

CCAF-IT: Share Resources Informatics, Research Informatics Core Functions and Staffing

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Mahendra Yatawara, Cedars Sinai CC
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- ▶ Research Administrator's Overview
- ▶ Handling Data Capture for Institutional & Cancer Center Shared Resources
- ▶ Moving Data from Systems to CCSG Development
- ▶ Best Process to Evaluate Systems

CCAF-IT

Share Resources Informatics, Research Informatics Core Functions and Staffing - Research Administrator's Overview

Edward Seijo, MS

Director, Translational Sciences & Biorepository Shared Resources
H. Lee Moffitt Cancer Center & Research Institute

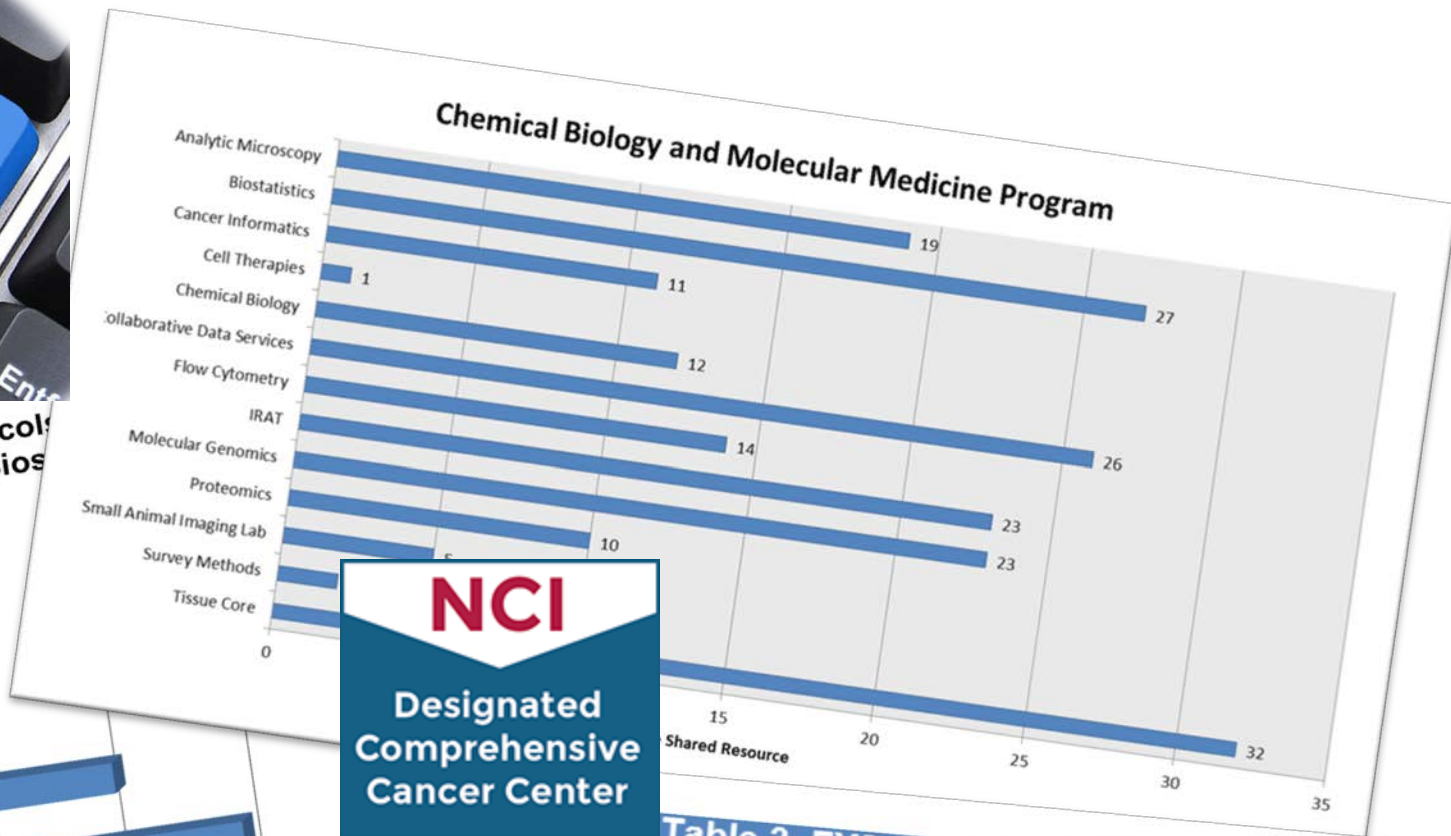
Welcome!



Granted One Wish...



...other two wishes were cut from the budget



NCI
 Designated
 Comprehensive
 Cancer Center

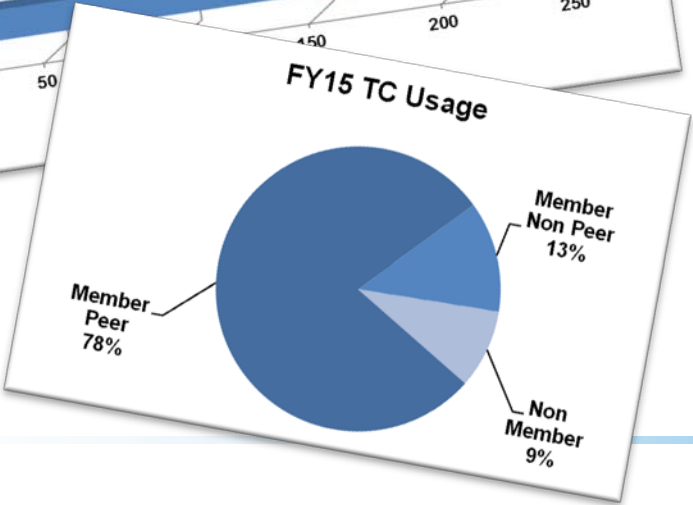
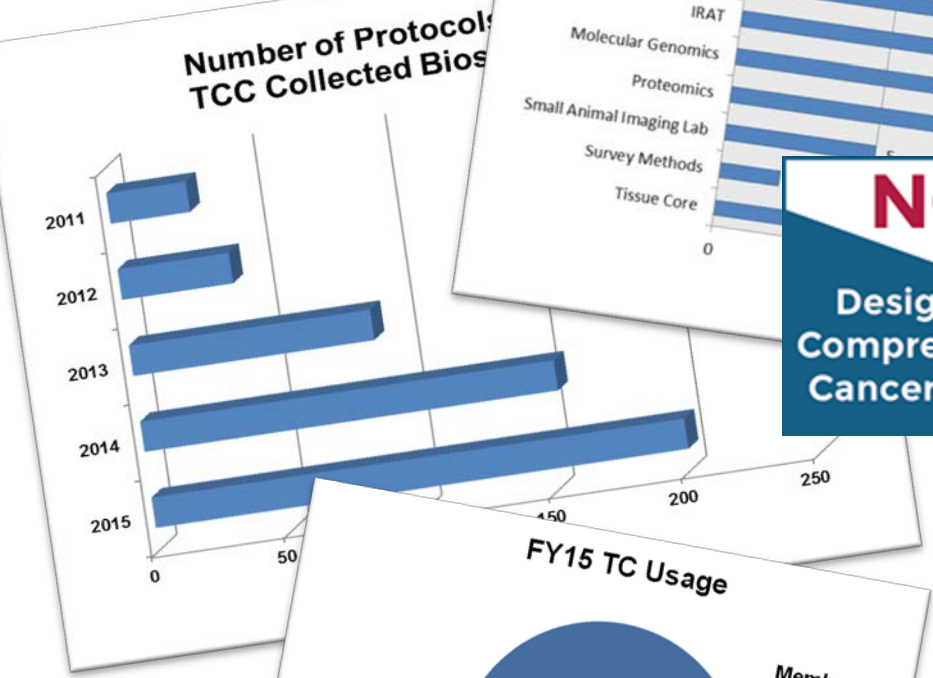


Table 3. FY2015 TC Usage by Program

Program	# of Users	% of Total Service
CBE	17	11%
CE	15	40%
CBMM	32	23%
HOB	4	4%
IMM	18	13%
Total Members	86	91%

Reality.....



Nothing *Magical* About Capturing
CCSG Shared Resources Data

Laboratory Information Management System

- **LIMS**

- “...software-based laboratory and information management system with features that support a modern laboratory's operations.” *

- Key Informatics System for Shared Resources CCSG Data

* Laboratory information management system . In Wikipedia. Retrieved April 27, 2017, from https://en.wikipedia.org/wiki/Laboratory_information_management_system

Moffitt Shared Resources

CCSG Shared Resource

13

Analytic Microscopy Core
Biostatistics Core
Cancer Informatics Core
Cell Therapies Core
Chemical Biology Core
Collaborative Data Services Core
Flow Cytometry Core
Image Response Assessment Team
Molecular Genomics Core
Proteomics Core
Small Animal Imaging Lab Core
Survey Methods Core
Tissue Core

Program Name

5

Cancer Biology & Evolution
Chemical Biology & Molecular Medicine
Cancer Epidemiology
Health Outcomes & Behavior
Immunology

Shared Resources CCSG Data Systems

6

System	Vendor
LIMS	LabVantage
Reporting Tool*	QlikView
Grants Management	Marcene
Publications	Marcene
Oncore	Forte Research Systems
Biobanking	LabVantage

Key LIMS Features

- **Service Request Management**
 - Investigators requesting services
 - Instrument scheduling
- **Instrument Integration**
 - ‘Omics platforms, Optical Microscopy systems
 - Sample Management & Barcoding
- **System Integration**
 - Connectivity to institutional source systems
 - Oncore, Lawson, Cerner, BI Tools, Grants Management applications
- **Core Specific Functionality**
 - Biobanking Operations -- Biospecimen inventory management
- **Reporting Tools**
 - Dashboards / Ad-hoc queries / Search capabilities
- **Usage Tracking**
 - *Drives CCSG Usage Reports*
 - Billing / Core Financials
 - Units of Measure: # of hours, # of units, # of projects
 - User Management
 - Links Core Users/Investigators to Scientific Programs, Peer Reviewed, Membership

Type of Data Shared Resources Administrators Need Captured

Financial Data

- Unit Cost
- Units of Service
- Total Cost

Project Specific Data

- Project ID
- Service Type/Description
- Protocol Number

User Demographic Data

- Investigator & Requestor Name
- Date of Service/Request
- Fiscal / Calendar Year

CCSG Specific Data

- CCSG Program
- Member / Non-Member Status
- Peer / Non-Peer Designation

LIMS Selection Considerations



Ease of Use



Cost of Ownership



Features & Functionality



Hosted vs. Cloud



IT Considerations / Security



Vendor Reputation & Support

Want
vs.
Need

Need vs. Nice to Have

IT'S NOT MAGIC



IT'S SCIENCE!

Quality Shared Resources
CCSG Data is
Not Magic.

It's hard work,
careful planning,
realistic expectations,
slaying scope creep gremlins,
&
**forging a great
partnership with IT.**

CCAF-IT

Shared Resources Informatics, Functions and Staff

Handling Data Capture for Institutional & Cancer Center Shared Resources
Data from System to CCSG Development
Process to Evaluate Systems

Cedars-Sinai Medical Center
Mahendra Yatawara, MBA

A look at Cedars-Sinai

- Established in 1902 and located in Los Angeles, California
- 866 licensed beds, Level I Trauma Center
- Primary service area includes 3.3 million people
- Community support groups representing more than 16,000 individuals

On average, every day we serve:

- 233 Emergency Department Patients
- 124 Admissions
- 642 Inpatients
- 18 Deliveries
- 120 Operative Procedures
- 44 CVIC/E.P. procedures
- 4.7 Level 1 Trauma Patients
- 25 Acute Rehab patients
- 1814 Outpatients Visits and Procedures



A look at our Cancer Center

CCSG Administration

(7)

- Executive Director
- Associate Director
Research Admin.
- Administrative staff
(5)

Programs

(3)

- Cancer Biology
- Prevention and
Genetics
- Translational
Oncology

Membership

(215)

- Member
- Clinical Program
Member
- Associate Member
- Member in Training



Research Cores at Cedars-Sinai (12)

Core	FTEs
Animal Models Core	4
Biobank & Translational Research Core	11
Biostatistics & Bioinformatics Core	10
Confocal & Two-Photon Fluorescence Microscopy Core	2
Flow Cytometry Core	4
Genomics Core	5
Imaging Core	20
Induced Pluripotent Stem Cell (iPSC) Core	6
Mass Spectrometry and Biomarker Discovery Core	3
Metabolism and Mitochondrial Research Core	7
Molecular Therapeutics Core	2
Research Informatics and Scientific Computing Core	13

Institutional and Shared Resource Data Capture Tools

Data Capture tool	Function	Used By
iLab (vendor – cloud hosted)	LIMS	Genomics, Imaging, Biobank
OnCore (vendor – locally hosted)	CTMS, Biospecimens	Clinical Research Office, Biobank
Topaz Granite (vendor – locally hosted)	Animal management	Animal Models
PeopleSoft (vendor – locally hosted)	Financial management	Finance, Sponsored Research Funds Admin.
CMAPS (custom – locally hosted)	Members, grants, pubs management	Cancer Center Admin.

Moving Data from Systems to CCSG Development

Data Capture tool	Function	Used By	CCSG Reporting
iLab (vendor – cloud hosted)	LIMS	Genomics, Imaging, Biobank	Automated feed to PeopleSoft + manual compilation
OnCore (vendor – locally hosted)	CTMS, Biospecimens	Clinical Research Office, Biobank	Direct extract + manual compilation
Topaz Granite (vendor – locally hosted)	Animal management	Animal Models	Direct extract + manual compilation
PeopleSoft (vendor – locally hosted)	Financial management	Finance, Sponsored Research Funds Admin.	Direct extract + manual compilation
CMAPS (custom – locally hosted)	Members, grants, pubs management	Cancer Center Admin.	Direct extract

Data Curation by CC Administration for CCSG Development

- Core data → Effort is High
- Membership, pubs and grants → Effort is Low

At our Center, OVERALL data movement and curation effort is



Process for Evaluating Systems

- Governance
 - Need identified
 - Executive commitment and prioritization
 - Identify Sponsor/Champion
- Analysis
 - Stakeholder interviews
 - RISCC compiles detailed requirements
- Market survey to determine possible solutions
- Vendor Selection
 - RFP
 - 1st level screen
 - 2nd level screen (Demo, site visits)
- Procurement
- Implementation

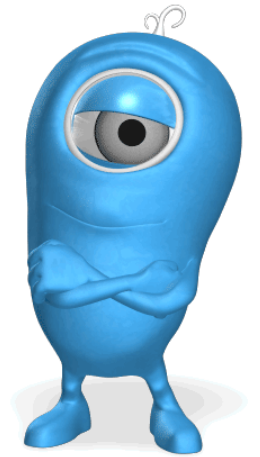


Welcome
to





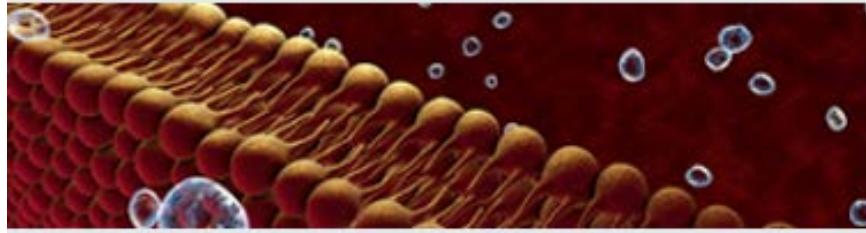
Shared Resources





First some of our
Cores?

Lipidomics



Provides advanced methodology, state-of-the-art facilities and expertise for both synthesis and analysis of bioactive lipids.

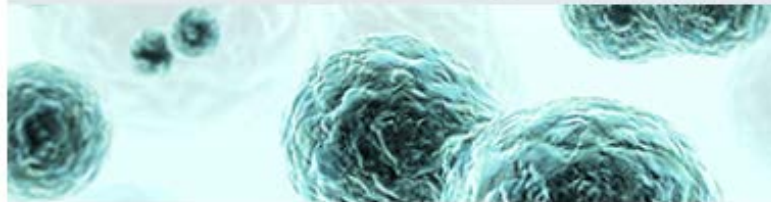
Synthesis Unit

Analytical Unit





Cell Evaluation & Therapy



Offers comprehensive analytic flow cytometry and high-speed cell sorting services and the capacity to generate human cellular and tissue-based products for use in research.

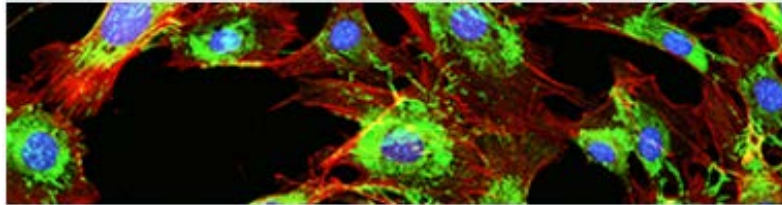
Flow Cytometry and Cell Sorting Unit

Cell Growth & Therapy Unit





Cell & Molecular Imaging



Provides state-of-the-art imaging capabilities at the cellular, tissue, intravital and *in vivo* whole animal levels.

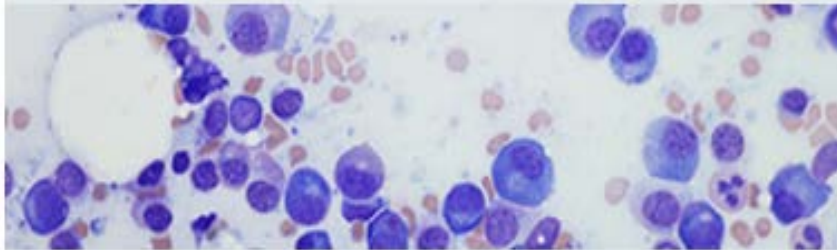
Confocal & Multiphoton Microscopy Unit

Small Animal Imaging Unit





Biorepository & Tissue Analysis



Provides access to annotated human specimens and tissue microarrays as well as access to expert research pathology and imaging services.





shRNA Technology



Provides scientists access to genome-wide human and mouse libraries that together encode a total of almost 160,000 shRNA clones against over 41,000 genes.





Genomics



Offers comprehensive Next Generation Sequencing applications utilizing Illumina HiSeq and Ion Torrent instrumentation.



Biostatistics



Offers statistical support for the design of studies, analysis of data, quality control and manuscript preparation.





Clinical Trials Office



Serves as the central clinical research information repository for the Hollings Cancer Center and provides comprehensive services for the conduct of clinical trials.



I going to tell you about our experience over the last 5 years about how we integrated various electronic systems.

We had some successes and we had some failures.

We had some folks that loved the direction and some that totally rebelled.



How did we get
started?

Searched on line for
various systems

Contacted vendors

Had face to face
presentations



Spoke to other Cancer
Centers

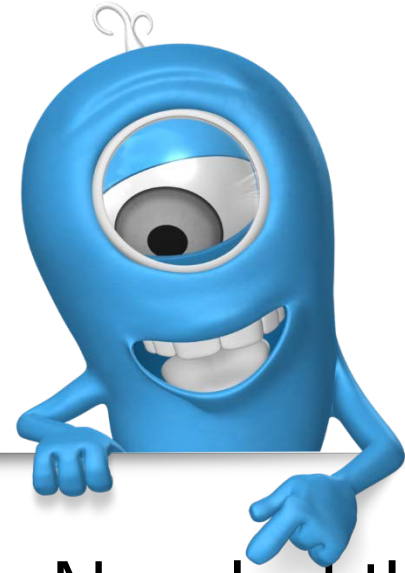
Spoke to present clients

Talked at CCSG meetings





Started getting people
together



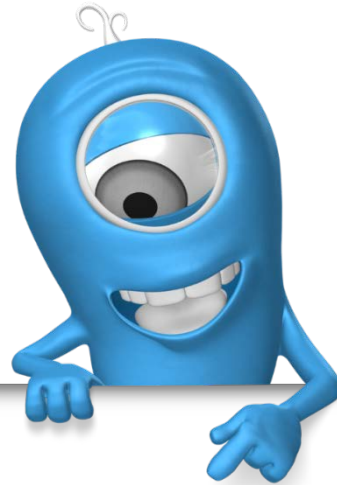
Also Needed the
Business people



Core Managers

No body wanted to change.

If it isn't broke don't fix it.



Billing

We had an OLD finance system.

The accountants used an
abacus



IT people

You want what? When?

You are joking- right?

Will Everybody win?

If everything goes right, everybody will
come out a winner.

Or maybe not





It's the isogenomster door?!

In every implementation of an Enterprise wide solution there are Monsters that raise their heads

Financial
Informational
Logistical
Human Nature
Politics

Some Input from my Business Manager for the CCSG!



Who (PI / lab OR individual users within a lab) has used the core as a whole broken out by member vs. non-member.....and either quantity of units (e.g. hours)

(Having a definition for “quantity” would be helpful.) used for each person or charges for each person.

Having a way to set start and end date for report is good. Being able to slice this into time periods such as month or quarter Is very helpful.





Being able to run a report that would provide the amount of charges by fund used to pay

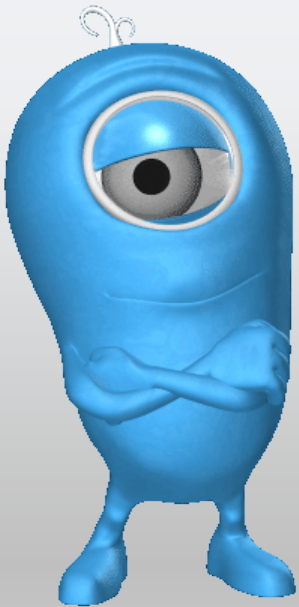
Individual pieces of equipment by user (PI/lab OR the actual person who used the services) quantity/ charges

Also, it's good to be able to export reports to Excel in case data needs to be manipulated in any way.

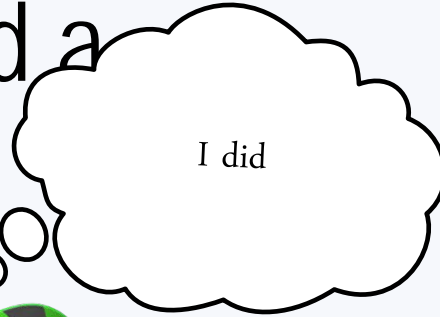
Any Questions?

Next step LIMS?

What to know how we tied data together for the biorepository?



I hope you had a
good time



William Morgenweck
Hollings Cancer
Center!

William Morgenweck
Hollings Cancer Center
Medical University of South
Carolina

