

National Cancer Institute

NCI Director's Update

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National Cancer Advisory Board
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U.S. DEPARTMENT
OF HEALTH AND
HUMAN SERVICES

National Institutes
of Health

The Great Snow of 2010



NCI – Feb. 2010

- **NCI FY 2010 operating budget**
- **The President's budget for FY 2011**
- **Facilitating target discovery and new agent development**



NCI FY 2010 Operating Budget Development

FY 2009 operating budget (not including ARRA)	\$4,966,931
FY 2010 appropriation	5,103,388
Difference, 2009 to 2010	+136,457
Percent change, 2009 to 2010	+2.7%

(dollars in thousands)

NCI FY 2010 Operating Budget: Infrastructure

Budget increase available	+\$136,457
• Taps and assessments	-17,100
▪ Est. increase, NIH taps (\$15,000)	
▪ NIH Director's 1% transfer authority (?)	
▪ HHS Secretary's transfer authority (?)	
▪ Genes, Env. & Health Initiative (\$2,100)	
• Mandated salary increases (2.4%)	-21,400
• Rent/lease/utilities/renovations increase	-10,000
• Small business program increase	-2,000
• ATRF start-up and operating costs	-2,317
Subtotal available	+\$83,640

(dollars in thousands)

NCI FY 2010 Operating Budget:

Science

Subtotal available	+\$83,640
• RFAs approved to go to BSA & publish	-156,762
▪ RPGs (\$96,530)	
▪ Other research grants (\$9,947)	
▪ Division controllable (\$50,285)	
• NCI Director's Reserve	-25,000
• AIDS target increase	-6,248
• Latin America breast cancer pilot	-1,400
Subtotal available	-\$105,770

(dollars in thousands)

NCI FY 2010 Operating Budget: Recoveries

Subtotal available	-\$105,770
• Recoveries from divisions and offices	+74,155
Subtotal available	-\$31,615

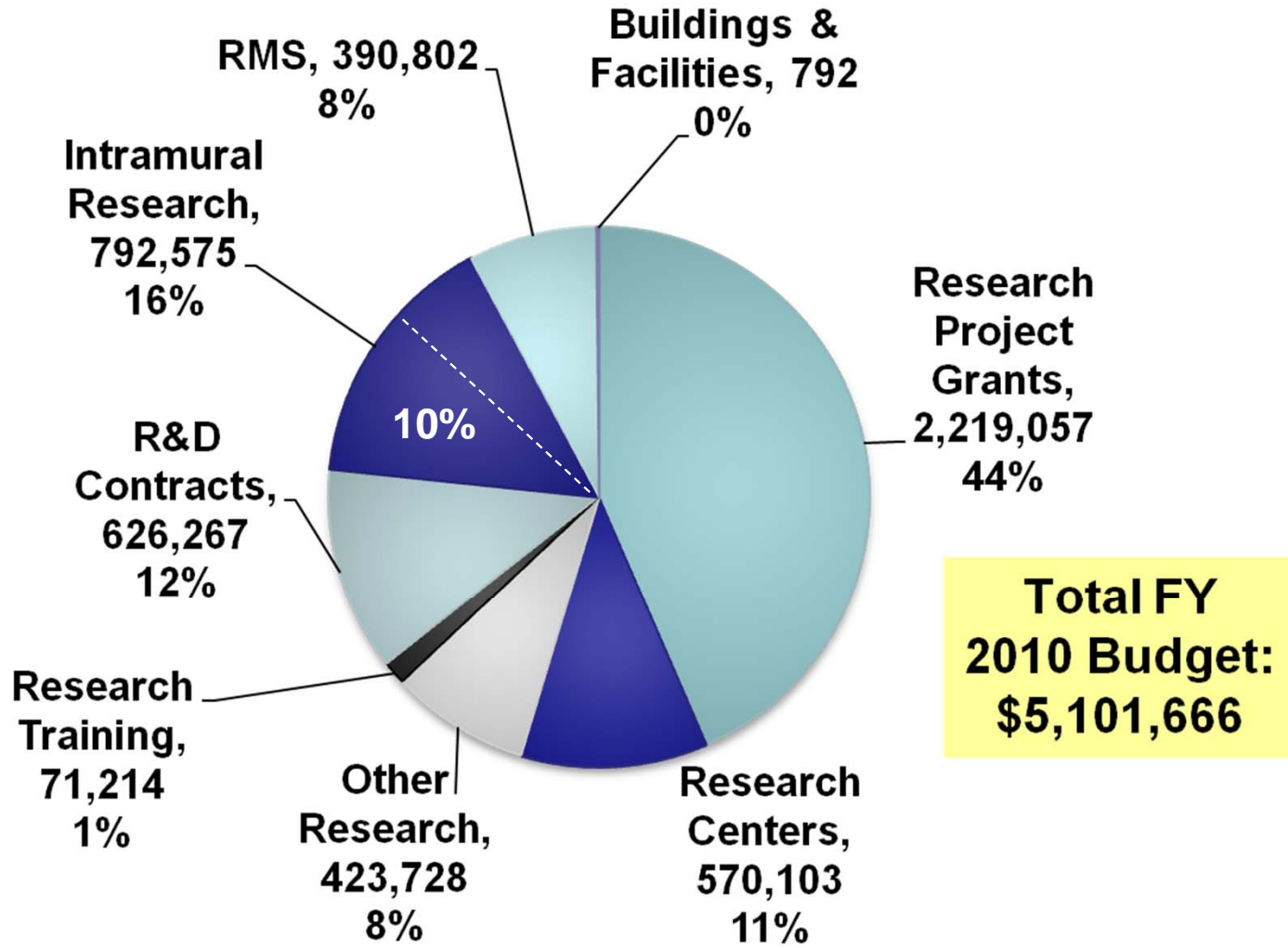
(dollars in thousands)

NCI FY 2010 Operating Budget: Additional Requests

Subtotal available	-\$31,615
• Division, Office, and Center requests	-265,259
▪ High priority list (\$91,968)	
▪ Research (\$76,077)	
▪ Infrastructure (\$22,268)	
▪ Facilities (\$74,946)	
Total, including all requests	-\$296,874

(dollars in thousands)

NCI FY 2010 Budget by Mechanism



(dollars in thousands)

NCI – Feb. 2010

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- Facilitating target discovery and new agent development



The President's 2011 Budget Proposal

“To accelerate progress in biomedical research, NIH investments will focus on priority areas including genomics, translational research, science to support health care reform, global health, and reinvigorating the biomedical research community.”

The Federal Budget for Fiscal Year 2011

Feb. 1, 2010

The President's 2011 Budget Proposal

“The Budget includes **\$6,036 million** to support a range of bold and innovative cancer efforts...”

- Initiation of 30 new drug trials in 2011
- Doubling of the number of novel compounds in Phase 1–3 clinical trials
- Complete a comprehensive genomic profiling of 100 cancer mutations for the most common malignancies with

NCI allocation in
the President's
Budget for 2011:
\$5,260 million.

National Cancer Institute

The Nation's Investment in Cancer Research

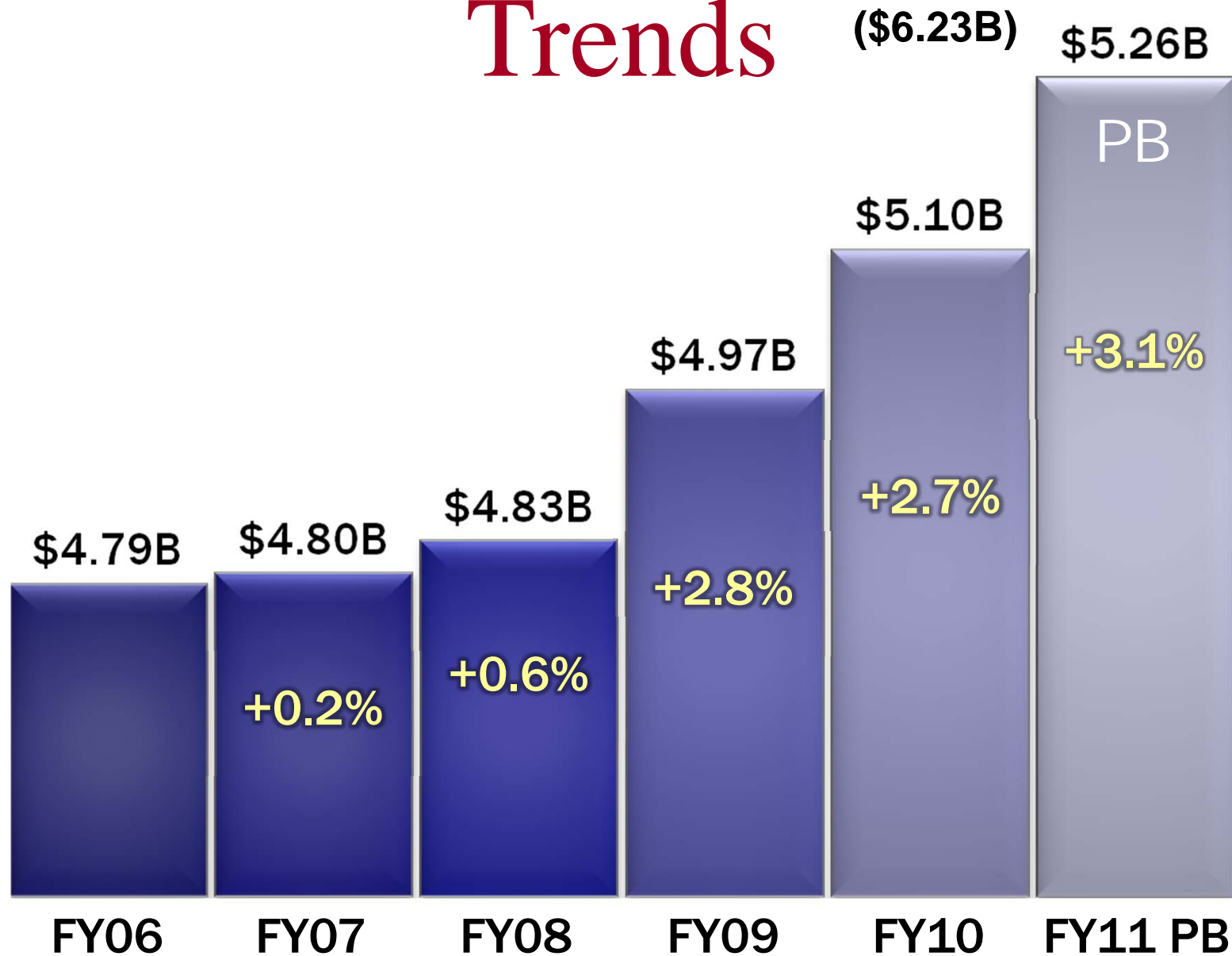
AN ANNUAL PLAN AND BUDGET
PROPOSAL FISCAL YEAR 2011



Connecting the Nation's
Cancer Community

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

NCI Appropriated Budget Trends

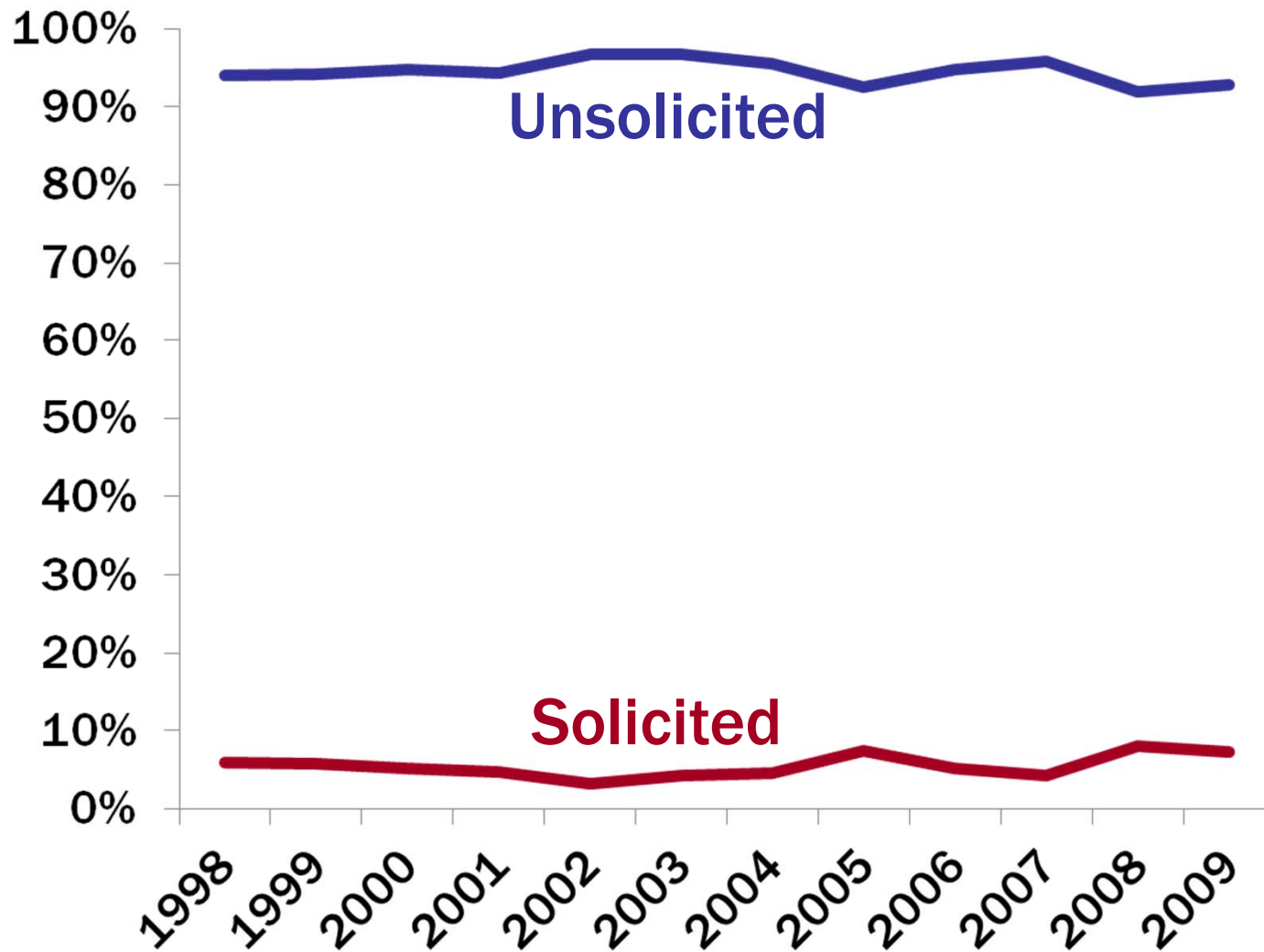


NCI FY 2008 and 2009 Competing RPGs

	FY 2008	FY 2009
Competing RPGs total	1,284 grants \$456,644	1,235 grants \$457,834
Competing RPG RFA portion	108 grants \$50,726	89 grants \$49,010

(dollars in thousands)

Unsolicited RPGs Far Outnumber Solicited



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Facilitating Target Discovery & Development

- ✓ **The power of genomics/technology to dissect complexity**
- ✓ **How NCI is leading to the future**

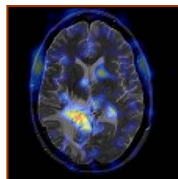
We have major changes to make!



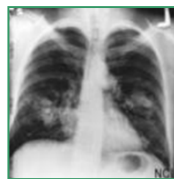
TCGA: Connecting multiple sources, experiments, and data types

Three Cancers - TCGA Pilot

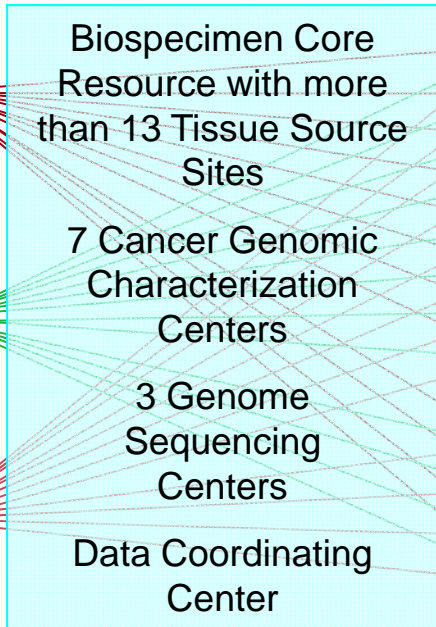
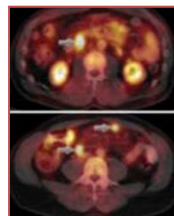
glioblastoma multiforme (brain)



squamous carcinoma (lung)

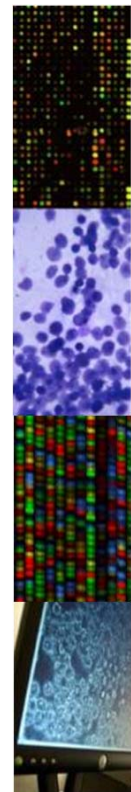


serous cystadenocarcinoma (ovarian)

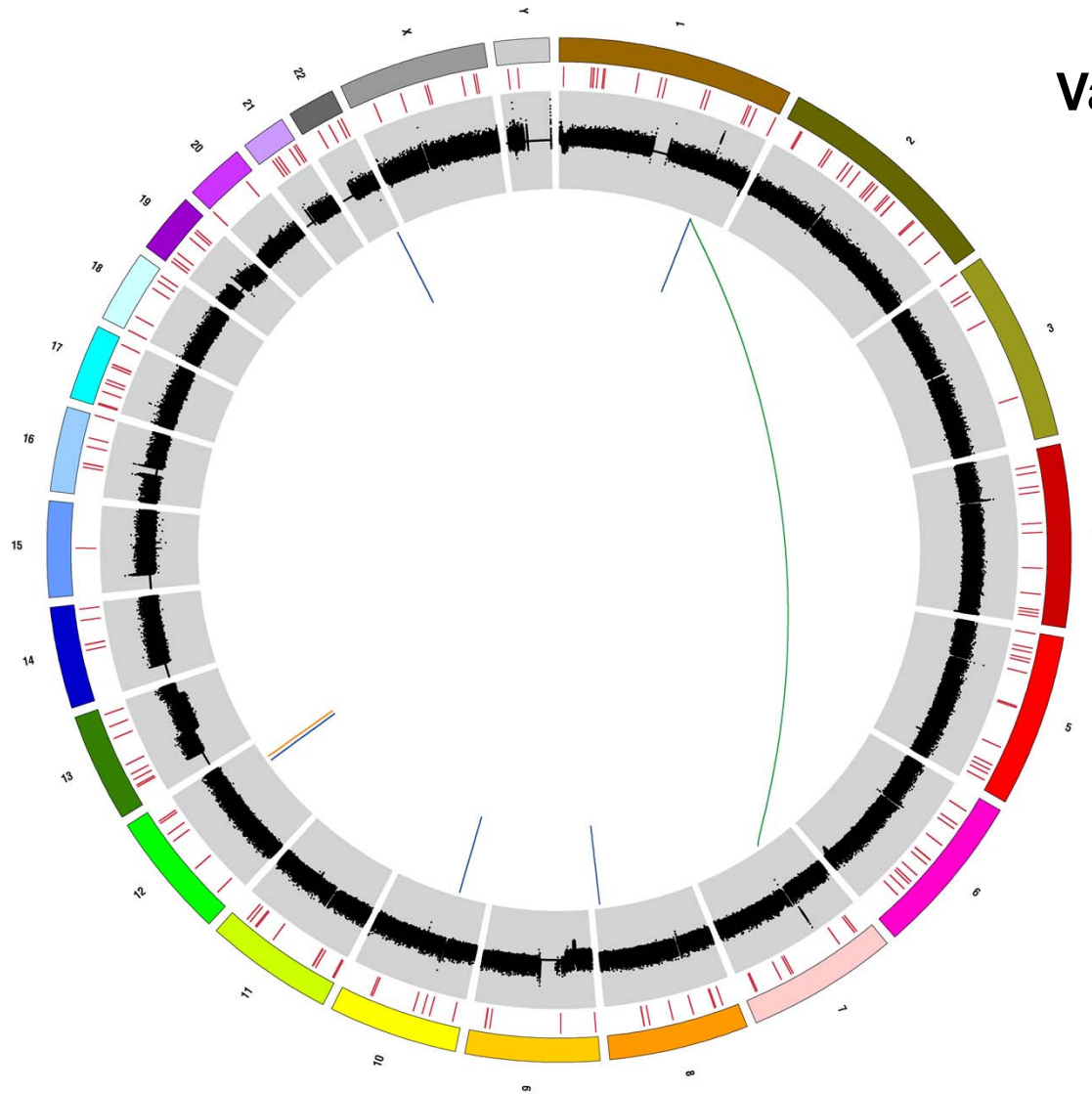


Multiple data types

- Clinical diagnosis
- Treatment history
- Histologic diagnosis
- Pathologic status
- Tissue anatomic site
- Surgical history
- Gene expression
- Chromosomal copy number
- Loss of heterozygosity
- Methylation patterns
- miRNA expression
- DNA sequence



Power of Whole Genome Sequence: “GBM1” Genome

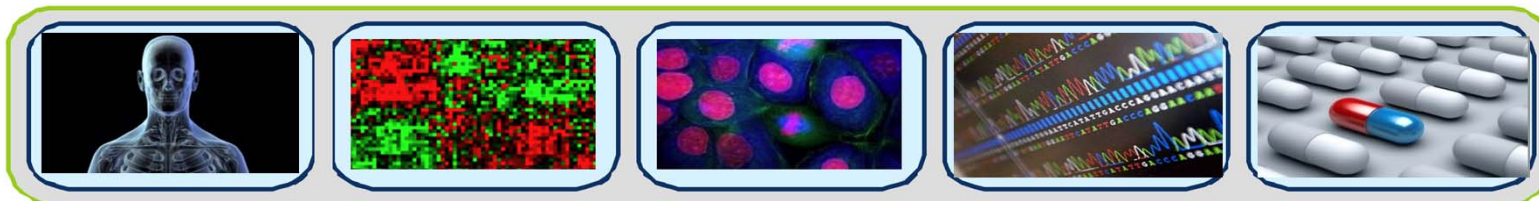
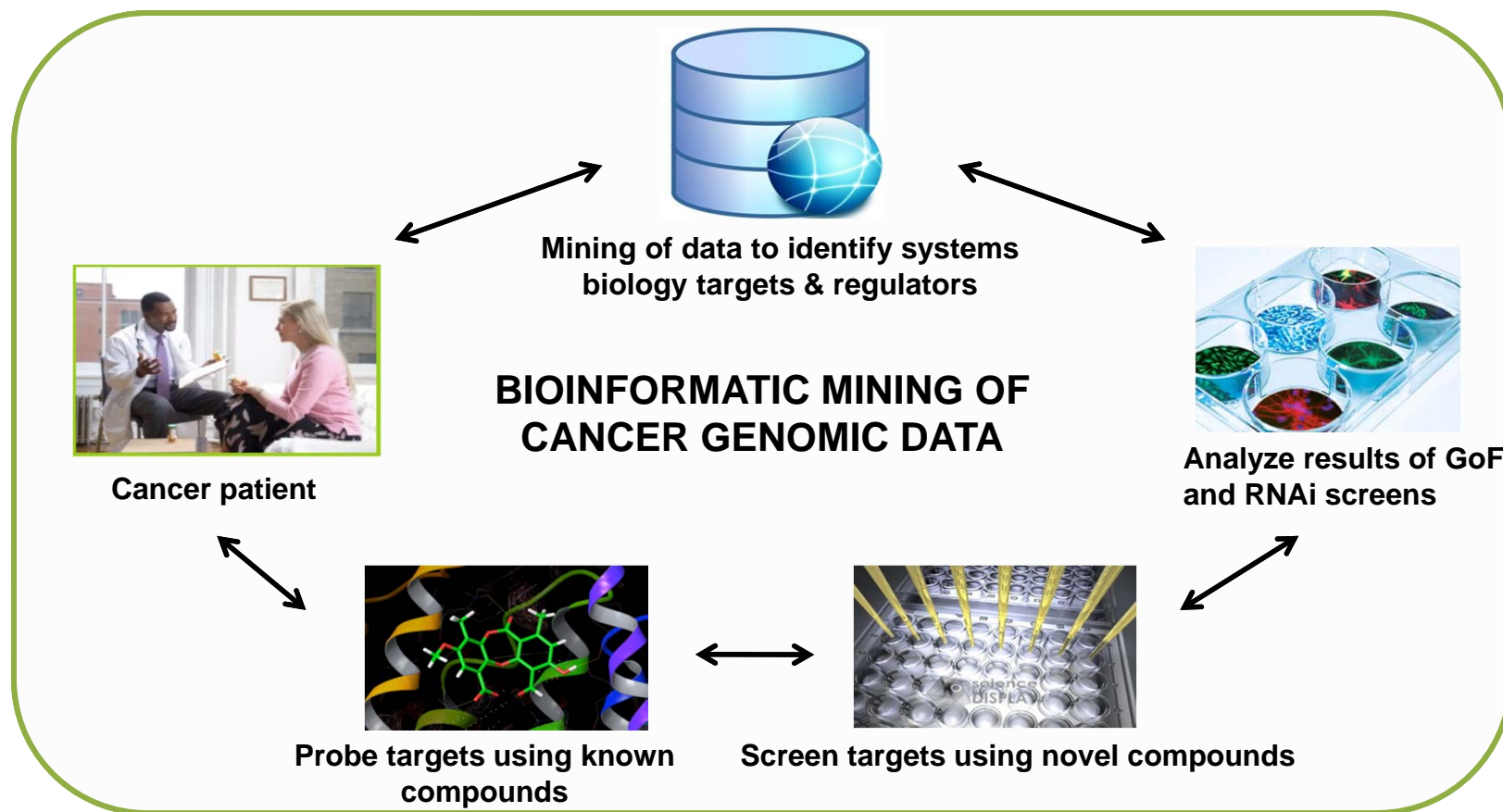


Validated Somatic Changes:

- 185 mutations (40 Tier 1)
- 6 large indels
- 1 translocation

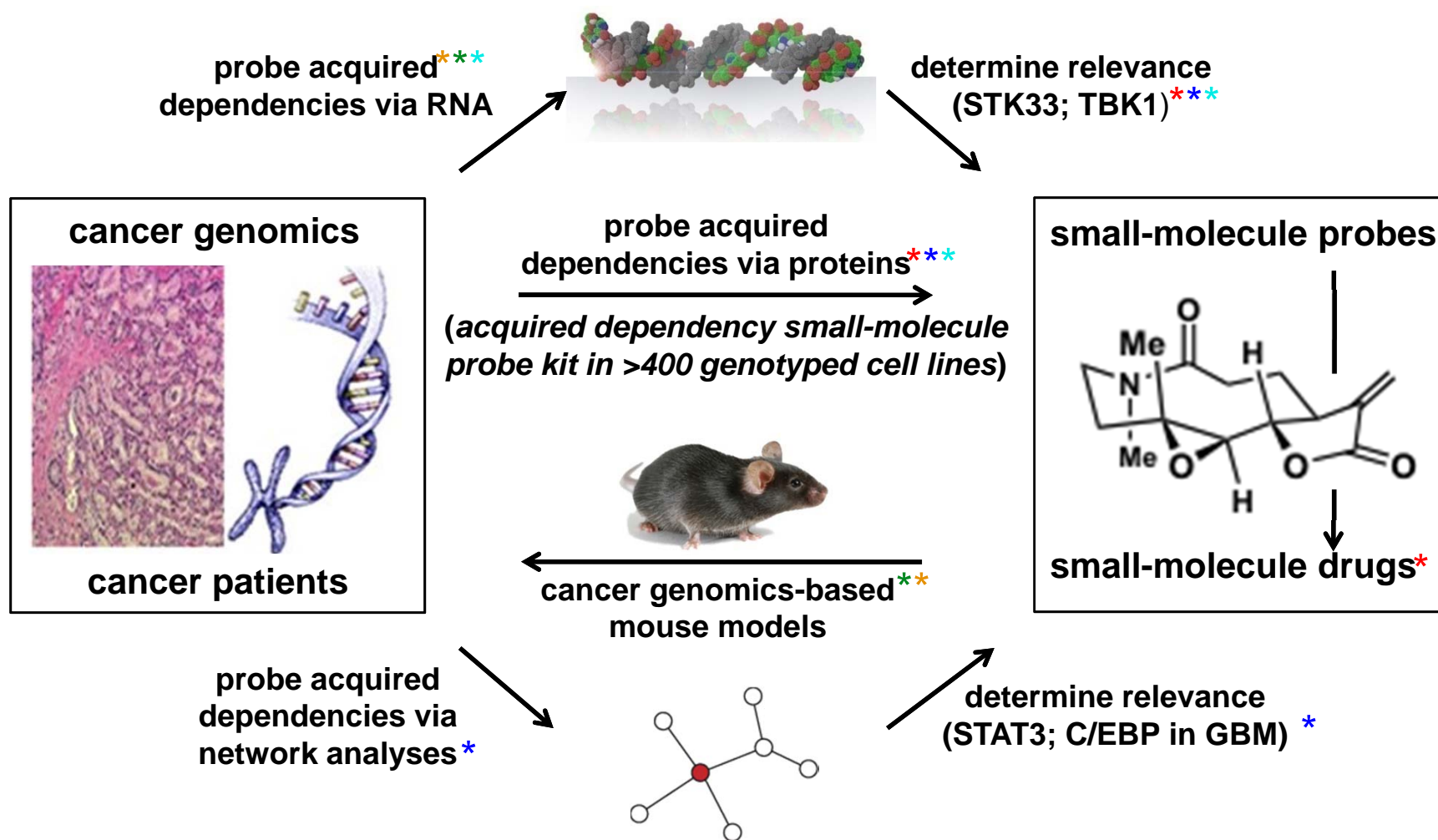
?4 subtypes

The NCI's Target Discovery and Development Network



TDDN aims to change the paradigm/approach by translating the molecular data

The NCI's Target Discovery and Development Network



Decode the relationship of cancer genotype to acquired cancer dependencies and identify small molecules that target the dependencies (*Broad; *CSHL; *Columbia; *DFCI; *Dallas)

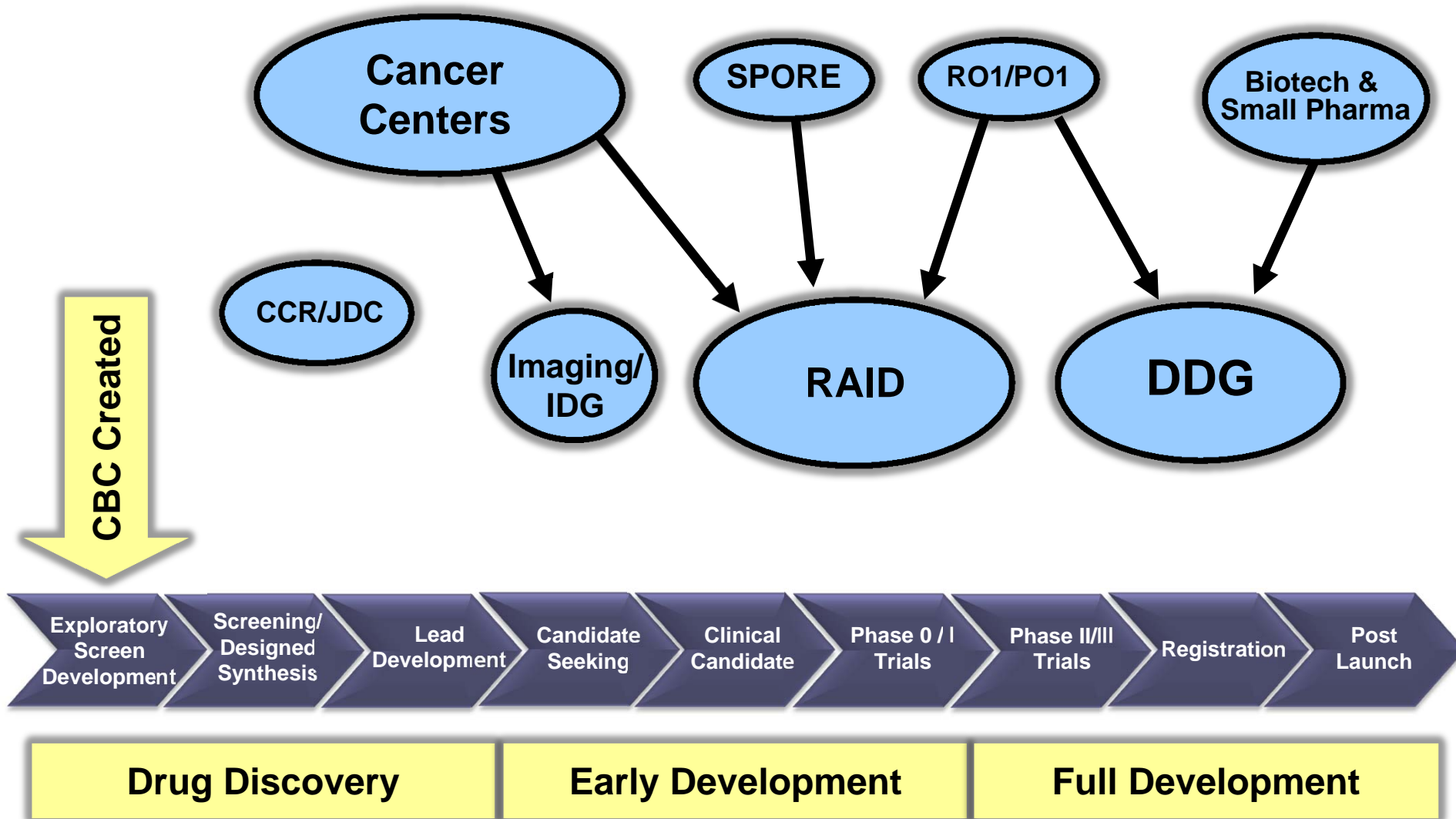
Mission of the NExT Program

“To advance clinical practice and bring improved therapies to patients with cancer by supporting the most promising new drug discovery and development projects.”

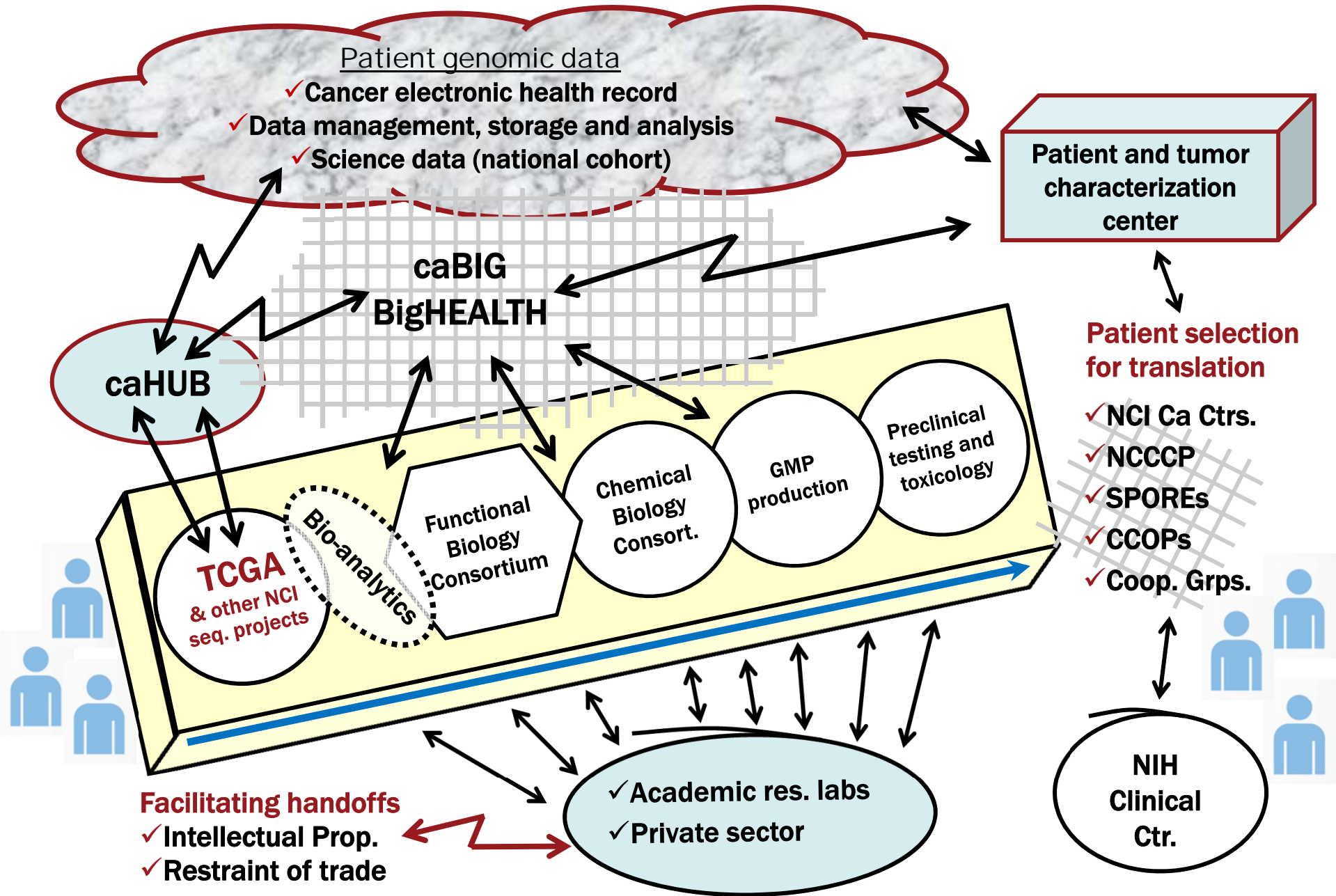
“The NCI will partner with successful applicants to facilitate the milestone-driven progression of new anticancer drugs (small molecules, biologics) and imaging agents towards clinical evaluation and registration.”

<http://next.cancer.gov>

The NCI Experimental Therapeutics (NExT) Pipeline



Transforming the Science of Translation





Themes From EC Scientific Retreat

- **Biospecimens, patient data, and patient-reported outcomes needed for evaluation, to inform healthcare reform**
- The research reward culture needs to fully recognize the contributions of participants in team science
- **Single-agent interventions will not work**
- **Need to utilize cancer centers, SPORes and other programs to test new modalities**

Discussion

- The continuum of patient care begins before diagnosis. How can we create comprehensive cohorts to fully inform cancer care and healthcare in general?
- Effective translational science requires active coordination end to end. How will the science of tomorrow be fostered through a complement of investigator-initiated and more directed research? What is the future of team science?
- Cancer treatment going forward will not be single-agent interventions but recipes addressing specific genetic mutations and signaling pathways. How can our cancer research infrastructure more effectively test new approaches quickly and efficiently?



