

National Cancer Institute

NCI Director's Update

Dr. John E. Niederhuber
Director, National Cancer Institute

National Cancer Advisory Board

June 17, 2008

U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES

National Institutes
of Health

FY2008 – Final Quarter

- In these times it is difficult not to talk budget
 - closing out 2008
 - preparing for 2009 and 2010
- Some of the things that keep me up at night
- Opportunities still outweigh the challenges

NCI FY 2008 Operating Budget

FY 2007 operating budget	\$4,797,639
FY 2008 appropriation	\$4,805,088
Difference '07 to '08	\$7,449
Percent Change '07 to '08	+0.16%

(dollars in thousands)

FY2008 – Final Quarter

- End-of-year R01 payline: 14th percentile (est.)
- End-of-year *R01 payline: 19th percentile (est.)

	2005	2006	2007	2008 (est.)
Total RPG	5,147	5,172	5,194	5,062
Competing	1,292	1,280	1,312	1,283
New investigators	235	184	221	217 (target)

FY2008 – Final Quarter

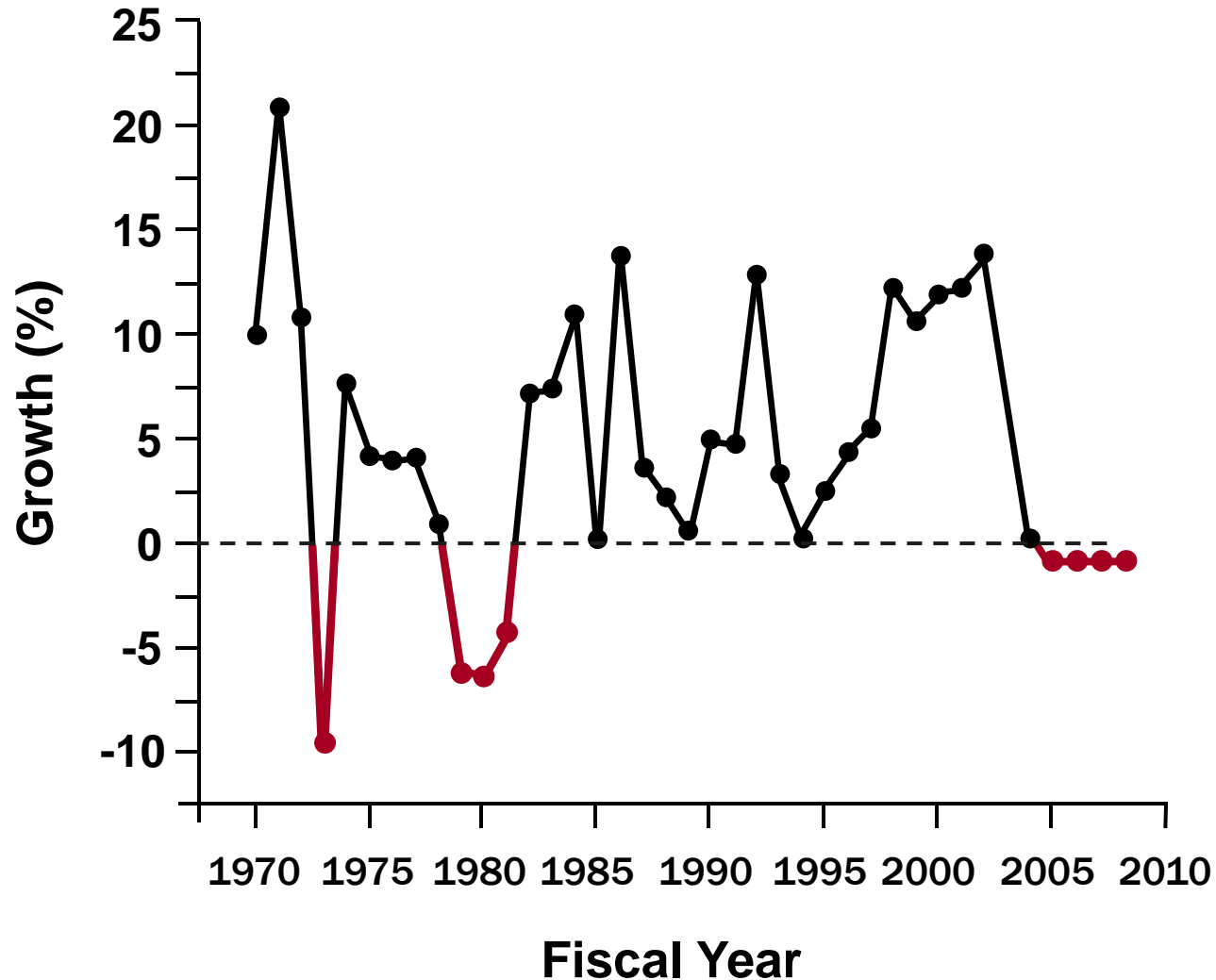
- **~11% of competing pool reserved for exceptions**
- **Type 5s targeted to receive a 1% COLA**
- **SPOREs and Centers are flat with FY07**
- **Groups are up about 5%**
- **Training is up about 5%**

FY 2009 President's Budget

FY08 NCI appropriation	\$4,805,088
FY 2009 PB for NCI	\$4,809,819
Difference '08 to '09	\$4,731
Percent change '08 to '09	+0.1%

(dollars in thousands)

Annualized Growth of the NIH Budget, 1971 to 2008



Source: Based on Loscalzo, NEJM (2006)

NCI Budget Planning Process

- Annual executive leadership retreat of Divisions, Offices and Centers
 - Concluding and managing FY 2008
 - Planning for FY 2009
 - Preparation for FY 2010 submission



NCI Budget Planning Process: Concluding 2008

- At upcoming July EC retreat, update status of approved FY 2008 projects
- Address additional needs for FY 2008
 - Items not previously started, as well as current, underfunded programs
 - New scientific opportunities
 - Urgent facility or infrastructure needs

Planning NCI FY 2009 Operating Budget

- Divisions, Offices, and Centers will plan for a 3% across-the-board cut to FY 2008 operating levels
 - Request restorations, new & expanded initiatives
- **Exception:** Cancer Centers, SPOREs, Clinical Cooperative Groups & CCOPs budgets will begin FY 2009 flat with FY 2008
 - Cancer Centers: \$262 million
 - SPOREs: \$123 million
 - Clinical Cooperative Groups: \$145 million
 - CCOPs: \$88 million

Preparing for 2010 Congressional Justification

- **Drafting NCI progress report and bypass budget**
- **Preparing 2010 submission to the Office of Management and Budget**

Challenges and Opportunities

Report of the
Clinical Trials Working Group
of the
National Cancer Advisory Board

Restructuring the
National Cancer Clinical Trials
Enterprise

June 2005



U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES
National Institutes
of Health

National Cancer Institute

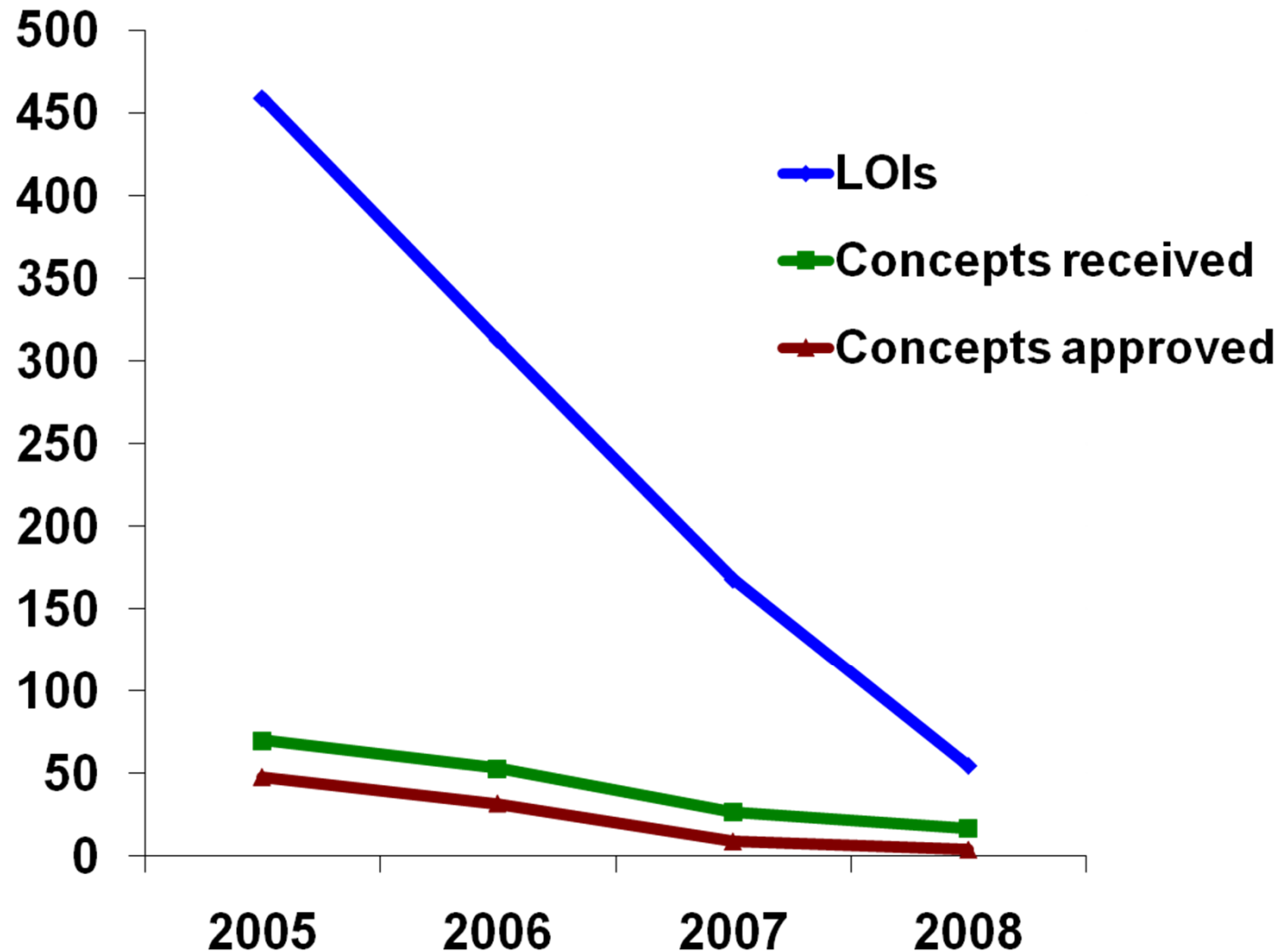
Report of the Translational Research Working
Group of the National Cancer Advisory Board

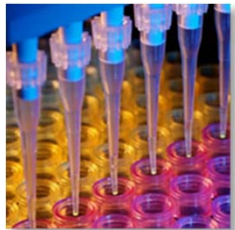
**Transforming Translation—
Harnessing Discovery
for Patient and Public Benefit**

June 2007

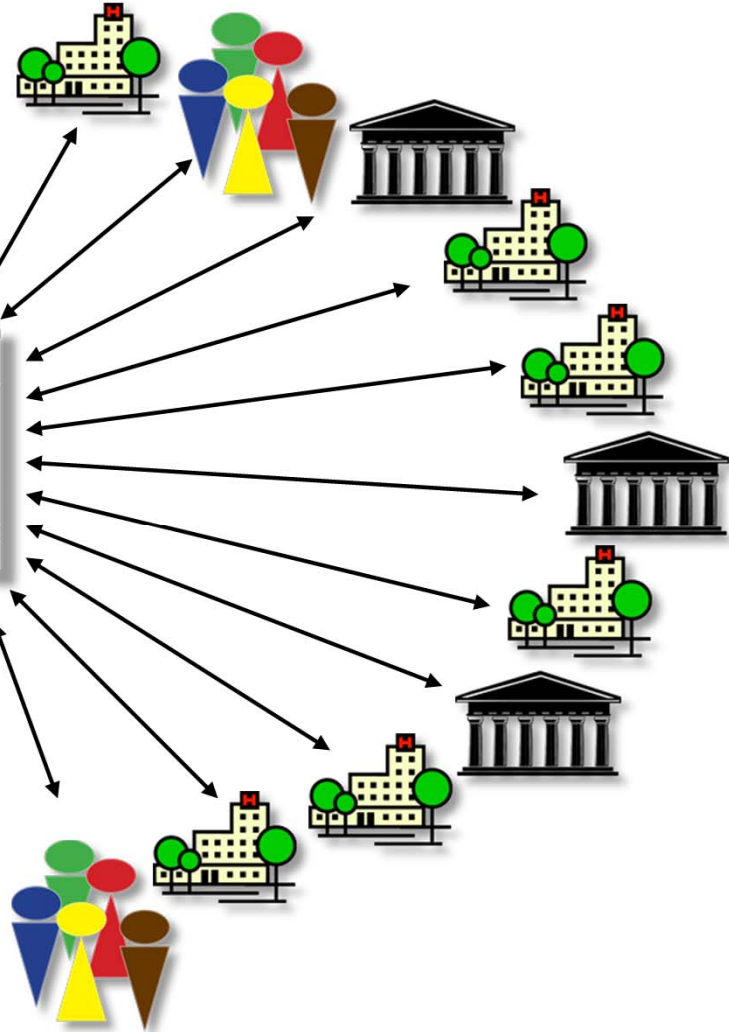


Cooperative Group Concepts and Letters of Intent, 1/2005 - 5/2008





**NATIONAL
CANCER
INSTITUTE**



- Industry
- Pharma
- Biotechnology

- Advocacy Organizations
- Professional Societies
- Philanthropy/Foundation

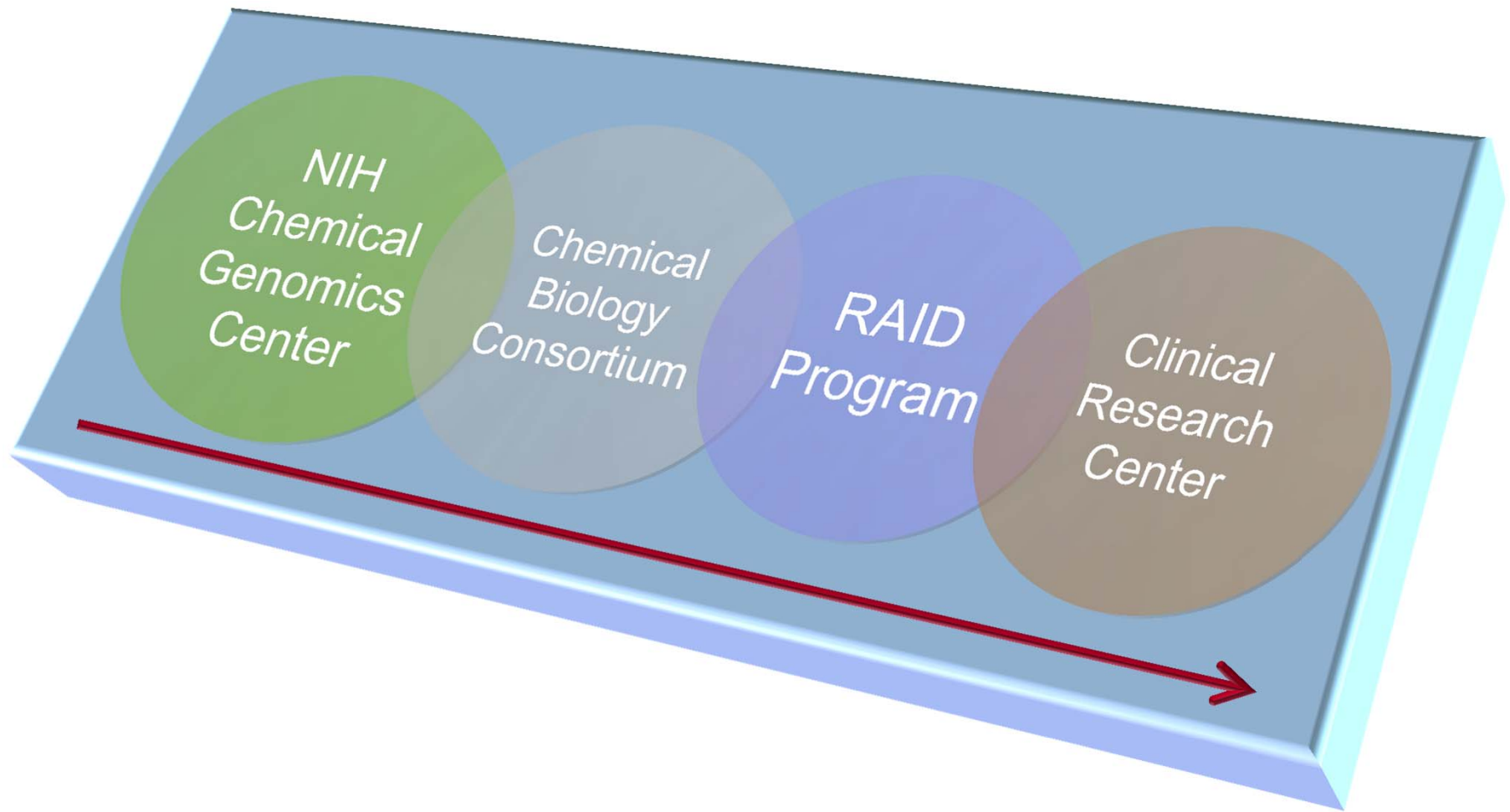
- Universities
- NCI Cancer Centers
- NCI NCCCP
- NCI CCOPs

Drug Development

TRWG

- Small molecule screening and discovery
- Chemical Biology Consortium (CBC)
- Rapid Access to Intervention Development
- SBIR Phase IIB award
- Developmental Therapeutics Program
- Advanced Technology Partnerships Initiative

NCI Drug Development Platform



New Agent Pipeline

- **Currently in the CTEP portfolio**
 - **Embryonic pathway inhibitors**
 - **Notch: Roche gamma secretase inhibitor R04929097**
 - **Hedgehog: Genentech sonic hedgehog inhibitor GDC-0449**
 - **CDK inhibitor: Schering-Plough SCH 727965**
 - **PARP inhibitor: Abbott ABT-888**

New Agent Pipeline (cont'd)

- Actively pursuing
 - inhibitors of
 - c-Met
 - HSP-90
 - PI3K/Akt
 - IAP family
 - Wnt/ χ -beta catenin
 - Chk-1
 - FAK
 - TRAIL agonist

Advanced Technology Research Initiative



- **Develop new facility and co-locate advanced technologies**
- **Research park location encourages collaboration among partners**
- **Leverage NCI special authorities and resources to facilitate partnerships**
 - **NCI-Frederick FFRDC**

Clinical Research

CTWG

- **Clinical trial registration**
- **Phase 0 clinical trials**
- **NIH Clinical Research Center**
- **Walter Reed National Military Medical Center**
- **Suburban Hospital**
- **National Cancer Policy Forum**
 - **Multi-center Phase III/Cooperative Groups**

NIH Clinical Center



Usage of the CRC

- **Since 2004, utilization of the Clinical Centers has held steady or declined**
 - **Overall IC census down 14% in past 3 years**
 - **Bed utilization at ~2/3 of capacity**

The Clinical Research Center as a National Resource

Phase I/II Trial of Vandetanib (ZD6474, ZACTIMA) in Children and Adolescents with Hereditary Medullary Thyroid Carcinoma

Coordinating Center: Pediatric Oncology Branch (POB), NCI

Principal Investigator: Frank M. Balis, M.D., POB, NCI†

Adjunct Principal Investigator: Samuel A. Wells, Jr., M.D., Washington University, St. Louis, MO

Associate Investigators: Trish Whitcomb, R.N., POB, CCR, NCI
Alberta Aikin, R.N., POB, CCR, NCI
Elizabeth Fox, M.D., POB, CCR, NCI
Brigitte C. Widemann, M.D., POB, CCR, NCI
Seth Steinberg, Ph.D., BDMS, CCR, NCI*
Paul Meltzer, M.D., Ph.D., CGB, CCR, NCI
Maria Merino-Neumann, M.D., LP, CCR, NCI
Clara Chen, M.D., Nuclear Medicine Dept, CC
Constantine A. Stratakis, M.D., SEGEN/DEB & HDB, NICHD
Maya Lodish, M.D., NICHD
Stephen J. Marx, M.D., NIDDK

Investigational Agent: Vandetanib (ZD6474, ZACTIMA)

Investigator IND Holder: Frank M. Balis, M.D.

IND #: 77,570

* No clinical responsibilities

† Pharmacology & Experimental Therapeutics Section
Pediatric Oncology Branch, CCR, NCI
10 Center Drive, MSC 1206
Bldg. 10 CRC, Rm. 3-2571
Bethesda, MD 20892-1206
Phone: (301) 496-0085
Fax: (301) 496-9020
E-mail: balisf@nih.gov

Walter Reed National Military Medical Center



Suburban Hospital

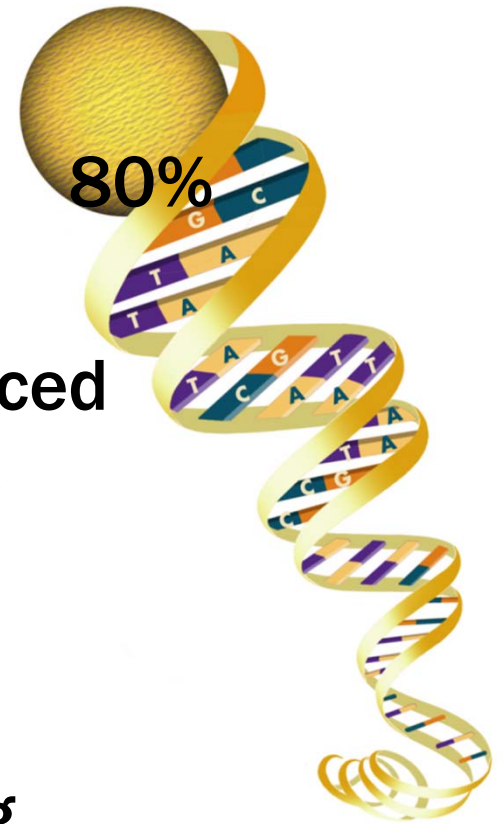


Investment Opportunities

- **Molecular Prevention**
- **Theoretical Cancer Biology**
- **GWAS**
- **Subcellular Imaging**
- **Shared services/resources**
 - **Quality biospecimens**
 - **caBIG**
 - **Biomarkers**
 - **Clinical assay qualification**
 - **Nanocharacterization**

The Cancer Genome Atlas

- Pilot includes glioblastoma, ovarian and lung cancers
- **Glioblastoma** (all tissue must have tumor and matched normal DNA)
 - 200 tissues analyzed; 100 sequenced
 - Identified NF1 and Erbb2 as highly associated with GBM (EGFR, p53)
 - At least 4 subtypes emerging
- Beginning to analyze ovarian and lung
- Newer sequencing technology being applied



Opportunities in Science

- **Transcriptional regulation**
- **Epigenetics**
- **MicroRNA — translational regulation**
- **Germline differences in predicting risk**
- **Whole tumor sequencing to indentify somatic changes involved in cancer**
- **Biomarker discovery**
- **Tumor microenvironment and new targets**

Connectivity Platform



Cancer as a Model



Of studying disease:

- **Macular degeneration**
- **Diabetes**
- **Heart disease**
- **Alzheimer's**
- **HIV/AIDS**

Cancer as a Model



Of healthcare:

- Interdisciplinary clinical care teams
- Community-based research for delivery of services
- Bioinformatics/electronic medical records
- Preventative approaches/behavioral science

Theoretical Physics Meeting



Involving the Physical Sciences in Cancer Research

- We lack a field of **Theoretical Cancer Biology**
- Tumor cell complexity in association with the **microenvironment requires mathematical models** (cell communication, metastasis)
- **Impact of basic physical principles and laws** on cancer (mechanical forces, energy and energy transfer, cell shape, dimensions of time)
- The role of **tumor cell evolution**

Annual Translational Research Meeting



Sheila Prindiville
M.D., M.P.H.



Lynn Matrisian
Ph.D.

- Replace the summer SPORE meeting with an annual translational sciences meeting
 - Co-Chaired by Drs. Sheila Prindiville and Lynn Matrisian
 - Planned for November 6-8 in Washington, D.C.

Office of Centers, Training and Resources

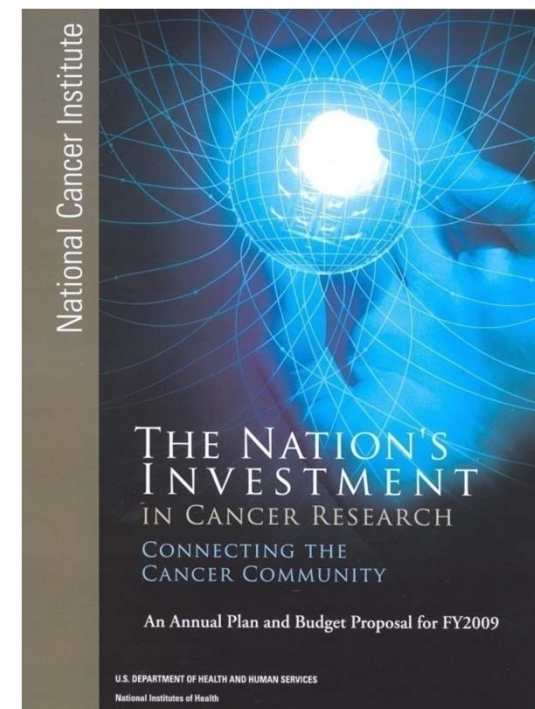
- **Cancer Centers Program**
 - Remain in the Office of the Director
- **Organ Systems Branch (SPOREs)**
 - Has moved to the Division of Cancer Treatment and Diagnosis
- **Training**
 - Moving into a trans-NCI “center” operating out of the Office of the Director



Linda K.
Weiss, Ph.D.

2009 Professional Judgment Budget

Fiscal Year 2008 estimate	\$4,925,740
Current services increase	\$334,638
Subtotal	\$5,260,378
Fiscal Year 2009 professional judgment	
• Increase success rate for RPGs (25%)	65,000
• Basic and translational science for personalized medicine	289,902
• Linking science and technology	209,600
• Reaching all communities	72,100
• Prevention and early detection	131,406
Subtotal	768,008
Total, NCI	\$6,028,386



Dollars in thousands

Challenges

- **RCDC**
- **Roadmap/Common Fund:
Transformative R01s**
- **Common language**
- **Patient reimbursement**
- **Aging infrastructure**
- **Young investigators**
- **International activities**

Challenges

- **FFRDC – SAIC contract renewal**
- **2010 Bypass Budget**
- **Molecular Prevention**
- **Immunology**
 - **Immunotherapy network**
 - **AIDS/Cancer vaccine initiative**
- **NCCCP**

“We’ve come a long way in fighting cancer since we passed the National Cancer Act 37 years ago.”

“Americans lived in fear that they or someone they loved would be lost to this dread disease. Today, we still have that fear, but **we’re better equipped for the fight.”**



Sen. Edward M. Kennedy
May 8, 2008



SPORE Program Update

- **Drs. Doroshow and Niederhuber will oversee the SPORE Program**
 - **Continue monthly conference calls with SPORE Executive Committee**
- **Dr. Toby Tucker Hecht acting head during national/international search for new SPORE Program director**

SPORE Program Update

- SPORE Program based on peer review of best science
- Stable plan for **bridge funding** established last year
- Make **appropriate, constructive guideline** changes to enhance strategic goals
- Increasingly integrate the SPORE Program into implementation of the **TRWG recommendations**