

Cooperative Group Banks

Request for Reissuance of RFA (Limited Competition)

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The Vision of Personalized Medicine

- **Selection of the most effective therapy for patients based on the evaluation of individual characteristics of the patient and patient's disease**
- **Selection depends on having robust, validated clinical assays for the evaluation**
- **Clinical credentialing of the assays requires the availability of specimens from patients uniformly treated on randomized trials with high-quality clinical data**

Specimen Collection on Clinical Trials

- **Clinical trials testing the efficacy of targeted therapies often include assays for integral markers that inform patient eligibility, stratification or therapy selection**
- **Integral markers must be evaluated for the trial to proceed**
- **Assessment of integral markers requires the collection and evaluation of patient specimens in real time**

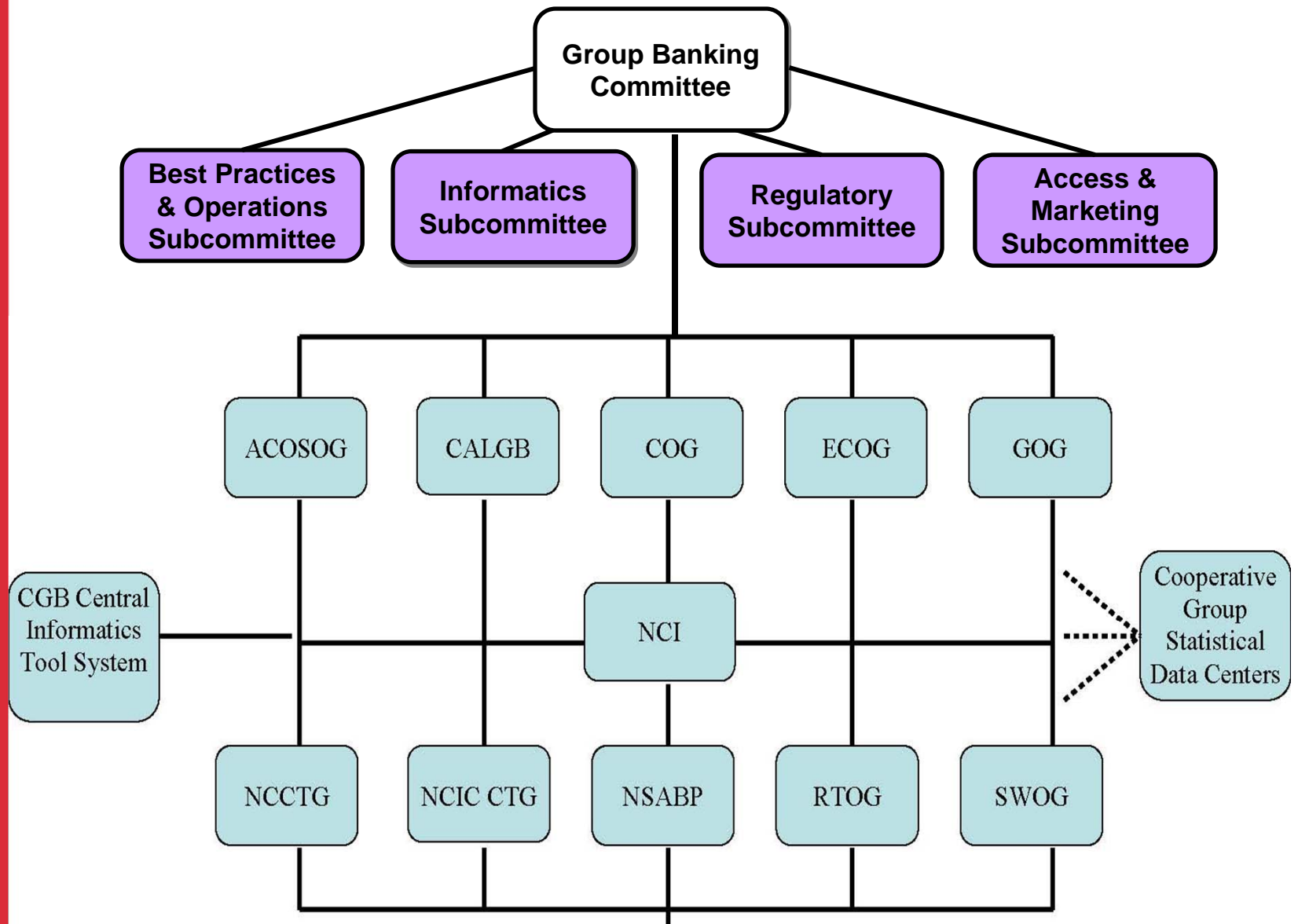
Cooperative Group Banks (CGBs)

- **Biorepositories of specimens from patients enrolled in Clinical Cooperative Oncology Group trials**
 - **Only source of specimens from patients treated uniformly on phase III and large phase II clinical trials with high quality clinical, treatment and outcome data**
 - **Critical to developing and validating the markers for diagnosis, prognosis and prediction of response to therapy**
- **The ability of the CGBs to collect and distribute specimens depends on stable funding**

History of Funding

- **Individual CGBs had no dedicated funding until September, 2005**
- **NCI Cooperative Group Banking RFA:
U24 Cooperative Agreement Grants (9/2005-3/31/2010)**
 - Provide stable support for CGB infrastructure for continuing specimen collection, storage and utilization
 - Harmonize banking procedures and IT systems
 - Establish fair and open access
- **9 CGBs: ACOSOG, CALGB, COG, GOG, ECOG, NCCTG, NSABP, RTOG, SWOG**
- **PIs: Cooperative Group Chairs**

Organizational Chart of the CGB Resource



Group Banking Committee Accomplishments (2006-2008)

Best Practices and Operations Subcommittee

- **Central Manual of Operations**
- **Harmonization of Standard Operating Procedures (SOPs) based on local CGB SOPs**

Informatics Subcommittee

Central Informatics Tool System

- **Pilot project Scope of Work for GBC Informatics Initiatives**
- **Reporting Tool Version 1 Project**
- **Common interactive Biospecimen Inventory Query System**
- **Common Reporting Tool Version 2 Plan**

Initiative with caBIG to connect the GBC Reporting application to caGrid and the second version of Specimen Locator

Group Banking Committee Accomplishments (2006-2008; contd.)

Regulatory Subcommittee

- **Common Informed Consent Document**
- **Common Patient Information Brochure**
- **Common IRB Information Sheet**

Access & Marketing Subcommittee

- **Guiding Principles for Access and Marketing of Specimen Resources**
- **Common Material Use Agreement Template**
- **Common Sample Letter of Intent for Access to Specimens**
- **Common Biospecimen Access Application Template**

Tumor/Organ Site of Specimens Collected

| | ACOSOG | CALGB | COG | ECOG | GOG | NCCTG | NSABP | RTOG | SWOG | NCIC CTG |
|----------------------|--------|-------|-----|------|-----|-------|-------|------|------|----------|
| Brain | | | X | X | | X | | X | | X |
| Breast | X | X | | X | | X | X | X | X | X |
| GI | X | X | X | X | | X | X | X | X | X |
| GU | | X | X | X | | | | X | X | X |
| GYN | | | | | X | | | X | | |
| Head&Neck | | | X | X | | | | X | X | |
| Lymphoma | | X | | X | | | | | X | X |
| Melanoma | | | | X | | | | | X | X |
| Myeloma | | | | X | | | | | X | X |
| Periph. Neuro | | X | X | X | | X | | | | |
| Liver | | | X | | | | | | | |
| Leukemia | | X | X | X | | | | | X | |
| Lung | X | X | | | | X | | X | X | |
| Sarcoma | | | X | | | | | X | | X |
| Serum | X | X | X | X | X | X | X | X | X | X |
| Thyroid | | | X | | | | | | | |

Specimen Activities 10 Solid Tumor Banks (2000-2007)

| | |
|--|----------------|
| Tumor Specimens Collected | 807,767 |
| Serum Specimens Collected | 143,047 |
| Tumor Specimens Distributed | 720,172 |
| Serum Specimens Distributed | 38,663 |
| Intra/Inter Group Investigators Supported | 1,257 |
| External Investigators Supported | 283 |

Specimen Activities 4 Leukemia Banks (2000-2007)

| | |
|--|---------------|
| Specimens Collected | 49,491 |
| Cryoviable Cells (Bone Marrow, Blood) Collected | 45,068 |
| Specimens Distributed | 28,728 |
| Cryoviable Cells (Bone Marrow, Blood) Distributed | 18,914 |
| Intra/Inter Group Investigators Supported | 370 |
| External Investigators Supported | 30 |

Scientific Impact (2000-2008)

- 1,350 PUBLICATIONS AND 36 PATENTS BY CGB USERS
- >346 PUBLICATIONS WITH IMPACT FACTOR (IF) ≥ 10
- HIGH IMPACT PUBLICATION RATE DOUBLED IN 2006-2008 COMPARED TO 2000-2005

| <u>Selected Banks</u> | <u>% Impact Factor > 10</u> |
|-----------------------|--------------------------------|
| CALGB LEUKEMIA | 37 |
| CALGB SOLID TUMOR | 37 |
| COG | 27 |
| ECOG SOLID TUMOR | 54 |
| ECOG LEUKEMIA | 50 |
| ECOG MYELOMA | 43 |
| NCCTG | 57 |
| NCIC CTG | 41 |

Research Highlights

- **OncotypeDx™ test on FFPE Breast Cancer tissue (*Paik S et al, NEJM 2004*) → TAILORx Breast Cancer trial**
- ***K-ras* mutation status in advanced Colorectal Cancer Tx with cetuximab (*Karapetis CS et al, NEJM 2008*)**
- **MicroRNA signature and event-free survival in AML (*Marcucci et al, NEJM 2008*)**
- **HER2 over-expression in tissues (IHC, FISH) with response to paclitaxel in node-positive Breast Cancer (*Hayes et al, NEJM 2007*)**
- **Prediction of disease severity in early stage Multiple Myeloma (*Barlogie et al. Blood 2008*)**
- **Evaluation of Glioblastoma Tx (NCCTG, RTOG, NCIC CTG)**
- ***SPECS, TARGET, Trans-NCI Initiatives***

Oncotype Dx: Role of Clinical Trial Specimens in Development of a Clinically Validated Assay

- **Assay development (NSABP B-20 Trial)**
 - 250 genes studied on archival material by high-throughput qRT-PCR
 - Reduced to a 21 gene-signature
 - Recurrence Score (RS) identified patients with low, intermediate or high recurrence risk (10-year 6.8%, 14.3%, and 30.5%, respectively, $P \leq .001$)
- **Validation of reproducibility and outcome correlation (NSABP Trial B-14 Validation, Kaiser Permanente External Validation)**
- **Predictive Value of the assay for chemotherapy (NSABP Trial B-20)**
 - Significant benefit from chemotherapy in high risk RS patients (decrease of 26.7% in absolute risk)
 - No benefit from chemotherapy in low risk RS patients
- **Trial Assigning Individualized Options for Treatment (TAILORx)**
 - ECOG led multicenter trial integrating the 21-gene assay into the clinical decision-making process

External Evaluation of CGB Resource

- **Critical value to cancer research community**
- **Need for stable support for CGB infrastructure for continuing specimen collection, storage and utilization**
- **Harmonization of banking procedures and IT systems will increase quality and accessibility**
- **Important to establish fair and open access**
- **Increase collection of frozen specimens to meet emerging technology needs**

Justification for Limited Competition RFA and Budget

Limited Competition

- **Coop Groups are the only groups that conduct phase III and large phase II NCI trials**
- **Coop Group Banks are in the process of harmonization**

Budget

- **Support 9 awards to established CGBs**
- **Year 1: \$8.75 M total cost for all groups**
- **Total cost over 5 years: \$43.75 M**

Importance of NCI Funding for CGBs

- **A unique value for the research community and National Cancer Institute**
- **Well annotated specimens with high quality clinical, treatment and outcome data collected on trials**
- **Critical to developing and validating the markers for diagnosis, prognosis, response to therapy and personalized medicine**
- **Well utilized; high scientific impact of correlative studies**
- **Complementary to the proposed OBBR caHUB initiative**