

caBIG[®] Program Update

Board of Scientific Advisors Meeting

June 20-21, 2011

The logo for the National Cancer Institute, featuring the words "NATIONAL", "CANCER", and "INSTITUTE" stacked vertically in a serif font, with a horizontal line underneath the word "INSTITUTE".

NATIONAL
CANCER
INSTITUTE

Outline

- Report of the BSA Ad Hoc Working Group -- recommendations and NCI responses
- caBIG[®] Next Steps
- caBIG[®] Budget Adjustments

caBIG[®] Report and Response

Summary of BSA Working Group Recommendations

- “The caBIG® effort appears diffuse, has drifted from its core mission, and has been unevenly successful.”
- Recommended that NCI refocus the program to those aspects broadly recognized as successful and important

Summary of BSA Working Group Recommendations

- Key aspects broadly recognized as successful and important:
 - Development of community-driven standards for data exchange and interoperability
 - Support for the development, maintenance, enhancement, and dissemination of software tools developed by the academic research community
 - Establishment of community dialog on interoperability of clinical and research software tools
 - Moratorium on non-core software development projects
 - Budget should be reviewed and adjusted to reflect recommendations

caBIG[®] Program Response

- NCI agrees that:
 - caBIG[®] must be refocused on the core components of ‘creation and management of standards for data exchange and support of community-based software tools’
 - Central tenet of program is ‘development, maintenance, enhancement, and dissemination of software tools by the academic research community’
 - Newly formed Scientific Advisory Group (SAG) will meet as soon as possible to engage participation of researchers ; first meeting planned for July 2011
 - Must continue exploring strategies to maintain open-source community
 - All non-core development is to be phased out
 - Budget must be scrutinized and adjusted for new scope

caBIG[®] Next Steps

Next Steps and Priorities

- NCI remains committed to caBIG[®], but will refocus the effort and retain key pieces identified as important to the cancer research community
- Key effort will be facilitating community-developed informatics that provide insight in cancer biology and clinical research
- The SAG will foster collaboration with the community, help set priorities, and ensure timely communications
- There is continued support for academic IT efforts, with priorities developed in partnership with NCI Scientific Divisions
- Support is through grants, where appropriate, and dedicated funding as necessary

caBIG[®] Guiding Principles

- Collaborate more closely with the cancer research community, with oversight by the SAG
- Retain stewardship of the development of community-driven technical standards and interoperability frameworks
- Foster the academic research community's biomedical informatics development efforts through peer-reviewed, investigator-initiated, and high-priority, targeted efforts executed through the NCI Scientific Divisions
- Meet community-identified software development and support needs through partnerships with external open-source development communities

caBIG[®] Scientific Advisory Group

- Dan Masys, Chair - Vanderbilt University
- Andrea Califano – Columbia University (BSA)
- Jean Wang – UC San Diego
- Joe Gray – University of Oregon (BSA)
- Rebecca Kush – Clinical Data Interchange Standards Consortium
- Gaddy Getz - MIT
- Lynn Vogel – MD Anderson Cancer Center
- Robert Comis - Coalition of Cancer Cooperative Groups
- Paul Fearn – Fred Hutchinson Cancer Center
- Lincoln Stein – University of Ontario
- Brian Athey – University of Michigan
- One additional invitation is pending

caBIG[®] Community-Generated Tools

- caBIG[®] will continue to provide support to academic groups through its Knowledge Center program, to provide community support for the tools and infrastructure they provide
- All community tools are open-source, and the software will continue to be made available through NCI web sites (the Support Service Providers program – with 20 SSPs to date – will continue to be available to the community for support of local installation and customization)
- Areas assessed by the SAG as important will have additional development through external open-source community effort
- The caBIG[®] community will continue to develop and maintain the standards and interoperability specifications necessary to keep the parts working together

Academic Development of Novel Informatics Capabilities

- caBIG[®] will collaborate with NCI Scientific Divisions to foster efforts addressing current and evolving needs
- Possible projects include:
 - Integration and analysis of multi-dimensional data
 - Storage and distribution of “Big Data”
 - Data visualization and interpretation
 - Natural language processing
 - Analysis of *in vivo* images
 - Development of new approaches for generating evidence
- These examples are subject to review by the SAG

Community-defined Standards and Interoperability

- caBIG[®] will develop pre-competitive specifications used to drive creation of software by academic and commercial developers
- Possible projects include:
 - Vocabularies/Ontologies
 - Common data elements
 - Information models
 - Interoperability conformance and compliance frameworks
- These examples are subject to review by the SAG

Informatics Capabilities as Part of the Larger Grid

Through the caBIG[®] program, NCI will:

- Help with long-term dissemination and support of community-developed software by maintaining infrastructure to store software, along with its documentation, and associated metadata
- Support academic institutions by ensuring resources are available for local installation, customization and ongoing extension, through its Knowledge Center Program
- Partner with external open-source development community organizations to provide long-term support for software extension and enhancement outside the NCI mission

Informatics Capabilities as Part of the Larger Grid

- NCI will transfer stewardship of community-developed tools to external, open-source community including:
 - Molecular analysis
 - Management of high-dimensional molecular characterization data
 - Biospecimen management
 - Clinical research tools
 - *In vivo* imaging
 - Multi-center, genetically informed, adaptive clinical trials (caBIG[®] will maintain standards and test for compliance)

caBIG[®] Budget Adjustments

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- Original FY 2011 appropriated budget was \$45 million
- ARRA funding from FY 2009/2010 was \$103 million
- New scope requires FY 2011 appropriated funding at \$33 million
- ARRA funds reduced to \$43 million
- Further adjustments of appropriated and ARRA funds are being evaluated
- Funding plans for future years will depend on NCI's budget level

Questions