj. Grants - 1 in Texas and 912 in USA.


Ca. Cl. Prog. - 2 in Tex.

Cancer Res. Center (20 center with 3 in Texas) 4 Rec. maeos. including

Radiation Centers. 36.

$12 M. in Center.

A total of total to increase to $10 M. in

$48 M. to date. 75% goes for personnel.

Future - The Consort. 3 core centers. Services and supplies.2

in a given institution - decentralization of decision making.
Managerial Strategy

Three pleas.
New spend 25 m in four year for running a pharmaceutical
business with 18m change in contracts and demand in grants
This requires a strong strategic agency for control. Form flow-puler
model by Mr. Crece as a management device but must be a
to a stress control mechanism but must be keep up to date
date and flexible (Interim by Feldman at work as an example).

Opinions - research in non-drug development drugs, clinics of drugs
research & Therapy - scientific understanding of growth & inter-
vention of growth. Individuation of humans in chemistry essential for
its future with structural synthesis of new chemicals etc. are most
Report in J. Initiated thymidination for delta of growth.

Cal Baker: Etiology, 31.4 m & 15% spent in human use
1. Biometry & Epidemiology 10% $3.4 m
2. Viral Oncology 65% $2.0 m contracts $13.7 m
3. Chem Carcinogenesis 23% $5.5 m contracts $7.7 m

Personal: no report in Epid. Region is now in good showing
Schneiderman is eligible for retirement in 9 yrs.

The characterization of Hi Risk groups is most important
understanding of etiology and prevention, i.e. 85% those
who smoke heavily do not get lung cancer, can change
evironment change incidence in a given group.

Berman, where do we stand today in Ca Re - see report on Nat Galagone
by Sid Center - New Guinea due to be made, first in 20 yrs
and next take 5 yrs to do complete study. Corporate and local
changes. Migrant studies on changes in cancer incidence immigrants
Medical Data Program, children incidence (Turn), Simeon as
Poly by trimming etc., etc.

Viral Oncology - antibodies in Tonsillar tumors studies were neg
in 300 plus humans, 28 with Cancer.

Papen virus Type II in Columba & - any antibodies. A study
in Calley Columbia. 28 with Nerve. Check This work with our
Epid. data on Calley. RNA virus association with
Epstein. real demonstrated (Type 2) 29% of oncogenicity
Biologics control animal model as a positive precaution.
AGENDA

AMERICAN ASSOCIATION OF CANCER INSTITUTES
November 24-26, 1968
Linden Hill Hotel
3400 Fooks Hill Road
Bethesda, Maryland 20014

SUNDAY, NOVEMBER 24
(Patio Room)

6:30 p.m. Dinner Meeting--Welcome and Brief Business Meeting
Dr. Kenneth M. Endicott, Director, NCI

MONDAY, NOVEMBER 25
(Terrace Room)

9:00 a.m. Status of Radiotherapy Research and Training
Dr. Carl Hansen, Deputy Associate Director, Extramural Activities, NCI

9:45 a.m. The Cancer Chemotherapy Program
Dr. C. Gordon Zubrod, Scientific Director for Chemotherapy, NCI

10:30 a.m. Coffee Break

10:45 a.m. The Etiology Program
Dr. Carl G. Baker, Scientific Director for Etiology, NCI

11:30 a.m. Status of Cancer Centers
Dr. J. Palmer Saunders, Associate Director, Extramural Activities, NCI

12:15 p.m. Lunch

1:45 p.m. Report on Regional Medical Programs
Miss Pauline Stephan, Staff Assistant, NCI

2:15 p.m. The Cancer Control Program
Dr. William Ross, Chief, Cancer Control Program, Division of Chronic Disease Programs, Health Services & Mental Health Administration

3:00 p.m. Report on the Clinical Cancer Training Grants Program
Dr. Margaret Edwards, Program Director, Clinical Cancer Training Grants, NCI

3:45 p.m. Coffee Break

4:00 p.m. Reorganization of HEM and NIH Plans
Dr. Thomas J. Kennedy, Jr., Director, Office of Program Planning, National Institutes of Health

7:00 p.m. Informal Dinner Meeting, Silver Fox Restaurant,
5324 Wisconsin Avenue, N.W., Washington, D.C.
TUESDAY, November 26
Linden Hill Hotel
(Terrace Room)

9:00 a.m. Business Meeting

A) NCI Status Report
   Dr. Kenneth W. Endicott, Director, NCI

B) Election of Officers

C) Consideration of New Members

D) Dates and Site for Next Meeting

E) Other Business

Baker Cont

Chem. Carcinogenesis: Dr. Endicott on board.

Hazard vs mechanism almost 80%, potential as going to be found to be hazardous.

Critical analysis / Program is yet to be made. Check

Program. Effect Program is not different from identity of compound.

3. Change requirement

4. Finalization of Pop groups at different value levels.

5. Chemists (3 million age) to be checked.

6. Screening - 9 years screened - extent of experience.

7. Grants available.

Secretary - Cancer Centers Extramural Programs

Pilot Project - 11 grants. 60 in Texas (55) for $6.9 m

Contract - 21 in Texas.


Program Proj. Grants - 1 in Texas and 2 in USA.

Can Car. Prog. Proj. - 4 in Tex.

Can Ctr. Proj. - 4 in Tex.

The Can Res. Center - (20 centers with 3 in Texas) 4 new ones: including

Radiology Centers.

$12.9 m. at Center (extended to increase to $10 m.

$4.9 m. to date - 7% gone for personnel.

Future - The Can grant - all central services and supplies open

in given institution. De-centralization of decision making.
W. Ross - CA Control Program, Repro Service

Jan 21, 77

Largely concerned with CA 75 sites which constitute 50% of concentrated.

1. How to do a good fund 8 week exam. slq p. for June 67.
2. How to do a fund 8 week exam. slq p. for June 67.
3. How to do a good fund 8 week exam. slq p. for June 67.
5. How to do a good fund 8 week exam. slq p. for June 67.

Dr. Edwards - 25 Ctr. Prep

$109 - 73 med. obstetrics & gyn. prep. - 27.2

5.6 m

3'd prep. - 1st started in 1947

1034 preps - 3'/4/36 permissible or 50 periods

Communication - 18731

Criteria - declining 27/4 item

81 site visits
Wm Ross - CA Control Program, Paying Service

Largely concerned with Ca 95 sites

Arabic numerals constitute 50% concentration.

Prevention

Cervix & uterus

Receives & color

Breast

How to do a good head & neck exam append

ve g.p. for June '67.

Reduction & foll. dec. due to in Remagrenography.

Thermography & xerography.

55,000 members 90 g.p.s. have agreed to do a Pap smear on all females. 50. now only 23% remain pop. eligible get Pap Smear.

Six films - 3 completed for Nat TV Program. 29 min. prime time for public.

Prof. Films - (1) How to do an oral exam.

non-finished (2) Ca Cervix for Telemedicine

Training - 75 technicians / techs.

6th m. 175 g.p.s. post residence

X-ray therapy tech - mammography

500 patients

2,000 direct people: 1,000 of every 1,000

now decided 80% will to mail.

Dr. Schnaider - CA Cancer Page

108 - 73 med. 434,400 E & A Hop - 2/33

5,6 m.

3rd sp. - 1st started in 1947.

14% sp. Fed/30 permissible on 51 patients.

Antimetabolite - 88 patients

Criteria - declining. 87% stay.

St. site visits
Marden                      Heck

Health (Int. Spec. Staff)  

# 18
Research (Chief)    
Education          

Marden dated

1. Staff - decided
2. Organizational Structure - proposed
3. Resources - budget for all three groups yet to be

Check with Federal Register for publication on reorganization.
Mr. Stephen - 10MB

$94 m. now available
$65 m. commissioned. Now considering 33 grants requested from over 35 m.

There are 54 regions and operational programs are now requested from all of them.

Latecomers are getting in short shift.

24 operational projects for Cancer $1.6 m. total for about 15 regions.
Endicott –

Present deductions should be adequate for present year. Cash out flow – only about 40% are for present year obligations. Remainder is for commitments of former years.

Appropriation about same as last year. 1872.

Personnel shortage to continue. No increase in appropriation is anticipated next year, but with budget anticipated to increase about 15% a yr. as a reasonable projection with emphasis on the education phase.
APRIL 1970
8-10
James Ewing Society
Atlanta, Georgia

MAY 1970
21-30
UICC Cancer Congress - Houston

NOVEMBER 1970
19-20
Fifteenth Annual Clinical Conference
MDAH

MARCH 1971
3-5
Twenty-fifth Annual Symposium on Fundamental Cancer
Research
Shamrock Hilton Hotel
Houston

MAY 1972
21-26
Joint Meeting American Radiology Society -
James Ewing Society and Head and Neck Society
Boca Raton, Florida
1. Restructure under strong leadership
2. Segmentalization of budget by projects
3. Do more for review by 62 Council
   no blanket condemnation - but spotty ones that are below par - clean them out now.

7/47-4/853
<table>
<thead>
<tr>
<th>No.</th>
<th>Region</th>
<th>Cancer Institute</th>
<th>Planning Grant</th>
<th>Operational Grant</th>
<th>Operational Cancer Projects</th>
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<td>19</td>
<td>California</td>
<td>Cancer Res. Inst. Univ. of Calif., S.F.</td>
<td>1,575,096</td>
<td>2,232,864</td>
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<td>Maryland</td>
<td>National Inst. Health Bethesda, Md.</td>
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<tr>
<td>No.</td>
<td>Region</td>
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<td>Planning Grant</td>
<td>Operational Grant</td>
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<td>Detroit, Mich.</td>
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<td>09</td>
<td>Missouri</td>
<td>Cancer Research Center</td>
<td>$598,556</td>
<td>$2,887,903</td>
<td>Cooperative computerized tumor registry</td>
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<td>Oklahoma City, Okla.</td>
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<td>18</td>
<td>Tennessee</td>
<td>Oak Ridge Natl. Lab.</td>
<td>$263,841</td>
<td>$2,088,598</td>
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<td>Oak Ridge, Tenn.</td>
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<td>$524,738</td>
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<tr>
<td>No.</td>
<td>Region</td>
<td>Cancer Institute</td>
<td>Planning Grant</td>
<td>Operational Grant</td>
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<td>13</td>
<td>Western N.Y.</td>
<td>Roswell Park Mem. Inst. Buffalo, N.Y.</td>
<td>149,241 12/1/66</td>
<td>357,761 3/1/68</td>
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<td>07</td>
<td>Wisconsin</td>
<td>Univ. of Wisconsin Madison, Wisc.</td>
<td>344,418 9/1/66</td>
<td>643,008 9/1/67</td>
<td>Uterine cancer therapy and evaluation and cancer chemotherapy for adults.</td>
</tr>
</tbody>
</table>
U.S. DEPARTMENT OF
HEALTH, EDUCATION AND WELFARE
Public Health Service
National Institutes of Health
National Cancer Institute
Bethesda, Maryland 20014

Information Statement
on
CLINICAL CANCER TRAINING GRANTS

I. PURPOSE

Clinical Cancer Training Grants are now available through the National Cancer Institute to assist qualified institutions within the territorial United States to improve and expand training in the prevention, diagnosis, treatment and rehabilitation of cancer. These will replace the current Undergraduate Training Grants for Cancer. It is the purpose of these awards to encourage institutions to:

1. increase the quality of cancer instruction offered to undergraduate medical and dental students and to interns, residents, and practitioners;

2. broaden the scope and content of current cancer teaching; and

3. seek new and better ways of providing clinical cancer instruction at one or more professional levels, and of maintaining and evaluating the competence of those who provide clinical cancer management.

II. ELIGIBILITY

Schools of medicine and their principal affiliated teaching hospitals, schools of dentistry and public health, and specialized cancer institutions capable of giving intensive training in cancer management are eligible to apply for Clinical Cancer Training Grants. Although either type of institution may request an individual grant, the cancer clinical training programs of a medical school and its closely associated teaching hospital(s) should ordinarily be the subject of a single application. This restriction does not preclude consideration of separate grant proposals if the cancer training of a school and its affiliated hospital(s) cannot successfully be integrated.
III. APPLICATION

A. Method of Applying

Application forms for Clinical Cancer Training Grants may be obtained upon request to the Career Development Review Branch, Division of Research Grants, National Institutes of Health. The instructions supplied with each set of application forms, as well as the Policy Statement, Public Health Service Grants for Training Projects (PHS Publication No. 1302) should be carefully studied before completing the application.

B. Deadline for Receipt of Applications

Applications received by December 1, 1965, will obtain final consideration by the National Advisory Cancer Council in March, 1966. The schedule thereafter for receipt and consideration of new applications will be as follows: February 1 for review at the June meeting of the Council; June 1 for the November meeting, and October 1 for the meeting in March.

It is in the interest of the applicant institution to submit its application as far in advance of the deadline as possible, in order to insure sufficient time for completion of all necessary actions prior to final review, thereby obviating insofar as possible the need for deferral of action. The application form provides for estimates of financial requirements to operate the program for additional years immediately succeeding the one covered by the application, but not to exceed seven years. Notification to the grantee concerning initial support will include a statement as to the additional years recommended, all such support being conditioned necessarily upon the level of congressional appropriations. Support will normally continue through the period as previously planned and favorably recommended, subject to annual negotiation.

IV. BUDGET AND SIZE OF GRANT

Grant funds in general may be used for the following categories of expenditures: salaries of professional and nonprofessional personnel, short-term training stipends, permanent equipment, consumable supplies, travel, other expenditures (which do not fall into the specific categories), and indirect costs.

There is no established limitation on the size of an individual grant. Grant requests will be evaluated competitively on the basis of their merit. The amount of each grant will be determined by the evaluation of the proposal and by the funds available for the program. An institution's share of the projected costs will be one element in the review.

V. REVIEW OF APPLICATIONS

Clinical Cancer Training Grants may be awarded only when favorably recommended to the Surgeon General by the National Advisory Cancer Council. Except for three ex officio members, including the Surgeon General of the
and types of instruction currently available in the applicant professional school or teaching hospital. An applicant institution is not restricted to any prescribed pattern in developing its program and is encouraged to propose a plan which best reflects clinical training needs as seen by the institution, and which provides the best grouping of its resources to satisfy its needs. The program is not intended to support cancer research as such, since other funds are available from the Public Health Service for this purpose.

In this connection, it may be helpful to list a number of activities, which consultants to the National Cancer Institute have identified as having a potential for improving the teaching of clinical and public health oncology:

1. Development of tumor clinics as the joint responsibility of medical, surgical, dental, pediatric, radiologic, pathologic, and specialty clinical services;

2. Establishment or improvement of tumor registries to provide adequate data for follow-up procedures and evaluation of end results of therapy;

3. Introduction of seminars, study units, grand rounds, clinicopathologic conferences, and other devices for securing the cooperation of personnel from pertinent clinical services, as well as from appropriate preclinical science departments, in synthesizing available knowledge for teaching the basis of diagnosis and treatment of illustrative patients, and for evaluating effectiveness;

4. Creation of cooperative interdepartmental clinical investigative programs in the detection, diagnosis, treatment, and prevention of cancer in man in which students and health practitioners may participate to gain experience in research design, collection and recording of comparable data, and evaluation of statistical material. Special courses in clinical pharmacology, biostatistics, experimental design, etc., would provide background for clinical evaluation of diagnosis and treatment;

5. Experience in the special aspects and problems encountered in the follow-up and management of non-hospitalized patients with cancer;

6. Development of specialized individual service training programs for graduate and undergraduate students and health practitioners working in close relation to the tumor clinic, tumor registry, epidemiological and public health activities, and to the clinical and related pathological and pharmacological services to broaden and deepen their knowledge of malignant disease.

VII. ORGANIZATION OF PROGRAM

The application should contain a description of the organization of the current and the proposed clinical cancer training programs, and should include provisions for a program director (coordinator of cancer training). The program director named on the application form must be the individual who is to be responsible for active direction of the program, and for coordinating the efforts of the various departments to be involved in clinical cancer training.

If the training program will add materially to the responsibilities, including teaching and service, of the program director and his participating staff, the grantee institution will be expected to release the program director and his staff from other duties proportionately so that they can discharge properly the obligations inherent in the training program as proposed and approved.

It is expected that the administrative structure of the program will provide for an institutional committee, with representation from each department in which the proposed training will be conducted. This committee should ordinarily have been actively involved in planning the program and preparing the application, and should be constituted in a manner to ensure the necessary multidisciplinary participation in the training program.

VIII. TRAINEES

It is the responsibility of the program director to select trainees who meet eligibility requirements set by the institution and the Public Health Service. Training stipends may not be used to support an individual who has not been admitted to the United States for permanent residence when such support has not been specifically approved in the application. Moreover, grant funds may not be used (1) for the support of any trainee who because of age, physical or mental condition, or other relevant factor, would not, in the judgment of the institution, be able to use the training or meet the institution's minimum qualifications for the training involved in the program; (2) to continue the support of a trainee who has failed to demonstrate satisfactory participation; or (3) for support of candidates for degrees of M.D., D.D.S., D.O., or similar degrees; or for residency training, unless specifically approved.

IX. TERMS AND CONDITIONS

Other terms and conditions, which are applicable to all training grants of the Public Health Service, are outlined in the Policy Statement, (PHS Publication No. 1302), a copy of which is included with the application.
Public Health Service who serves as Chairman, the members of the Council are appointed by the Surgeon General with the approval of the Secretary of the Department of Health, Education and Welfare. The Council advises on program development and recommends those applications which in their judgment should be awarded. The Council meets regularly three times a year.

Technical advice on all applications for Clinical Cancer Training Grants will be provided to the Council and the Surgeon General by two initial review committees, one of which will consider proposals from dental schools, and the second from all other institutions. Members of these public advisory groups, accompanied by staff of the National Cancer Institute, will frequently make site visits to obtain additional information that may be necessary for arriving at a recommendation on the merit of an application. These committees will also maintain, in conjunction with the National Advisory Cancer Council a continuing awareness of the supply and need for personnel and facilities in the field of clinical cancer training.

Among the factors to be considered in the evaluation of applications by the initial review committees and the National Advisory Cancer Council are the following:

1. Significance and promise of the proposed program, in contrast to ongoing clinical training in cancer at the applicant institution;

2. Qualifications and training record of the program director;

3. Capacity of available and projected staff to achieve the objectives of the proposed training program;

4. Adequacy of institutional facilities and clinical material to ensure a productive training experience in the various phases of cancer diagnosis, treatment, and follow-up;

5. Degree and extent of participation in the program by the institution's administration and its various instructional departments;

6. Relationship of the proposed program to presently existing health resources essential for a broadly-based cancer program in the community, and

7. Provisions for evaluating the effectiveness and measuring the achievements of the training program.

VI. PROGRAM CONTENT

It is anticipated that a clinical cancer training program will provide multidisciplinary experience and opportunities which extend the levels...
### SUMMARY OF PROGRAM SITE VISIT SCORES AT TEN SCHOOLS OF MEDICINE

#### CLINICAL CANCER TRAINING GRANTS

<table>
<thead>
<tr>
<th>Score</th>
<th>A2</th>
<th>B3</th>
<th>C2</th>
<th>D3</th>
<th>E3</th>
<th>F3</th>
<th>G3</th>
<th>H3</th>
<th>I1</th>
<th>J3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1.5</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2.5</td>
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<td>3</td>
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<td>3</td>
<td>1</td>
<td>3</td>
<td>2</td>
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<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

- Score CCCC: 193
- Score CCC: 355
- Score BCC: 355
- Score CC: 153
- Score C: 175
- Score B: 254

**Margaret H. Edwards 11/25/53**
Memorandum

TO: Participants in the Meeting of the American Association of Cancer Institutes, November 24-26, 1968

FROM: Scientific Director for Etiology, National Cancer Institute

DATE: January 28, 1969

SUBJECT: Copies of Slide Material Presented in Conjunction with the Etiology Area's Presentation at the Meeting of the American Association of Cancer Institutes

In view of the difficulties of visualizing the slide material at the presentation of the Etiology programs, I am supplying copies of the material for your reference. This will also allow you to peruse the information at your leisure. I hope this clarifies several items of the presentation.

Carl G. Baker, M.D.

Attachments
CHART I
NATIONAL CANCER INSTITUTE
ETIOLOGY AREA
CURRENT DISTRIBUTION OF FUNDS-FISCAL YEAR-1968

VIRAL ONCOLOGY

- Carcinogenesis: 23%
- Demography: 10%
- Office of Scientific Director: 2%
- Special Virus Leukemia Program: 48%
- Other: 25%
### ETIOLOGY AREA
**NCI**

**TABLE OF RATIOS OF CONTRACT TO INTRAMURAL EFFORT BASED ON CURRENT LEVEL OF EXPENDITURE**

**JUNE 30, 1968**

<table>
<thead>
<tr>
<th></th>
<th>OSDE</th>
<th>Demography</th>
<th>Carcinogenesis</th>
<th>Basic Program</th>
<th>Special Virus Leukemia Program</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>609,000</td>
<td>3,056,000</td>
<td>7,238,000</td>
<td>5,559,000</td>
<td>14,996,000</td>
<td>31,458,000</td>
</tr>
<tr>
<td><strong>Contracts</strong></td>
<td>---</td>
<td>1,850,000</td>
<td>5,602,000</td>
<td>3,928,000³</td>
<td>14,287,000⁴</td>
<td>25,667,000</td>
</tr>
<tr>
<td><strong>Intramural</strong></td>
<td>609,000¹</td>
<td>1,206,000</td>
<td>1,636,000</td>
<td>1,631,000²</td>
<td>709,000⁴</td>
<td>5,791,000</td>
</tr>
<tr>
<td><strong>Ratios: Contract to Intramural</strong></td>
<td>---</td>
<td>1.5:1</td>
<td>3.4:1</td>
<td>2.4:1</td>
<td>20:1</td>
<td>4.4:1</td>
</tr>
</tbody>
</table>

* Includes costs of managing contract activities.

1 Includes $258,000 for data processing for all Branches.
2 Includes $153,000 in support of NIAID Intramural Operations.
3 Includes $275,000 funded by Breast Cancer Task Force.
4 Excludes Therapy portion of Special Virus Leukemia Program ($2,045,000).
CHART II
ASSOCIATE SCIENTIFIC DIRECTOR FOR DEMOGRAPHY
BIOMETRY BRANCH

By Function
FY 1968 Obligations*

Total Contracts - $1,414,820

- Prevention of Cancer 44%
- Incidence and Diagnosis of Cancer 39%
- Treatment of Cancer 16%
- Communication - 1%

*Contracts, only
TABLE II
ANALYSIS OF CONTRACT ACTIVITIES IN THE ETIOLOGY PROGRAM

BIOMETRY

<table>
<thead>
<tr>
<th>TYPE OF ACTIVITY</th>
<th>NO. OF CONTRACTS</th>
<th>ANNUAL LEVEL $</th>
<th>(Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>30²/</td>
<td>$1,414,820²/</td>
<td>100</td>
</tr>
<tr>
<td>I. Prevention of Cancer</td>
<td>24</td>
<td>622,685²/</td>
<td>44</td>
</tr>
<tr>
<td>II. Incidence and Diagnosis of Cancer</td>
<td>4</td>
<td>551,750</td>
<td>39</td>
</tr>
<tr>
<td>III. Treatment of Cancer</td>
<td>13</td>
<td>228,385</td>
<td>16</td>
</tr>
<tr>
<td>IV. Communication</td>
<td>30⁴/</td>
<td>12,000⁴/</td>
<td>01</td>
</tr>
</tbody>
</table>

1/ Funds obligated during FY 68. Not included in this amount are on-going activities for which no FY 68 funds were obligated.

2/ Since many contracts involve more than one activity, the totals of I-IV do not correspond with the total number of contracts.

3/ Not included in this amount is the cost of on-going contracts for which no FY 68 funds were obligated. See Table II for individual contracts involved.

4/ In addition to the amount shown for this activity (Bureau of Standards Contract: FS-44), all other Biometry contracts are considered to contain some aspects of communication.
CHART III
ASSOCIATE SCIENTIFIC DIRECTOR FOR DEMOGRAPHY

EPIDEMIOLOGY BRANCH

By Function
FY 1968 Obligations*

Total Contracts - $338,105

Veterinary Medical Data Program 10%

Childhood Cancers 24%

Occupational Cancers 31%

Adult (Non-Occupational) Cancers 35%

*Contracts, only
### TABLE III
ANALYSIS OF CONTRACT ACTIVITIES IN THE ETIOLOGY PROGRAM

#### EPIDEMIOLOGY

<table>
<thead>
<tr>
<th>TYPE OF ACTIVITY</th>
<th>NO. OF CONTRACTS</th>
<th>ANNUAL LEVEL (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL</strong></td>
<td>11[^1]</td>
<td>$338,105 (100)</td>
</tr>
<tr>
<td>I. Childhood Cancers</td>
<td>2</td>
<td>80,680 (24)</td>
</tr>
<tr>
<td>II. Adult (Non-Occupational) Cancers</td>
<td>4</td>
<td>118,110[^3] (35)</td>
</tr>
<tr>
<td>III. Occupational Cancers</td>
<td>2</td>
<td>105,000[^3] (31)</td>
</tr>
<tr>
<td>IV. Veterinary Med. Data Program</td>
<td>4</td>
<td>34,315[^4] (10)</td>
</tr>
</tbody>
</table>

[^1]: Funds obligated during Fiscal Year 1968. Not included in this amount are on-going activities for which no FY 68 funds were obligated.

[^2]: Since many contracts involve more than one activity, the totals of I-IV do not correspond with the total number of contracts.

[^3]: Includes contracts funded in Fiscal Year 67 but active during part of FY 68.

[^4]: Not included in this amount are the costs of a contract which was later transferred to a personal services contract.
CHART IV
ASSOCIATE SCIENTIFIC DIRECTOR FOR CARCINOGENESIS

By Function
FY '68 Obligations*

Carcinogenesis Hazards 57%
Mechanism of Carcinogenesis 42%

Total Contracts - $5,126,770

Information and Communication - <1%

Total Contracts for Hazards Studies - $2,943,550

Other Environmental Agents 24%
Food Contamination 18%
Tobacco 11%
Air Pollution 12%
Occupational Hazards 15%
Drugs 11%
Pesticides 9%

*Contracts, only
### TABLE IV
ANALYSIS OF CONTRACT ACTIVITIES IN THE ETIOLOGY PROGRAM

#### CARCINOGENESIS

<table>
<thead>
<tr>
<th>TYPE OF ACTIVITY</th>
<th>NO. OF CONTRACTS</th>
<th>ANNUAL LEVEL (^1)</th>
<th>(PERCENT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td>33(^2)</td>
<td>$5,126,770</td>
<td>(100)</td>
</tr>
<tr>
<td>I. Study of the Mechanism of Carcinogenesis</td>
<td>8</td>
<td>2,152,465(^3)</td>
<td>(42)</td>
</tr>
<tr>
<td>II. Study of Carcinogenesis Hazards</td>
<td>28</td>
<td>2,943,550</td>
<td>(100) (57)</td>
</tr>
<tr>
<td>A. Food Contamination</td>
<td>7</td>
<td>543,365</td>
<td>(18)</td>
</tr>
<tr>
<td>B. Air Pollution</td>
<td>4</td>
<td>343,990(^3)</td>
<td>(12)</td>
</tr>
<tr>
<td>C. Tobacco</td>
<td>7</td>
<td>325,030(^3)</td>
<td>(11)</td>
</tr>
<tr>
<td>D. Pharmacologic Agents</td>
<td>4</td>
<td>322,450(^3)</td>
<td>(11)</td>
</tr>
<tr>
<td>E. Occupational Hazards</td>
<td>8</td>
<td>443,895(^3)</td>
<td>(15)</td>
</tr>
<tr>
<td>F. Pesticides</td>
<td>3</td>
<td>263,275</td>
<td>(9)</td>
</tr>
<tr>
<td>G. Other Environmental Agents</td>
<td>4</td>
<td>701,545</td>
<td>(24)</td>
</tr>
<tr>
<td>III. Information and Communication on Carcinogenesis</td>
<td>1</td>
<td>30,755</td>
<td>(&lt;1)</td>
</tr>
</tbody>
</table>

1/ Funds obligated during Fiscal Year 1968. Not included in this amount are on-going activities for which no FY 68 funds were obligated.

2/ Since many contracts involve more than one activity, the totals of I, II, and III do not correspond with the total number of contracts.

3/ Not included in this amount is the cost of on-going contracts for which no FY 68 funds were obligated. See Table II for individual contracts involved.
Funding Obligations by Major Area
Fiscal Year 1968 - $20,280,000

PROGRAM RESOURCES
$3,544,319 -- 17%

DIRECT OPERATIONS
$2,890,000 -- 14%

BIOHAZARDS AND CONTAINMENT
$1,625,034 -- 8%

SOLID TUMOR - VIRUS
$5,499,347 -- 27%

SPECIAL ANIMAL ECOLOGY STUDIES
$2,821,269 -- 14%

HUMAN LEUKEMIA ETIOLOGY AND PREVENTION
$4,100,031 -- 14%
## TABLE V
COST ANALYSIS OF CONTRACT AND DIRECT ACTIVITIES IN THE VIRAL ONCOLOGY PROGRAM, ETIOLOGY AREA, NCI FY 1968 (Estimated)

<table>
<thead>
<tr>
<th>TYPE OF ACTIVITY AND PROGRAM AREA</th>
<th>NUMBER OF CONTRACTS 1/</th>
<th>FY 1968 LEVEL</th>
<th>PER CENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. PROGRAM MANAGEMENT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Direct Operations</td>
<td></td>
<td>$2,890,000</td>
<td>14%</td>
</tr>
<tr>
<td>II. HUMAN LEUK. ETIOLOGY &amp; PREVENTION</td>
<td></td>
<td>$4,100,031</td>
<td>20%</td>
</tr>
<tr>
<td>A. Etiology (Objective 1)</td>
<td>28</td>
<td>$3,575,523</td>
<td>17.6%</td>
</tr>
<tr>
<td>B. Prevention (Objective 2)</td>
<td>5</td>
<td>$524,508</td>
<td>2.5%</td>
</tr>
<tr>
<td>III. SPECIAL ANIMAL ECOLOGY</td>
<td></td>
<td>$2,821,269</td>
<td>14%</td>
</tr>
<tr>
<td>A. Etiology</td>
<td>21</td>
<td>$2,684,961</td>
<td>13.2%</td>
</tr>
<tr>
<td>B. Prevention</td>
<td>4</td>
<td>$136,308</td>
<td>.7%</td>
</tr>
<tr>
<td>IV. SOLID TUMOR-VIRUS</td>
<td></td>
<td>$5,499,347</td>
<td>27%</td>
</tr>
<tr>
<td>A. Etiology</td>
<td>20</td>
<td>$5,326,814</td>
<td>26.2%</td>
</tr>
<tr>
<td>B. Prevention</td>
<td>3</td>
<td>$172,533</td>
<td>.9%</td>
</tr>
<tr>
<td>V. PROGRAM RESOURCES &amp; LOGISTICS</td>
<td></td>
<td>$3,344,319</td>
<td>17%</td>
</tr>
<tr>
<td>A. Human</td>
<td>22</td>
<td>$1,512,706</td>
<td>7.5%</td>
</tr>
<tr>
<td>B. Animal</td>
<td>19</td>
<td>$1,831,613</td>
<td>9.0%</td>
</tr>
<tr>
<td>VI. BIOHAZARDS CONTROL &amp; CONTAINMENT</td>
<td></td>
<td>$1,625,034</td>
<td>8%</td>
</tr>
<tr>
<td>A. NIH Construction and Equipment</td>
<td>1</td>
<td>$1,132,419</td>
<td>5.6%</td>
</tr>
<tr>
<td>B. Other Activities</td>
<td>3</td>
<td>$492,615</td>
<td>2.4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>126</td>
<td>$20,280,000</td>
<td></td>
</tr>
</tbody>
</table>

1/ Since many contracts include more than one activity, the totals of I-VI do not correspond with the total number of contracts. Actual number of contracts is 102.
STEPS IN THE CARCINOGENESIS PROCESS

Compounds

Whole organism penetration

Metabolic pathways necessary for carcinogenesis including interaction.

Target cell penetration of compounds

Target cell intracellular activation and interaction

Transformation of target cell

Takes

Spread
<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collect demographic &amp; epidemiologic data on various types of cancers; evaluate and organize the data to characterize the population groups with various parameters and variables, e.g., time and space relationships (urban, rural, different countries), sex, age, other diseases, occupations, exposures to chemicals (including drugs) and physical agents (and other stresses), habit patterns (e.g., smoking) diets, climate, associations with animals, family history and genetic background, structural attributes such as chromosome variations, clinical pathology and biochemical data; establish and maintain logistical capability for cancer demographic and epidemiologic information; develop data bank.</td>
<td>Based on quantitative and qualitative evaluation of data &amp; of anticipated program requirements, identify needs for additional studies to establish more specific knowledge of demographic and epidemiologic relationships with cancers; establish baseline information for subsequent correlations with laboratory investigations and with corrective measures. Formulate high priority studies.</td>
<td>Select, rank and implement studies formulated in Step 2; report data in form suitable for entry into data bank.</td>
</tr>
</tbody>
</table>
**PHASE II: CHARACTERIZATION OF POPULATION GROUPS AT RISK**

| Step 1: Utilizing information from data bank and feedback information formulate studies that will characterize the groups at different risks to cancers as to: (1) environmental factors, (chemical characterization of their environments); and (2) their biological, functional, and structural parameters. This will provide bases for: (1) increasing the probability of developing successful environmental corrective measures (VIA); (2) selecting chemicals for entry into bioassay (IIIA); and (3) aiding formulation and selection of studies on development of corrective measures based on individual target-points in carcinogenesis (VIB). Identify special population groups whose members might be suitable to provide specimens or serve as subjects for studies in IV, V, and VI. |
|---|---|

| Step 2: Select, rank & implement studies formulated in Step 1; report data in form suitable for entry into data bank. In conjunction with the Program Leader of NCI efforts, select special population groups (including the development of population laboratories) and develop logistical means for selected studies, including development of rosters of group members and their locations. |
### PHASE III-A: IDENTIFICATION AND SELECTION OF CHEMICAL AGENTS FOR BIOASSAY

| Step 1: Review human and animal epidemiologic and laboratory data to identify agents known to induce cancers in man and/or animals. Evaluate and organize data by chemical classes and compounds, species and strains, organs, sites, dosages, and other factors. Identify patterns of correlations of animal and human data (if present). Identify patterns of exposure for man to carcinogenic agents and selected non-carcinogenic agents (including analogues of carcinogenic agents). Compile lists of agents to be considered for bioassay. | Step 2: For each agent considered for bioassay in Step 1, prepare data sheets including information on:
1. Physical/chemical properties (e.g., identity, stability, solubility, etc.)
2. Extent and character of exposure in man
3. Feasibility of removal and/or protective actions for man
4. Epidemiological and epizootiological suspicions
5. Results of bioassays for agents for which experimental information exists
6. Morphological changes induced
7. Toxicity
8. Metabolic patterns
9. Structural relationships to known carcinogen
10. Pharmacologic activities
11. Teratogenic activity
12. Mutagenic activity
13. Clinical observations
14. Availability, including feasibility of production | **Step 3:**
(a) Establish logistical capabilities, including maintaining information on current status/capacity of bioassay
(b) Determine characteristics of agents and vehicles required for bioassay, e.g., purity, solubility, stability, and establish monitoring capability.
(c) From lists developed in Step 2 and requirements for monitoring and for bioassay, determine amounts and schedule for acquisition of agents.
(d) Acquire agents. |

| DECISION POINT #1A: Determine Bank Order of Entry of Chemicals into Bioassay
| Criteria and Information Inputs: |
| (1) Importance for man estimated by pertinent factors listed in Phase III-A, Step 1 and 2. |
| (2) Relevance in monitoring the efficiency of bioassay systems (Phase IV and V-A). |
| (3) Characteristics and availability of tentatively selected agents and capacity of bioassay resources, which must permit actual conduct of bioassays. |
### Phase III-B: Identification and Selection of Chemical Agents for Characterization of Processes of Chemical Carcinogenesis

**Step 1:** Review human and animal epidemiologic and laboratory data to identify agents known to induce cancers in man and/or animals. Evaluate and organize data on chemical classes and compounds, species and strains, organ sites, pharmacologic activities with various biological systems, biochemical and molecular biology activities, etc. Establish patterns of activities for groups of compounds. Compile lists of agents for possible study in Phase IV.

**Step 2:** From lists developed in Step 1, tentatively select agents for studies on carcinogenesis processes, considering information on such pertinent factors as:
1. Physical/chemical properties (e.g., identity, stability, solubility, etc.);
2. Established carcinogenicity in animals and/or man;
3. Suspected carcinogenicity in animals and/or man;
4. Activity in altering tissue functions (e.g., cell penetrability, enzyme patterns, metabolic pathways, cell transformation, etc.) and other pharmacological activities;
5. Morphological changes included;
6. Molecular logistics* data;
7. Toxicity;
8. Chemical classes and structural relationships to selected biological activities including carcinogenicity, teratogenicity and mutagenicity;
9. Metabolic patterns;
10. Anticipated feasibility of corrective actions based on identifiable processes;
11. Availability, including feasibility of production; Correlate data to identify common patterns for groups of compounds.

Develop data bank.

**Step 3:** On the basis of information developed in Phase IV as to feasibility and of requirements in Phase V as to relevance, develop lists of agents tentatively selected for studies in Phase V.

**Step 4:**
(a) Establish logistic capabilities including maintaining information on current status and collective laboratory capacity to conduct selected studies of processes in carcinogenesis.
(b) Determine characteristics of agents and vehicles required (e.g., purity, solubility, stability) and establish monitoring capability.
(c) From lists developed in Phase III and other agents for study with agent [Phase IV and V-C].
(d) Acquire agents.

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### Decision Point #1B

Determine and rank chemicals for entry into studies of carcinogenesis processes.

**Criteria and Information Inputs:**

1. Importance for men of selected agent ([Phase III-B, S.1 and 2], [Phase III-A, S.1 and 2]).
2. Importance for men of specific processes selected for study with agent ([Phase IV and V-C]).
3. Relevance in monitoring the efficiency of biological models or other methods ([Phase IV, V-B-C]).
4. Characteristics and availability of selected agents; laboratory capability must permit actual conduct of studies ([Phase III-B, S.3 and 4] [Phase IV and V-C]).

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* The identification of qualitative, quantitative and temporal patterns of penetration, transport, distribution and excretion of test compounds and/or their derivatives (or metabolites) in the organism, tissue, and cells, including target cells.
### Phase IV: Identification, Development and Selection of Biological Models for Carcinogenesis Bioassays and for Characterization of Carcinogenesis Processes

**Step 1:**
1. Identify purposes for which biological model is needed and anticipated uses in Phases A-B-C. Evaluate needs considering such factors as: reproduction of human tumor types and sites; correlation with human functional parameters; correlation with important metabolic patterns; relevance to development of bioassay systems; relevance to feasibility of studies on carcinogenesis processes and their validation; anticipated feasibility of corrective measures based on processes identified by the biological model.

2. Review information on existing models and on agents, animals, procedures, preparations; evaluate each model for reproducibility, quality and quantitation of work performed with the model, extent of applicability and relevance to other systems.

**Step 2:** Select methodological approaches for the development of new biological models and methods; select agents and animals or substrates for studies; establish characteristics, purity of agents and reproducibility of methods; determine availability of materials, resources and skills, as well as competence of performance.

Establish specific criteria for evaluation of end results; develop formats for recording and evaluating data; and develop data bank.

**Step 3:** Conduct studies to establish feasibility of biological model; establish qualitative and quantitative ranges of applicability; record data. Produce (when needed) appropriate reference standard compounds.

**Step 4:** Pre-test models (with their associated methodologies) to determine their reproducibility and ranges of responsiveness to groups of known carcinogens and non-carcinogens. Select models and the appropriate associated methods for use in Phases A-B and C.

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**Monitoring Point #1**
- Monitor program relevance of Phases I through IV.
- Determine Program Relevance and Anticipated Program Needs for Decisions To Channel Studies Through Phases A, B, and C.
<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Review</td>
<td>Information on agents, animals, procedures, and results of bioassay test systems used for carcinogenicity testing, utilizing information from V-A, Step 1 and IV. Evaluate each system for suitability as a standardized bioassay procedure, considering such factors as: existentiveness of use experience; reliability of work performed by the system; sensitivity and dose ranges needed for carcinogenicity determinations with known reference compounds; patterns &amp; ratios of induced and spontaneous tumors of various organs; histologic types; characteristics of species and strains used and routes of administration of agents. Select a series of available bioassay systems to cover several species and strains, major routes of administration, i.e., ingestion, skin application, respiratory administration, infection (i.e., m., l.v.). Determine needs for further development of biological models for input into IV.</td>
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<tr>
<td>2.</td>
<td>Establish</td>
<td>Selected bioassay systems and define conditions for producing quantitative data on tumors, numbers of animals with tumors, organ sites involved, histology. Specify all parameters of system: e.g., species, strains, breeding, sex, age at time of initiating tests, weights, diet, husbandry; posology (doses, frequencies and routes of administration, vehicles); quantitative end points for selected durations of tests including significant levels (e.g., numbers of animals with particular types of tumor of latent periods in experimental &amp; control groups). Pre-test the selected bioassay systems in the actual conditions of large scale, routine screening with a set of compounds known as carcinogens or non-carcinogens for the selected model.</td>
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<tr>
<td>3.</td>
<td>Develop</td>
<td>Scoring and reporting systems. Develop standards and specifications for recording experimental design, observations, &amp; rejections results, based on specifications from Step 2. Develop data bank.</td>
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<tr>
<td>4.</td>
<td>Conduct</td>
<td>Correlate test results and determine a agents attaining or exceeding selected carcinogenicity end points (step 2) in one or more of the bioassay systems of this phase. Score results of selected bioassays as &quot;Negative&quot; (below one established end point) or &quot;Positive&quot; (above another established end point); for agents showing results falling between these two end points, additional workup will be considered.</td>
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**Decisión Point V-A: Determine Further Action on Tested Agents:**
- 1. Which agents require no further investigation;  
- 2. Which agents require development of environmental corrective measures;  
- 3. Which agents require further testing or other further studies.

**Criteria and Info. Inputs:**
1. Agents positive & immediate corrective action can be taken (e.g., corrective action required minimal social/industrial change) [V, S.1; [I, S.2; [IV, A, S.3]; or corrective action deemed unnecessary (e.g., agent in little or no use or good epidemiologic evidence that agent is not hazardous in man) [I, S.1; [I, S.2; [IV, A, S.3].  
2. Agent positive, but immediate corrective actions cannot be taken (e.g., corrective action required extensive social/industrial change), but corrective actions possible with further development [I, S.1; [I, S.2; [IV, A, S.3].  
3. Agent not positive but epidemiologic evidence and/or structure relationships suggestive of carcinogenicity [I, S.1; [I, S.2; [IV, A, S.3]; or bioassay with larger groups of animals or with other carcinogenicity test systems deemed desirable because of limitations of standard bioassay systems [I, S.1; [I, S.2; [IV, A, S.1,2, and 3].

**Input to V-B:** All agents other than those in "Positive" category considered for further investigations in V-C.
| Step 1: | Evaluate specific program needs for toxicological and pharmacological data on compounds selected for bioassays (V-A) or for other studies (V-C). Review information on compounds, methods, dose effects, etc., and correlate with other parameters. Select compounds to be studied based on program needs. |
| Step 2: | Select experimental methods, establish specifications and reporting systems. Develop data bank. Determine needs for further development of biological models or methodologies for input in V-I. |
| Step 3: | Conduct studies and record data. |
| Step 4: | Correlate results with other studies on selected agents or models. Correlate results also with human and/or animal data relevant to program. |

**Monitoring Points**

Monitor program relevance of results from V-A, B, C. Determine anticipated program plans and needs for decisions to channel development of corrective measures through V-I-A and V-I-B.
<table>
<thead>
<tr>
<th>Phase V-C: Identification of Processes Required for the Carcinogenic Action of Selected Agents as Target-Points for Corrective Measures</th>
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<tbody>
<tr>
<td><strong>Step 1:</strong> Identify purposes for which specific study is needed and anticipated program relevance. Evaluate needs considering potential value of study in identifying key steps in the carcinogenic process which could become target-points for corrective measures; correlation with human situation; correlation with carcinogenicity of specific agents or at specific sites; correlation with chemical structure or properties of selected agents; relevance to studies on the development of biological models, or of biochemical systems or other studies in this Phase.</td>
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<tr>
<td><strong>Step 2:</strong> Select methodological approaches appropriate for each type of study in sub-flows C-I through C-VII. Select biological models and determine the needs for development of new ones (input into IV); criteria for selection will include sensitivity, reproducibility, feasibility and practicability. Establish specific criteria for evaluating the results; develop formats for recording and evaluating data. Develop data banks.</td>
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<td><strong>Step 3:</strong> Select, rank, and conduct studies. Record data.</td>
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<td><strong>Step 4:</strong> Correlate results with other studies on selected agents or models. Validate findings by correlating them with those obtained in other studies with the same series of parameters (e.g., with sets of compounds having certain known properties; or series of different biological systems related by other characteristics). Evaluate the findings in the light of total program effort toward the identification of target-points which could be attacked by developing appropriate corrective measures.</td>
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<tr>
<th>Decision Point #2B</th>
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<tbody>
<tr>
<td>Determine and rank approaches and target-points for possible development of corrective measures.</td>
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<tr>
<td>Determine further action on studies in V-C. Determine further action on agents selected for study.</td>
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