Making an Impact on the Cure and Prevention of Cancer

Susan Band Horwitz, Ph.D., President, AACR
Albert Einstein College of Medicine

Meeting of the National Cancer Advisory Board
February 11, 2003

American Association for Cancer Research

- Established in 1907, the oldest and largest scientific society in the world devoted to all aspects of cancer research
- 19,700 members from over 60 countries
  --basic scientists, clinical and translational researchers, population scientists, related health professionals
Mission

To Prevent and Cure Cancer through:

- Research
- Education
- Communication
- Collaborations

Focus on further development of partnerships with NCI

Membership Growth
1993-2003
AACR Strengths

- Excellence in scientific and educational programs
- Size and diversity
- International scope
- Expertise in science policy, legislative affairs, and public health issues
- Networking and mentoring
- Dedicated service of members

Core Scientific and Professional Development Programs

- Scientific journals
- Annual meetings
- Special conferences and international meetings
- Comprehensive, mid-sized meetings
- Educational Workshops
- Career Development Programs for:
  -- Junior Basic and Clinical Investigators
  -- Minorities in Cancer Research
  -- Women in Cancer Research

Working to Prevent and Cure Cancer
AACR Scientific Retreat
New Frontiers in Cancer Research
February 11 & 12, 2002 • Boston, MA
Phillip A. Sharp, Ph.D., Chairperson

Basic Science
Leland H. Hartwell, Chair
Stanley J. Korngayer, Co-Chair
Sara A. Courtneidge
Charles J. Sherr
Jeffrey M. Trent

Translational Research
O. Michael Colvin, Chair
William N. Halt
Lee M. Nadler
Drew M. Pardoll

Clinical Research
Karen S. H. Antman, Chair
Frederick R. Appelbaum
Anna D. Barker
Alexander M. Marie Eggertson
Joseph V. Simone
Peter J. Thall

Epidemiology & Prevention
John D. Potter, Chair
Pelayo Carreño
Raymond N. DuBois
David J. Hunter
Bernard A. Levin
Thomas A. Sellers

AACR Officers
Susan Band Horwitz
Wan Ki Hong
Bayard D. Clarkson
Tom Curren
Margaret Foti, Ph.D.

Working to Prevent and Cure Cancer

AACR
American Association
for Cancer Research

New Horizons

• Mathematics, Computational Molecular Biology, Physical Sciences, Engineering
  – Enhance cross-disciplinary scientific communication and planning

• Chemical Biology
  – Reinvigoration of a traditional discipline

• Biological Imaging

• Drug Development
  – New approaches accelerating time to clinic

• Translation of new discoveries into real benefits for cancer patients

• Scientific Communication and International Collaborations

Working to Prevent and Cure Cancer

AACR
American Association
for Cancer Research
Clinical Cancer Research Committee’s Special Task Force on Strategic Planning

- Held on January 5-7, 2003 (15 scientists)
- William N. Hait, M.D., Ph.D., Chairperson
- To create a multi-faceted action plan to strengthen translational research and to address barriers between basic research and its clinical application

Clinical Cancer Research Committee’s Special Task Force on Strategic Planning

Action Plan:
- Mechanistic-based therapies
- Accelerated clinical trials based on surrogate or intermediate markers
- Individualized treatments
- Validated diagnostic and prognostic tests
AACR Scientific Think Tank

- Held on January 19-21, 2003 (30 scientists)
- To understand our role in the rapidly evolving environment of cancer research
- To identify scientific areas that are of the highest priority and potential, and suggest new approaches AACR can take to be a greater catalyst for eradicating cancer

High Priority Scientific Areas:

- Cancer gene discovery and validation
- Cancer models
- Epigenetics
- In vivo imaging
- Bioinformatics and computational molecular biology
- Clinical trial methodology
- Molecular epidemiology
- Proteomics
AACR Journals

Multidisciplinary Annual Meeting

- Communicating highest quality research in basic research, clinical/translational research, and epidemiology/prevention
- Increasing participation of all members of the cancer community

AACR Total Annual Meeting Attendance

Working to Prevent and Cure Cancer
Recognizing and Fostering
Highest Quality Research

- Scientific awards and lectureships
- Named research professorships
- Scholar awards for investigators-in-training
- Career development awards
- Research fellowships
Public Education

- Educate the legislators, the Administration, and the public about progress and the need for increased support for cancer research
- Provide expert commentary on science and public policy
- Interface with national/international media
- AACR Public Forum/Ask the Experts Sessions
- Scientist↔Survivor Program

AACR Public Forum

Progress and New Hope in the Fight against Cancer: A Public Forum Highlighting the Latest Discoveries

Saturday, April 5, 2003
Toronto, Ontario, Canada
2002 Public Forum Program

Overview and introduction of Speakers
Anna D. Barker, Ph.D., Chairperson

Knowledge is Power - How Understanding Cancer Can Help You
Donald S. Coffey, Ph.D.

The Human Genome and Cancer
Jeffrey M. Trent, Ph.D.

New Cancer Medicines and Treatment
Dennis J. Slamon, M.D., Ph.D.

Perspectives on Cancer, Survivorship, and Advocacy
Hamilton Jordan

Cancer Prevention: What You Can Do
John D. Potter, M.D., Ph.D.

Ask-the-Experts Sessions

- One-on-one interaction between the public and leading scientists
- Information about cancer and clinical trials
- All organ sites and sub-fields of cancer research are highlighted
AACR Scientist ↔ Survivor Program

The Fifth Annual
Scientist ↔ Survivor
Program
A Partnership to Accelerate Progress Against Cancer
April 8–10, 2003 • Metro Convention Center • Toronto, Canada

Working to Prevent and Cure Cancer

AACR-NCI-EORTC Meeting
Molecular Targets and Cancer Therapeutics:
Discovery, Biology, & Clinical Applications
November 17-21, 2003
Boston, Massachusetts
Chairpersons: Charles L. Sawyers, M.D.,
Edward A. Sausville, M.D., Ph.D. & Jaap Verweij, M.D., Ph.D.

Annual Event in US and Europe

Working to Prevent and Cure Cancer
Second Annual International Meeting
Frontiers in Cancer Prevention Research:
Genetics, Risk Modeling, Molecular Targets for Chemoprevention,
Behavioral Prevention Research, Clinical Prevention Trials,
Science and Public Policy

October 26-30, 2003
Phoenix, Arizona

Chairperson: Raymond N. DuBois, M.D., Ph.D.
Co-Chairpersons: Ernest T. Hawk, M.D., Paul Kleihues, M.D.,
Scott M. Lippman, M.D., Barbara K. Rimer, Dr. PH,
Margaret R. Spitz, M.D., Makoto Mark Taketo, M.D., Ph.D.

American Association
for Cancer Research

Treatment and Prevention of
Intraepithelial Neoplasia:
An Important Target for Accelerated
New Agent Development

Recommendations of the AACR Research Task Force on the
Treatment and Prevention of Intraepithelial Neoplasia

Joyce A. O'Shaughnessy, Gary J. Kelloff, M.D., Gary B. Gordon, M.D., Ph.D.,
Waan Kl Hong, M.D., Carol J. Fabian, M.D., Caroline C. Sigman, Ph.D.,
Monica M. Bertagnolli, M.D., Steven P. Stratton, Ph.D., Stephen Lam, M.D.,
William G. Nelson V, M.D., Ph.D., Frank L. Meyskens, Jr., M.D., David S. Alberts, M.D.,
Michele Pollen, M.D., Arill H. Rustgi, M.D., Vassiliki A. Papadimitrakopoulou, M.D.,
Peter T. Scardino, M.D., Adi F. Gazdar, M.D., Lee W. Wattenberg, M.D.,
Michael B. Sporn, M.D., Wee A. Saxr, Scott M. Lippman, M.D., and Daniel D. Von Hoff, M.D.

Clinical Cancer Research 8: 314-346, February 2002
Special Conferences and International Meetings

- Focused meetings covering cutting-edge and emerging science
- Prestigious international faculty
- 8-10 meetings per year around the world
- Selected Topics:
  - Oncogenomics
  - Mouse models of cancer
  - Apoptosis and cancer
  - Cellular senescence and telomerase
  - Bioinformatics
  - In vivo imaging
  - Genes and the environment

AACR Task Forces

- Comprehensive Cancer Prevention Strategy
  Waun Ki Hong, M.D., Chairperson
- Cancer Immunology
  Louis M. Weiner, M.D., Chairperson
- Pediatric Oncology
  Robert J. Arceci, M.D., Ph.D., Chairperson
- Biostatistics in Clinical Research
  Steven Plantadosi, M.D., Ph.D., Chairperson
- Bioinformatics
  Andreas D. Baxevanis, Ph.D., Chairperson
- Aging and Cancer
  Harvey Jay Cohen, M.D., Ph.D. & Judith Campisi, Ph.D., Chairpersons
Aging and Cancer

Men

Women

Rate per 100,000

Age (years)

Compiled from SEER Cancer Statistics Review

Task Forces in Development

- Behavioral Science
- Cancer in Minorities and the Medically Underserved
- Tobacco and Cancer

Working to Prevent and Cure Cancer
Annual Educational Workshops
(Supported by generous grants from the NCI)

- FECS-AACR-ASCO Workshop: Methods in Clinical Cancer Research, Flims, Switzerland (1999 - )
- AACR Workshop: Molecular Biology in Clinical Oncology, Aspen, Colorado (1992 - )
Newest Programs in Development

- Frontiers in Basic Cancer Research Meeting
- Translational Issues for Targeted Drug Development
- Practicum for the Community Oncologist Investigator: From Basic Science to the Development of a Clinical Trial Plan
- Educational Workshops
  -- Molecular Epidemiology
  -- Biostatistics in Clinical Research
  -- Bioinformatics in Cancer Research
21st Century Cancer Research--
A World of Rapid Change

- Globalization of science
- Increasing needs of the scientific community
- Urgency of educating the next generation of scientists
- Information technology advancements
- Need for partnerships
- Increasing demands of the public

Americans' Attitudes Toward
Cancer Research

A Poll Commissioned by
the AACR

In August 2000, Peter D. Hart Research Associates conducted a survey to determine attitudes of the public about cancer.
### Which ONE of these illnesses do you worry the most about getting during your lifetime?

<table>
<thead>
<tr>
<th>Illness</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>48</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>15</td>
</tr>
<tr>
<td>Alzheimer's Disease</td>
<td>10</td>
</tr>
<tr>
<td>Diabetes</td>
<td>7</td>
</tr>
<tr>
<td>AIDS</td>
<td>5</td>
</tr>
<tr>
<td>Multiple Sclerosis</td>
<td>1</td>
</tr>
</tbody>
</table>


### What do you think are the odds that you will develop cancer during your lifetime?

<table>
<thead>
<tr>
<th>Odds Description</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>One in a thousand</td>
<td>24</td>
</tr>
<tr>
<td>One in a hundred</td>
<td>26</td>
</tr>
<tr>
<td>One in ten</td>
<td>18</td>
</tr>
<tr>
<td>One in five</td>
<td>8</td>
</tr>
<tr>
<td>One in three</td>
<td>3</td>
</tr>
<tr>
<td>One in two</td>
<td>4</td>
</tr>
</tbody>
</table>

Probability of Developing Invasive Cancer

Male
1 in 2

Female
1 in 3

Less than 10% of those surveyed gave correct answers. Half of those surveyed thought the chance was less than 1 in 100.


Survey Results

• Despite the denial of their own risk of cancer, 70% of those polled wanted the Federal Government to AT LEAST double Federal research spending to find a cure for cancer.

• 46% wanted the Federal Government to AT LEAST triple current funding levels.

Cost of Cancer

- Human suffering cannot be measured
- Costs of treatment and premature death alone have almost doubled in one year
- Overall cost of cancer in U.S. in 2002: $172 billion
- By 2015, the cost could exceed $500 billion per annum.

Source: NIH data, American Cancer Society, Cancer Facts and Figures 2003

AACR and the NCI

- AACR has presented to NCAB annually since 1991
- 530 AACR members NCI
- AACR members in the extramural community attain NCI support for research
- AACR-NCI Partnerships
  -- AACR-NCI-EORTC Molecular Targets meeting series
  -- Conference grants
  -- Minority scholarships for meeting participation
  -- Educational workshops
AACR-NCI Shared Concerns About Cancer

- Enormous scale of the problem and the human suffering
  -- Necessitates that we respond with energy, creativity, and urgency

- Barriers to progress in spite of the remarkable pace of scientific discovery
  -- Require new strategies and funding for cross-disciplinary research
  -- Challenge us to develop new constructs and mechanisms to foster translational research in this new era of cancer science

New Collaborations with NCI

- Public education
- Education and Training
- Prevention
- Tumor Immunology
- Aging and Cancer
- Dialogue about scientific priorities
AACR: A Catalyst for Discovery and Innovation

Working to Prevent and Cure Cancer