

Strategic Goal 3: Enhancing Consortium-wide Collaborations

Committee Members

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Members:

- Robert Clark (UT - San Antonio)
- Nora Disis (U Washington)
- David Mathias (Pittsburgh)
- Eric Orwoll (Oregon Health)
- Ron Sokol (Colorado)
- Chris Kelleher (OHSU)
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- Doug Sheeley (NCRR)
- Laura Lee Johnson (NCCAM)
- Bill Barrick (NIAID)
- Lori Mulligan (NCRR)
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- Julie Rainwater (UC-Davis)

Strategic Goal 3 Update

- Overview- Steve Reis
- Progress by Sub Goals-
 - Brian Athey, Mini Kahlon, Jonathan Silverstein
- Future Approach- U24 Grants
- Discussion- PIs

SG3 Sub goals

- *National Resource Inventory*: To catalog and enable access to existing resources throughout the CTSA
- *Research Networking Initiative*: To build infrastructure to connect people and to support collaborative research
- *Data Sharing Network*: To create data sharing mechanisms to facilitate innovation and collaborative research across the Consortium

Approach to Inventory of Resources

- Develop an informatics inventory tool
 - Single tool to inventory resources across Consortium
 - Architecture lends itself to use by all KFCs
- Develop policy
 - KFCs
 - identify types of resources to be inventoried
 - develop ontology/categorize information in a way that is easily searchable
 - Sites
 - identify resources to be “exposed”/shared
 - develop mechanisms for sharing resources
 - responsible for uploading resources to inventory
- PIs
 - prioritize what is inventoried

Approach to Research Networking

Progress:

- Developed a ***draft document describing national interoperability*** challenges and issues. Based off conversations between 10 institutional representatives & two face-to-face meetings, Nov 08 & Feb 09.
- Designed a ***cross-SGC (3 & 4) face-to-face workshop***: “Advancing CE & CER goals through Research Networking”, Bethesda, Oct 28th ‘10
- Evaluated ***status of CTSA institutional research networking*** initiatives (Ongoing)
- Identified and agreed on ***initial uses cases*** that address both local and national CTSA objectives in order to guide implementation

Functional:

- Created a focused ***Research Networking Coordinating Committee*** to include Informatics, Communications, Evaluation KFC members. Two early taskforces established on ‘Use Cases’ and ‘Interoperability’.

**Strategic Coal
Committee #3
Enhance
Consortium-Wide
Collaborations**

SGC Team +

Harry Shamoan

PI
Albert Einstein

Mini Kahlon

Content Expert
UCSF

Chris Kelleher

Administrator
Oregon

Leadership

The CTSA consortium facilitates researcher networking across institutions and across topic domains, creating a virtual community where expertise is mapped and searchable, where matchmaking can expand beyond an institutions walls, and where collaborations can proceed with minimal impediment.

Vision

Inter-operability Task Force

To Be Determined

Collaboration Facilitation Workgroup

Use Cases Task Force

To Be Determined

Others As Needed . . .

Consortium-Based Initiatives

CTSA ShareCenter

Kahlon
Kelleher

Administrative Supplements

Social Networking Analysis

Rainwater
Pincus

Research Networking

Sub-Strategies

Work Team

Members of the current Collaboration Facilitation Workgroup

Representatives from relevant Administrative Supplements

Additional content experts

KFCs That Might Contribute

Communications

Informatics

Evaluation

Community Engagement

Public-Private Partnerships

Translational

Pediatrics/Child Health

Education & Career Development

PCIR

Biostatistics/Epid/Res.Des

NIH Resource-Access Subgroup

Regulatory Knowledge

Data Sharing +

Inventory of Resources +

Approach to Data Sharing

- Coordination of data sharing efforts across and beyond Consortium
 - develop interoperable grids of usable data
- Architecture is agnostic to source systems
- Under Development by Informatics KFC in concert with CTSA's and other participating groups

Implementation Challenges

- Resources
 - ? Sustainable Funding Model
 - NCCR- supplements, cooperative agreements
 - CTSA Sites- unfunded mandate, ?rebudgeting
 - Public Private Partnerships
 - ? Administrative Support
 - Consortium Management Group
 - Institutional Prioritization of Consortium-wide Collaborations
 - Logistical Support
 - Meetings

Opportunity (& Challenge)

- RFA: Recovery Act 2009 Limited Competition: Enabling National Networking of Scientists and Resource Discovery (U24)
- 1 application will be supported in each area:
 - **Research Networking:** ...tools that provide national visibility of human resources ... to enhance collaboration and facilitate biomedical research
 - **Resource Discovery:** ...allows comprehensive querying of resources ... that scientists utilize in their work
- Two \$15M awards over 2 years
- Competition not limited to CTSA sites
- Sub goal progress delayed until U24 grants awarded (Sept 30, 2009)

National Resource Inventory

***To catalog and enable access to
existing resources throughout the
CTSA***

Short, Medium and Long-range Goals

- **2Y** Full-up searchable resource discovery infrastructure for CTSA, linked to NCBC software. Based on structured input from member organizations and agreed upon policies. First generation links to Research Networking.
- **7Y** Automated updates allows for harvesting of inventory information from CTSA and other consortia. Full-up Integration with Research Networking.
- **20Y** C&T Researcher profiles drive optimization of finding resources and collaborators from fixed and mobile devices. Auto generating of facilities pages and resource pages. All NIH-funded sites adhering to standard, transparent resource reporting.
- Continued development and harmonization across CTSA, NCBC and other NIH-funded organizations.
- Supports and leverages other CTSA Consortium Steering Committee (CCSC) Strategic Goals.

CTSA Inventory Resource Web Presence (CIRWP)

CTSA Administrative Supplement 3UL1RR024153-03S1

Steven E. Reis, MD – PI

Michael J. Becich, MD, PhD – Co-I

Brian D. Athey, PhD – Co-I

CTSA Inventory Resource Web Presence (CIRWP)

- *A web-accessible and searchable inventory of research resources of the CTSA consortium.*
- *The architecture extends NCBC Biositemaps, enabling institutions to follow guidelines for producing their own standards-compliant inventories, or use CIRWP tools for authoring and search.*

CTSA Inventory Resource Web Presence (CIRWP)

- Primary Partners include UPMC/Pittsburgh, U-Michigan, Stanford, UTHSC, OHSU, UC-Davis, Duke, Emory
- Leverages this CTSA and National Center for Biomedical Computing (NCBC) Working Groups
 - National Center for Integrative Biomedical Informatics (NCIBI) @ Michigan
 - National Center for Biomedical Ontology (NCBO) @ Stanford
- 37 CTSA sites participating, with efforts to recruit new sites
- Working prototype available now on NCBCs.org (!)

CTSA Inventory Resource Web Presence Accomplishments

- A standards-based structured informatics infrastructure
 - CTSA Inventory Information Model, Biomedical Resource Ontology Extensions
 - Web Services distributed web-accessible inventory framework
 - CTSA Inventory Editor
 - CTSA query tool - coalesces earlier efforts and incorporates faceted classification and usability best practices
- The CTSA information model defines properties of biomedical resources and include such properties as resource name, organization, center or institute, research program, description, resource type, related areas of research, related activities, url, keywords, technical support, documentation available, resource sharable, contact person, contact person email, contact person, phone . . .

CTSA Inventory Resource Web Presence Accomplishments (con't)

- Inventories of informatics resources (370) across thirty-seven (37) CTSA sites, and translational sciences resources across five (5) sites.
- Scalable to emerging resources – e.g. *Collection of Human Clinical Trials, Physio-MIMI*
- Published web-accessible CTSA resources that enables users to query, browse results by categories (institution, types of resources), refine or expand queries, and save or send items of interest to others

<http://biositemaps.ncbcs.org/cirwp/>

cirwp-wehui (v0.2) x

http://biositemaps.ncbcs.org/cirwp/index.html

A scientific explorer



CLINICAL AND TRANSLATIONAL RESOURCE EXPLORER

Current query: [Advanced Search](#) | [Map](#)

Organization

- Albert Einstein College of Medicine (partnering with Montefiore Medical Center) (6)
- Boston University (3)
- Case Western Reserve University (3)
- Columbia University (5)
- Duke University (3)
- Emory University (partnering with Morehouse School of Medicine and Georgia Institute of Technology) (5)
- Harvard University (10)
- Indiana University School of Medicine (4)
- Johns Hopkins University (2)
- Mayo Clinic (3)
- Northwestern University (8)

Research Program

Resource Type

Related Activities

Areas of Research

Resource Sharable

370 Resources found, displaying 1 to 20.
[\[First/Prev\]](#) [1](#), [2](#), [3](#), [4](#), [5](#), [6](#), [7](#), [8](#) [\[Next/Last\]](#)

Name	Organization	Description	Link
ABI 377 Sequencer Analysis Utilities	University of Texas Southwestern Medical Center at Dallas	"Macintosh C programs for making gel-specific matrices, merging 2 partially run gel files, or cutting a single gel image in half for 2 subsequent...	
ABNER	University of Wisconsin - Madison	ABNER is a software tool for extracting biological named entities from text documents	http://pages.cs.wisc...
ACTSI Request Submission Tool	Emory University (partnering with Morehouse School of Medicine and Georgia Institute of Technology)	A web-based tool for allowing individual such as researchers, community physicians, community advocate submitting their requests to the ACTSI.	
Affymetrix Power Tool	Albert Einstein College of Medicine (partnering with Montefiore Medical Center)	Affymetrix Power Tools (APT) is a set of cross-platform command line programs that implement algorithms for analyzing and working with Affymetrix GeneChip® arrays. APT is...	http://www.affymetri...
AMCDB	Oregon Health & Science University	Large-scale core MIAME compliant Microarray database.	
Amicas	The University of Alabama at Birmingham	Orthopedic imaging and image viewing	www.amicas.com
Application Framework	Oregon Health & Science University	A core set of Delphi form classes and Firebird Database data structures that form a template for developing a client/server database application for a protocol's...	
Application Resource Use	University of California, Davis	Web-based request form that collects and routes information concerning CTSC resource application for all cores within the UC Davis CTSC framework	http://www.ucdmc.ucd...
ARGH	University of Texas Southwestern Medical Center at Dallas	a comprehensive catalog of biomedical acronyms and abbreviations extracted from MedLine abstracts.	
ArrayAssist Enterprise	The University of Alabama at Birmingham	software tools, microarray data analysis	www.microarray.uab.e...
ASAP (Automated Screening for Active Protocols)	The Ohio State University	A data-warehouse anchored web application that supports the automated, pre-encounter screening of patients for clinical trials eligibility	
Athena: Remote Charge Capture System Software	University of Texas Southwestern Medical Center at Dallas	This software acts as a remote charge capture system that can drastically reduce the time and effort necessary for collecting, processing, and accessing patient information....	
Atlassian Confluence	University of California, Davis	Wiki Tool	

Networking Research Resources Across America

- The Promise: **Harvard Catalyst** along with eight other institutions have come together to build and implement a federated national informatics network which will allow any investigator across America to discover research resources that are presently invisible and accelerate biomedical research which can be expanded to other sites without limit

The team: Dartmouth College, **Harvard University**, Jackson State University, Morehouse School of medicine, Montana State University, Oregon Health & Science University, University of Alaska Fairbanks, University of Hawaii Manoa and University of Puerto Rico.

Acknowledgements/Links

- NCBC Supplement to U Michigan National Center for Integrative Biomedical Informatics will fund continued activity 3U54DA021519-05S1

- References –

<http://biositemaps.ncbcs.org/>

<http://bioportal.bioontology.org/virtual/1104>

<http://biositemaps.bioontology.org/editor/?conf=ctsa>

<http://biositemaps.bioontology.org/editor/>

<http://biositemaps.ncbcs.org/cirwp/>

<http://ctsaiir.upmc.edu>

<http://biositemaps.ncbcs.org/biositemaps>

CTSA National Research Networking Goals

Research Networking – Activities & Members

Activities

- *Research Networking Coordinating Cte activites (as described earlier)*
- *CTSAPharmaPortal.org*
- *CTSA ShareCenter (intersects with resource sharing)*
- *And others!*

Members

- *Nick Anderson, (U Wash), Bill Barnett (Indiana), Noshir Contractor (Northwestern), Dave Eichmann (Iowa), Michael Halaas (Stanford), Mini Kahlon (UCSF), Matt Kristin (Tufts), Maggie MacDonald (U Pitt), Doug MacFadden (Harvard), Bob Rice (Ohio State), Griffin Weber (Harvard)*

Research Networking – 2 yr Goals

Themes:

- Learn from & build off U24 pilot (will continue beyond 2 years)
- Define & advocate for consortium priorities and needs
- Learn & disseminate lessons from variety of individual institutional experiments

Research Networking – 2 Year Goals

1. Standards & Agreements

- *National Model*: Define and agree on the best sustainable national model for interoperability given the diversity of approaches at individual institutions.
- *Shareable Metadata*: Define and agree on shareable metadata to enable national networking.
- *Interoperability Environment*: Identify a comprehensive list of databases, frameworks and approaches with which research networking systems must be interoperable in order to truly advance C&T research

Research Networking – 2 Year Goals

2. Usage & Utility

- *Metrics:* Develop a library of metrics and examples of successes in using research networking, at least at individual institutions, to advance C&T research.
- *Institutional Usage:* Encourage and empower all CTSA's to have research networking platforms.
- *C&T Use Cases:* Identify a comprehensive list of intersections between research networking & core areas of clinical & translational research and/or research management.
- *Social Networking Principles:* Based on individual CTSA experiences, identify core principles of online social networking that could advance C&T research.

Research Networking – 7 Year Goals

- Integrate Resource, Clinical Data & People Searches
- Enable Virtual Labs & Research Groups
- Establish Social Networking as element of Research Experience
- Ensure rich and functioning national research expertise network
- Define mature metrics of success in using research networking to advance C&T research
- Prove utility of large-scale network information in establishing impact of CTSA's.
- Implement successful strategy for linking biomedical research networking with the tools/technologies of the day, and vision for the future.

Research Networking – 20 Year Goals

- Evidence of biomedical advances and impact on human health that clearly resulted from using research networking approaches in conjunction with other tools, data and approaches.
- New models of recognizing and rewarding collaboration and innovative group formation, that rely on research networking
- New techniques and tools for recognizing expertise and browsing knowledge within biomedical research.
- New models and expectations of finding collaborators and building collaborations internationally

CTSA Data Sharing Framework National Goals

Data Sharing Frameworks– 2 Year Goals

Assessments and Education

- Comprehensive list of data sharing technical architectures, dependences and resource requirements
- Catalog of peer referenced and practically accessible approaches to security, anonymization and interoperation agreements that focus on translation between different consortium environments (inter-institutional, institutional to community, community to community) and domains
- Case studies of data sharing projects of varying scales and foci
- Identify performance and impact metrics in use by different consortia partners involved in different scales of data sharing
- Compare different data sharing implementation approaches across institutions or organizations
- Increased national discussion and collaboration on social-technical intersection of data sharing frameworks through conferences and other opportunities

Data Sharing Frameworks— 2 Year Goals

Usage and Utility

- Alignment with existing and anticipated framework projects that have clearly specified communities of practice and concrete data sharing needs (e.g. cancer/caGrid, cohort discovery/I2B2, large scale longitudinal trials/CVRG, virtual organizations/BIRN, public health/PHGrid)
- Alignment and integration with complementary CTSA initiatives (e.g. Research Network, Inventory resources, National Recruiting) through collaboration, resource and data discovery processes
- Coordination and collaborations between technical and governance, ethics and community stakeholders on impact and approaches for governance in data sharing activities
- Support common use of metadata, terminology and security, working toward standards that address long term goals of national data sharing.
- Collective development and outcomes of use case driven data sharing across consortium partners of all scales

Data Sharing Frameworks– 7 Year Goals

National involvement

- Wide-spread research-driven institutional data sharing occurring across majority of consortium partners
- Accepted and demonstrated business value of aggregating clinical data sets to institutions and health care economy.

Interoperability/substitutability

- Convergence on exchange methods, terminology and security models that support integrating from different modalities of data regardless of primary source or technology
- Mature technical and social-technical models for advancing cross-institutional knowledge transformation collaborations
- Competitive environment supporting “best of class” technical approaches that can be replaced internal to a partner without significant effect on external partners

Data Sharing Frameworks– 7 Year Goals

Community involvement:

- Inclusion of rural, county and state bodies in collective health data sharing as equal partners
- Access to different modalities of data sharing frameworks as common, well governed resources of consortia partners

Industry partnerships:

- Bi-directional technology transfer with industry to support technical scaling, security and maintenance of systems
- Evolving business models based on industry collaboration with institutions for secondary research

Data Sharing Frameworks– 20 Year Goals

- Universal, user-friendly, appropriate, and measurable access to all data of all types that can be used to improve human health, without limitation related to who or what developed the data.
- Substitutability and interoperability of clinical and research data systems, sources and governance processes, including all privately developed, publically accessible data
- International collaborations using national data for world health concerns.