CTSCLINICAL RESEARCH LABORATORIES: POINT-OF-CARE MODEL
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brings UCLA innovations to the greatest health needs in Los Angeles

www.ctsi.ucla.edu

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UCLA CTSI Research Resources

Clinical Research
Research Cores
Biostatistics
Data Repositories
Education & Training
Pilot Funding
Grants Facilitation
Discoveries-to-Products
Community Engagement

Translational Science
Augmenting human cognitive capacity in translational research

Clinical data

Genetics and proteomics

Human cognitive capacity

1990  2000  2010  2020

Proteomics
Functional genetics
(Gene expression profiles)
Structural genetics
(e.g. SNPs, haplotypes)

Decisions by clinical phenotype

Adapted from W. Stead et al,
Biomedical Informatics: Changing What Physicians Need to Know and How They Learn, Academic Medicine, Vol. 84, No. 4 / April 2011
A model of computational medicine

- computational medicine
- universe of clinical data
  - clinical outcomes
  - activities of daily living
  - pathology
  - imaging
  - monitored data
  - clinical laboratory
  - symptoms
  - behaviors
- computational biology
  - proteins
  - epigenetics
  - RNA
  - DNA
Investigations in Prediction Medicine

Katzan and Rudick. Time to integrate clinical and research informatics. Science Transl Med 2012
UC Biomedical Research Acceleration Integration and Development (UC BRAID)

- IRB Harmonization
- Master Contracting
- Federated Research Data Repositories
- Harmonizing Biobanking
- Discoveries-to-Products (UC Center for Accelerated Innovation)
- 12 Million Patients
Ambulatory Clinical Research Facilities at Westwood

- > 8,000 out-patient visits
- Clinical and Research Sleep Center
- >20,000 sq ft outpatient area

- Service center: pharmacy, sample processing
- Open 23 hours / day
- Rooms: 7 private, 2 procedure & infusion
Clinical Research: CTRC-Driven Model

CTRC

patients

clinical studies

investigators
Clinical Research: Environment

Independent Investigator

- Research Personnel
- Research Personnel
- Research Personnel

CTSI Supported Team

- IRB
- Regulatory/consents
- Funding
- Study initiation
- Patient recruitment
- Cohort finding
- Collaborators
CTSI Clinical Research Laboratories: Point-of-Care Model

- Technologies (i.e., Wireless Health Institute)
- Prediction Algorithms
- Therapeutics/Diagnostics/Devices
- Implementation Science
- Quality Improvement
CTSI Clinical Research Laboratories: Examples of MICU Studies

- Sleep deprivation
- Early mobilization using wireless health
- Prediction of sepsis
- Algorithms to predict ARDS
- Comparative effectiveness of bedside ultrasound
- Clinical care utilization and determination of futile care
- Microbiome precipitants of severe pneumonia
- New treatments for pulmonary hypertension