Signature Program: Informatics Institute

James J. Cimino, MD
Director, Informatics Institute
“The UAB Informatics Institute will transform UAB into a learning health care system.”

- Selwyn M. Vickers, MD
  June 13, 2014
Some Definitions

- Biomedical informatics: the art and science of organizing knowledge of human health and disease, and making it useful for problem solving

Data Science < Information Science < Informatics

- Bioinformatics (from “biotechnology”)

- Translational informatics

- Clinical research informatics

- Clinical informatics

- Population health informatics
The Charge to the Informatics Institute

- Strategic use of data across the UAB enterprise
- Software development for:
  - improved patient care
  - clinical operations
  - research
- Provision of informatics expertise/ resources to provide:
  - personalized medicine services to UAB’s patients
  - biomedical research support to investigators
- An expanded array of educational opportunities to train institutional and national leaders in informatics
The Official Agenda of the Informatics Institute

Center for Genomic Medicine
- Coordinating Genomics Research with Clinical Research Activities

Personalized Medicine Institute
- Relating Biobanks to Research Needs; Delivering Knowledge to the Point of Care

Center for Clinical and Translational Science
- Informatics Research to Address Researcher Information Needs and Improve Workflow

UAB Health System Electronic Health Record (Cerner)
- Creation of New Data Record; Integration of New Decision Support Tools
- Helping Patients Understand their Role; Helping them Contribute to their Record

Informatics Institute
- Improving Access to and Re-Use of Clinical Data to Support the Learning Health System
- Support Institutional Decision-Making

Research

Operations

Patient Care
- Delivering Next Generation Decision Support to All Stakeholders

Informatics Education
- Teaching Basic Informatics to Clinical Trainees; Training the Next Generation of Informaticians
- Teaching Clinical Trainees How to Use and Contribute to the ERH

Clinical Education

Patient Education (Patient School)

UAB Health System Electronic Health Record (Cerner)
The Secret Agenda of the Informatics Institute

1st Generation EHR – Home-grown by academic informatics groups
2nd Generation EHR – Early commercial efforts to recreate paper record
3rd Generation EHR – Mature commercial efforts to recreate paper record plus decision support
4th Generation EHR – Creation of an intelligent assistant for the twenty-first century

Current Electronic Health Record

Data Extracts

New Data Capture Technology

Knowledge-Based, Comprehensive Representation of Patient Information

New Decision Support Technology

Clinicians and Patients

Research

Operations

Informatics Research Needed to Define this

education Research Needed to Learn How to Teach Proper Use

Everyone Wins if Record is Comprehensive and Computable

EHRs Can Do this Now. Even if They Don’t Understand the “Blob” of Data

Can Be Stand-Alone Apps or Integrated with EHR for “Look and Feel”

"Meaningful Use” Requirement

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Short-Term Agenda

- Recruit:
  - an Associate Director
  - faculty
- Expand capabilities of EHR to:
  - accept new data types (patient, research, genomic)
  - Provide access to more data ("pheonome")
- Educational programs (undergrad, grad, postgrad)
- Enterprise ontology server