The Evolving Landscape of Human Research Protections - Phase I Perspective

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Objectives

Upon completing this seminar, participants will be able to understand:

- Phase I research & objectives
- Ethical challenges
- Changing landscape of early clinical research
- How to deal with evolving changes from a participant protection perspective
Clinical Development is Evolving

Traditional Paradigm: Phased Approach

- Scarcity of molecules from discovery
- Pre-Clinical
- Phase I
- Phase II
- Phase IIb
- Phase III
- Test each scarce molecule thoroughly

Emerging Paradigm: POC / Conformation Approach

- Abundance of molecules from discovery
- Pre-Clinical
- Proof of Concept
- Confirmation
- Shift attrition earlier

Early Stage Services

Celerion

Global Clinical Research
- Phase I and IIa clinical conduct
- Healthy normal and special population recruitment
- On site clinical laboratories
- Real-time data collection with proprietary ClinQuick® software
- Purpose built facilities

Global Bioanalytical Services
- Biomarker development
- LC/MS/MS bioanalysis
- Ligand binding services
- Cell based assays
- Immunogenicity
- Bioanalytical data QC

Clinical Pharmacology Sciences
- Modeling & simulation
- Study design & protocol development
- Data management
- Biostatistics
- PK/PD
- Medical & report writing

Drug Development Services
- Project and program management
- External study management
- Regulatory affairs
Clinical Pharmacology Impact Areas in Drug Development

- **IND/CTA**
  - IND Enabling (support IND/CTA)
    - Toxicokinetics
    - Allometric Scaling
    - PK/PD Modeling
    - Novel Biomarker Development
    - Microdosing AMS (Phase 0)

- **Phase I/IIb/IIa**
  - FIH to CPoC (support go/no go decisions)
    - SAD – safety/PK
    - MAD – safety/PK
    - Pilot Food Effect - PK
    - Elderly – safety/PK
    - Robust Cardiac Safety
    - Absolute BA (Microtacer - AMS)
    - Drug Metabolizing Enzyme Probes or Genotyping on PK
    - Early Metabolic Profile (Microtracer – AMS)
    - First-in-Patient - Signal of Effect

- **NDA/MAA**
  - NDA Enabling (support product labeling)
    - Drug-Drug Interactions (DDI)
    - Hepatic and Renal Insufficiency on PK
    - Thorough QTc (TQT)
    - Radiolabeled ADME (mass balance)
    - Market-image Bioequivalence (BE)
    - PK or PK/PD in Special Populations
    - PK or PK/PD in Pediatric Populations
    - Population PK or PK/PD from Pivotal Efficacy or Safety Studies

- **Product Extension**
  - (support new indications)
    - PK in New Patient Populations
    - BE New Formulations
    - BE Generics
    - Population PK

- **sNDA/ANDA (US)**
  - PK in New Patient Populations
  - BE New Formulations
  - BE Generics
  - Population PK
Global Clinical Research

- **Experience in the Industry**
  - Over 40 years in the Phase I business
  - 250 new studies started each year
  - 6,500 participants dosed annually
  - 89,000 participants in active database

- **Global Beds**
  - Only CRO to operate on a truly global footprint with operations with same structure and procedures

- **Proven strategic partnership models**
  - Dedicated teams, dedicated space
  - 10+ years experience with several strategic alliance partners
  - Dosing over 100 studies with one strategic partner

- **ClinQuick® Proprietary Software**
  - Set-up, design, and electronically capture data (paperless and instant access to data)

- **Purpose Built Facilities**
  - Co-located pharmacy, clinical laboratories, and flexible conduct areas

- **Breadth of Capabilities in the Phase I-IIa Space**
  - Service offerings that are conducive to a broad range of studies (From FIH to POC)
# Top 20 CROs (by Phase I Bed Capacity)

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Note: Data as of Sep 2012
Overview of Phase I Research

- Phase I studies are designed to evaluate the **Pharmacokinetics** and **Pharmacodynamics** of a new medication
  - Participants are used as a means to collect information to benefit future patients
- Also evaluate the **Safety** and risks of the treatment and attempt to identify an appropriate dose to be used in subsequent later stage studies
- Phase I studies pose risks and frequently offer little if any potential for clinical benefit to participants

As a result, a significant amount of the ethical concern of clinical research focuses on Phase I studies
Phase I Participants vs. Patients

- Healthy Normal
  - **No** health benefit from study (monetary/altruistic)
  - Time commitment (intensity & overnight confinement)
  - Recruitment funnel (weight, no meds)
  - Stipend ($250/day)

- Patient with specific disease state
  - May benefit from study
  - Time commitment (physician visits)
  - Physician Recruitment
  - Stipend ($20/return)
Examples of Ethical Challenges

- No clinical benefit
- Selection of participants is equitable
- Risk / Benefit profile of investigational drug and procedures
  - PK sampling every minute
  - Spinal taps for CSF collection
  - Bronchoscopy
  - First-in-Human investigational drug
- Stipend payments
- “Professional Participant”
Landscape Changes

- Drug development has changed to focus on getting to proof-of-concept faster
- More invasive, complex procedures in early clinical studies
- Multiple study objectives
- Advances in medicine
  - Pharmacodynamic markers
  - Genotyping/Phenotyping
“Attempts to determine when it is acceptable to conduct clinical research have been significantly influenced by its history, by how it has been conducted and, in particular, by how it has been misconducted (Lederer 1995; Beecher 1966).”
Self Assessment

- Changing landscape requires organizations to take a comprehensive look at human research protection programs (HRPP)
  - Protection elements ‘sprinkled’ throughout documents; not comprehensive
  - Definition differences
  - Resources
  - Lack of education/training (both internal and sponsor)

The ethics of clinical research is concerned both with the protection of research participants and the behavior of researchers.
Implementation

- Focused team
- Establish timelines
- Education/training
- Evaluation
- Addressed gaps in processes
- Mock interview sessions
Benefits

- Culture
- High standards and protections
- Improved efficiency, effectiveness policies and procedures
- Competitive edge
- Recognition and trust
QUESTIONS
Disclosures

- It is the policy of Corexcel to ensure fair balance, independence, objectivity, and scientific rigor in all programming.

- In compliance with IACET guidelines, Corexcel requires that faculty disclose all financial relationships with commercial interests over the past 12 months.
References

  
  http://plato.stanford.edu/archives/fall2012/entries/clinical-research/