# Integrated Implementation of Cancer Research Research Infomation Technology Systems

### **RITS Support for Pancreatic Cancer**

\* Screening (CAPS - Cancer of the Pancreas Screening) - Multi-Institutional research study database for screening of

- individuals with a family history of pancreatic cancer
- \* Human Clinical Trials (Pancreatic Cancer Database)
- Track all patients with pancreatic and periampullary disease who are enrolled in experimental protocols, including clinical, pathologic and tissue bank data
- \* Animal Drug Studies (PancXenoBank)

- Acts as the control center in two part translational research study. Links the results via the gene and probe set ontologies with all experimental data.

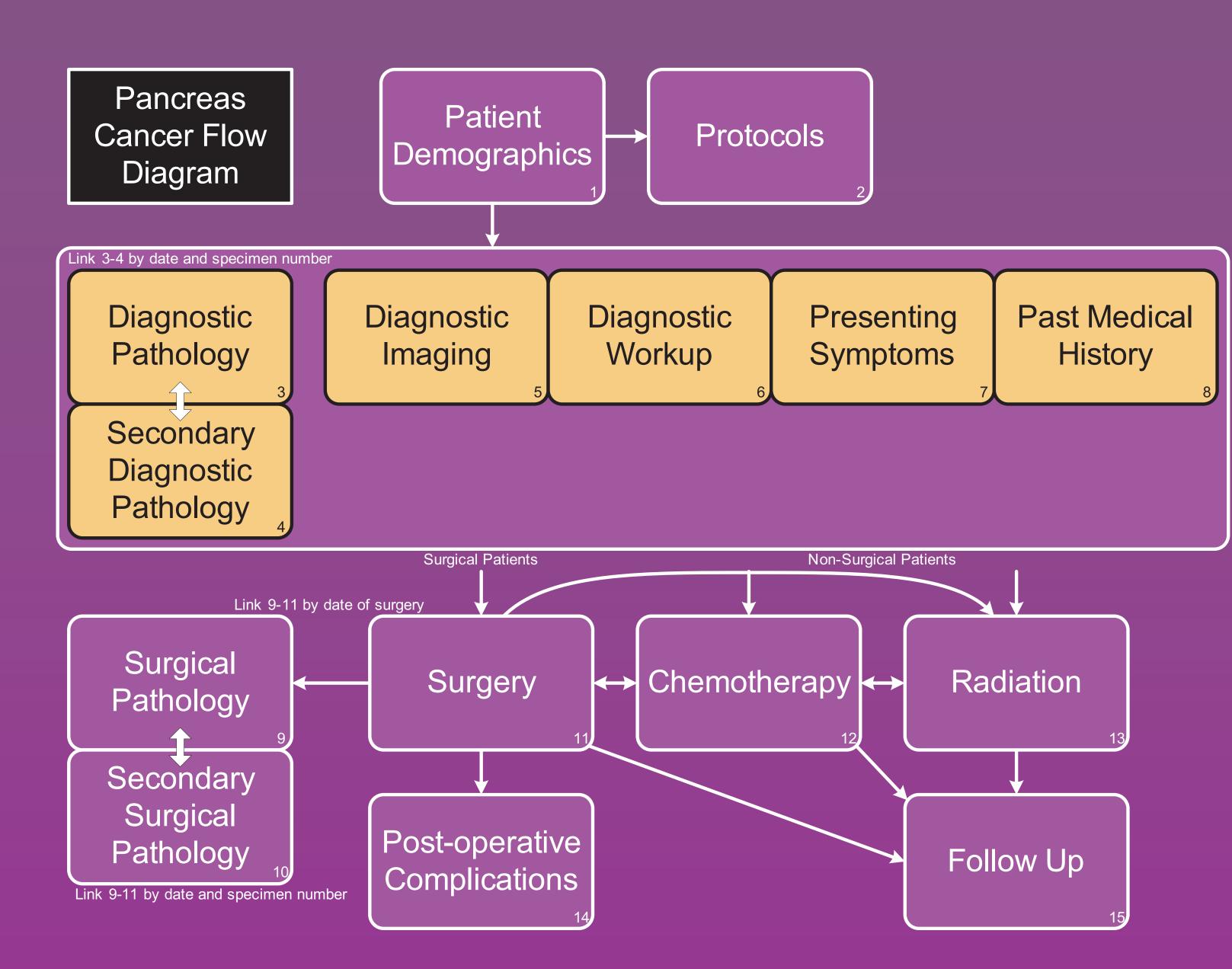
### Screening (CAPS - Cancer of the Pancreas Screening)

- \* Online application for multi-center screening trial
- \* 5 sites : Johns Hopkins, Mayo Clinic, MD Anderson, UCLA, Dana-Farber
- \* Handles registration, informed consent, questionnaires, all radiologic
- and pathologic reports, patient samples.
- \* Online survey form with backend database
- \* Application-controlled specimen bank.

Cane	er of the Pancreas Screening									
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CAPS III										
Final Diagnosis Form										
CAPS ID #	101010 Date 04/29/2009									
Final diagnosis: check ALL that apply	Pancreatic adenocarcinoma – primary Pancreatic malignancy - metastatic Pancreatic neuroendocrine neoplasm Main duct IPMN									
Specify Other										
Any change in subject's risk category?	No ○ Yes (select ALL relevant categories below)									
Risk Categories	FPC relative (3 affected, >=1FDR)   FPC relative (2 affected FDR)   Germline mutation carrier BRCA2   Germline mutation carrier p16 (FAMMM)									
Specify Other										
Basis for final diagnosis and modification of risk category at registration: select ALL that apply:	CLIA-certified laboratory (newly-diagnosed gene mutation)									
Specify Clinical follow- up	months									
Specify Other										
	Process Form									
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	© Cancer of the Pancreas Screening   Design by RTTS									

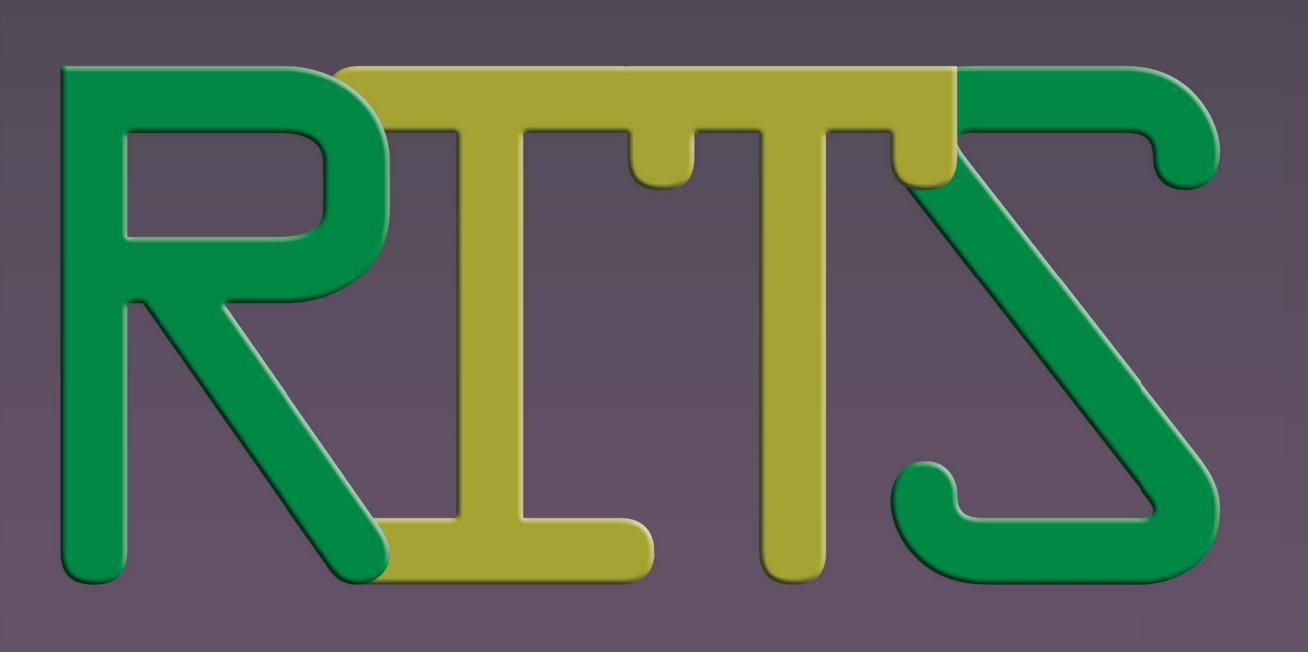
### Human Clinical Trials (Pancreatic Cancer Database)

- \* Supports both surgical and nonsurgical, and protocol and non-protocol patients undergoing pancreatic cancer treatment.
- \* Modules:
- patient, patient protocols, surgery, pathology, past history, pre-op,
- complications, follow-up, adjuvant, reports
- \* Extended to capture all areas of pancreatic cancer research



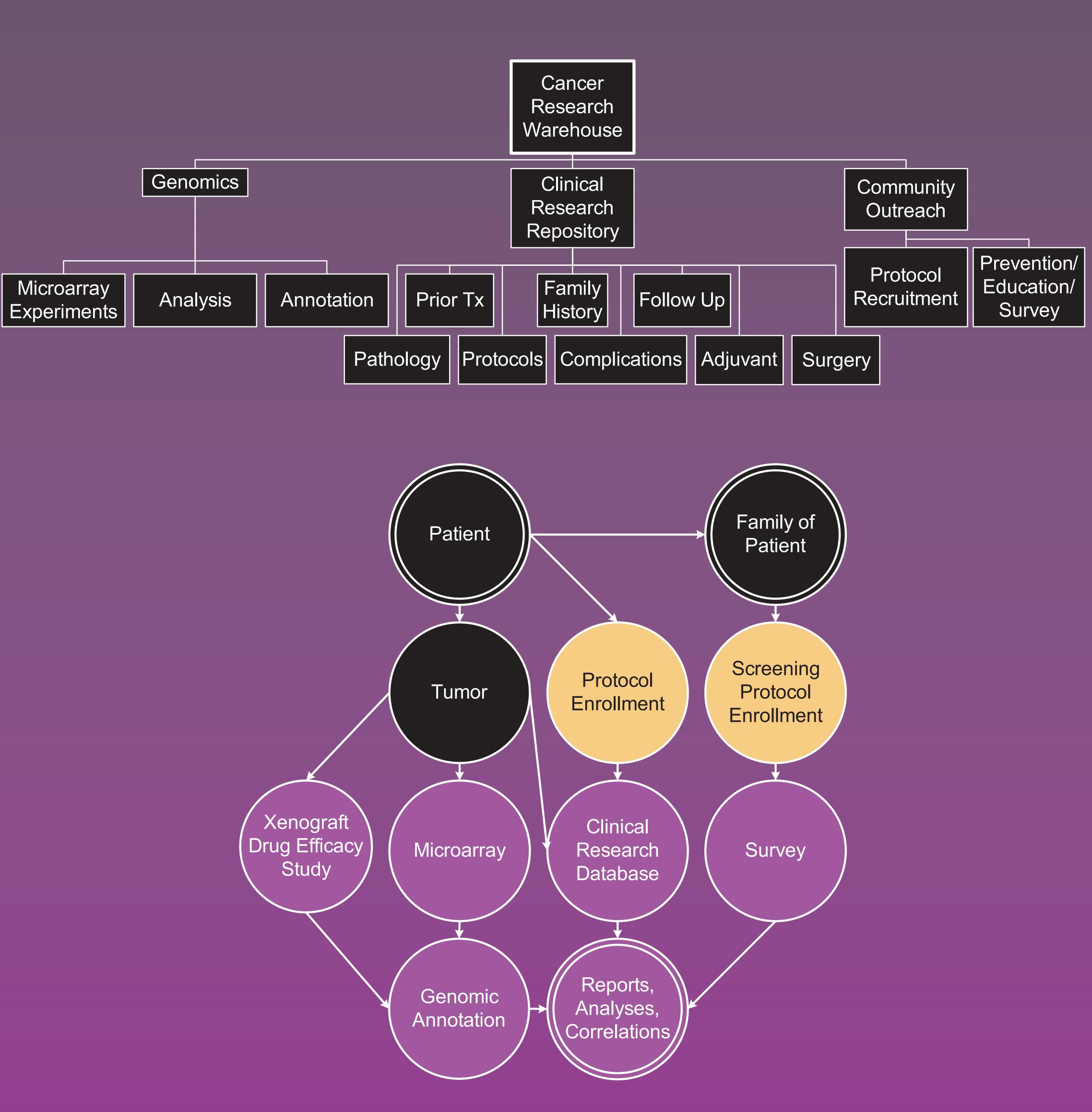
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# https://www.rig.onc.jhmi.edu



## Introduction:

Working with in-house developed re-usable modules we build multi-protocol, multi-institutional web based database applications for cancer researchers, which include screening, clinical trials enrollment, education, treatment info, follow up, xenograft, drug efficacy, microarray analysis and genomic annotation.



As a research warehouse prototype we implemented this concept for Pancreas Diseases with 3 main foci: Screening, Human Clinical Trials and Animal Drug Studies.

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Middle Name	*	Delete	Protocol	Consenter	Eligibility	Consent Date	Date On Study	Date Off Study	Reason Off Study			
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			© Johns Hopkins Research IT Systems 2004   Design by									

### Animal Drug Studies (PancXenoBank)

- \* Application acts as the control center in this two part translational research study \* Part 1: human tumors are implanted into mice and treated with variety of drugs \* Part 2: the same human tumor undergoes microarray testing and analysis
- \* Application links the results of both experiments via the gene and probe set ontologies, with all experimental data maintained in this secure web-based database driven application



### Application Highlights

- \* algorithm to optimize the distribution of the mice to various cages
- \* each day the volume, growth and relative growth are automatically calculated, using a SAS program which directly reads the database and places the reports on the web \* calculates the efficacy of each drug for that case
- \* Affymetrix microarray experiment data for each probe set is electronically brought into the application, along with the ontological data linking each probe set with gene name and the data from the animal experiment.
- \* XML files for data transfers
- \* database driven application

#### Summary of Conclusions:

Although each disease group has its own specific data needs, there is a great deal of commonality, which allow us to build a warehouse with available, up to date information on outcomes, adverse events, quality assurance to facilitate translational research and transformative patient care.