Outsourcing in Early Development – Keys to a Successful Partnership
Clinical Trial Oversight Summit - Barnett
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Introduction - Fully Outsourced Studies in Early Development

Why Outsource – what are Goals?
- Flexible resourcing with reduced fixed in house resources
- Leverage expertise of CRO/Celerion – use their processes, systems, resources
- Ensure compliance, subject safety, and study/data integrity

What is a Fully Outsourced Study?
- Protocol Concept Form (PCF) - Merck
- CRO - authors protocol, holds database, monitors and conducts study, authors CSR, provides agreed upon data deliverables (with various touch points)

What Studies are Outsourced?
- Drug-Drug Interactions
- ADME - Absorption, distribution, metabolism, and elimination
- Bioequivalence, Bio comparison, Bioavailability
- Special population - hepatic and renal insufficiency
- Thorough QT study
Approach and Alignment Between Merck and Celerion

**Learning to Speak the Same Language**
- Examples – need to define terms like SAS datasets, Functional Areas, Statistical and PK analysis, First Patient In, Risk Based Monitoring, Soft Lock, Database lock, Note to File, Amendment

**Executive Sponsor and CRO Alignment** - cascaded throughout each functional area in both organizations (SME to SME)

**Approach**
- What is being outsourced and what is being provided by Sponsor
- Process – who is doing what and when
- What are deliverables and timelines

**Alignment and Agreement – with simplicity ("light touch") as a goal**
- Study Designs – 34 design templates (dial up/down or “a la carte”)
- Target Timelines – built for speed but adjusted based on experience
- Data Deliverables and Tracking
Innovations in the Partnership

• Process
  – Standard Study Designs – “Quality by Design”
  – Protocol Core and Process Definition

• Business: “Flat Rate” Pricing
  – Ease of Contracting
    • Decreases Overhead
    • Increases Speed
  – Predictability Enables Budgeting
  – Elimination of Change Orders

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<td>Age/Gender/Ethnicity Safety&amp;PK</td>
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Select Study from Standard Design List

34 Designs

- **Design**
  - 1a: Bioequivalence/Relative Bioavailability Single-Dose, 2-way Crossover; Short half-life <24 hours; Early Development
  - 1b: Bioequivalence/Relative Bioavailability Single-Dose, 2-way Crossover; Short half-life <24 hours; Late Development
  - 2a: Food Effect Single-Dose 2-way Crossover; Long half-life >24 hours; Early Development
  - 2b: Food Effect Single-Dose 2-way Crossover; Long half-life >24 hours; Late Development
  - 3a: Drug-Drug Interaction: Single Dose vs. Single Dose, Short half-life; Early Development
  - 3b: Drug-Drug Interaction: Single Dose vs. Single Dose, Long half-life
  - 3c: DDI: Inducer Single Dose vs. Multiple Dose; Short half-life; Early Development
  - 3d: DDI: Inducer Single Dose vs. Multiple Dose; Long half-life

Pricing by Standard Design

Best Pricing

- **Pricing set for Standard Design or A la Carte**

Identify study from list

**Drug (MK) Obj. of Study**
Continuing Innovations

• CSR Process Improvements
  – Timelines and Overall Metrics
  – Adjusted based on targets balanced with practicality

• Risk Based Monitoring

• Growth of Relationship
  – Early Development (SAD, MAD, POC)
  – Special Populations

• Co-Developed Capabilities
  – Merck Singapore Initiative
  – Celerion Korea

Merck and Celerion Bio polis in Singapore
Challenges

• **Challenge: Balancing needs of all parties**
  – Management, Program team, Study team

• **Example: Management of Data**
  – Clinical Pharmacology team: Light touch, Style de-prioritized
  – Merck: Specific needs to allow inclusion into existing infrastructure
  – Data Management system

• **Resolution**
  – Identification of issues
  – Detailed discussions at every level
  – Time consuming

Compromise to minimize effort and defer costs, but allow study to proceed
Governance and Oversight

Governance and Escalation Path to Senior Management

- Operational Governance Team - members of both organizations meet quarterly
- Senior Team meetings – bi-weekly
- Executive Governance Meetings – quarterly

Practical Oversight and Quality Assurance (QA)

- Merck Vendor Management Oversight Plan – includes each functional area
- Feedback on audits/inspections - Celerion Internal and Merck-Initiated Audits

Ongoing Challenges

- Many points of communication but need to move quickly
- Equal partnership requires pushing one another

Example

- Dosing procedure could have been more clear
- Celerion noted/queried but did not push hard enough
Key Elements to a Successful Partnership

Key Elements

- Sponsor and CRO Alignment, Commitment, and plain ole “hard work”
- Communication – Routine, Planned, & Ad Hoc - as often as necessary
- Maturity of Partnership and Experience – “doesn’t happen overnight”
- Approach to Issue Resolution – challenges will arise, it’s how they are handled
- Mutual “skin in the game” – has to be mutually beneficial
- Partnership has to be flexible and evolve in order to meet changing business needs
Mutual Benefits of a Successful Partnership

Benefits to Merck
- Means to expand (and contract) with changing business demands
- Partnership willing to innovate (Singapore) and expand scope of work – FIH, POC (CSRs)
- Reliable, flexible, responsive partnership that can navigate & mitigate challenges

Benefits to Celerion
- Partnership willing to explore different business models and types of outsourcing
- Challenged to Innovate
- Rich scientific discussions and mutual learnings – scientific issues and drug development

Just that much closer to bringing new medicine to patients…
Questions and Discussion

Michelle Combs, Ph.D.
Vice President, Celerion
(402) 437-4711
Michelle.Combs@Celerion.com

Laura Vessey, B.S.
Director, Merck
(732) 594-1814
Laura_Vessey@Merck.com

Thank you!