The Challenges of Clinical Trials in Rare Disease: Lessons from Batten Disease

S Defendorf, BS, CCRP; HR Adams, PhD; A Vierhile, PNP; JW Mink, MD PhD; F Marshall, MD; EF Augustine, MD

NEUROLOGY
UNIVERSITY OF ROCHESTER

BACKGROUND

Rare Disease Clinical Trial Challenges

- Few eligible subjects
- Wide geographic dispersal of prospective subjects
- Few centers and investigators with disease expertise and research experience
- Limited funding and resources to support rare-disease trial
- No pre-existing guidelines for establishment of sites new to research

TRIAL DESIGN

- Juvenile Batten disease is a rare, fatal inherited pediatric neurodegenerative disorder.
- Randomized, double-blind, crossover, 22-week clinical trial to assess safety and tolerability of mycophenolate mofetil.
- *Challenges:*
  - Minimize repeat study visits
  - Minimize travel burden
  - Manage costs
- *Solutions:*
  - Combine single-center and multi-center infrastructure
  - Central site: University of Rochester (UR) - screening, consent, drug dispensing, and major safety and tolerability measurements
  - Local site: local physician is sub-investigator for safety visits

Figure 1. Site coordination and prior clinical trial experience are associated with shorter site startup time.

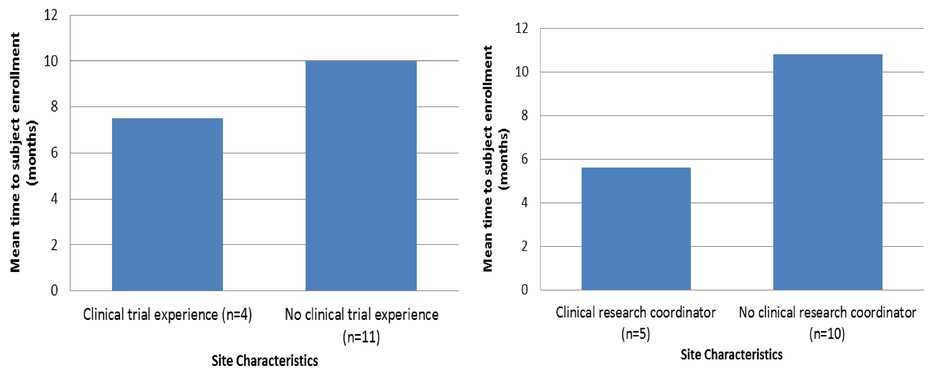
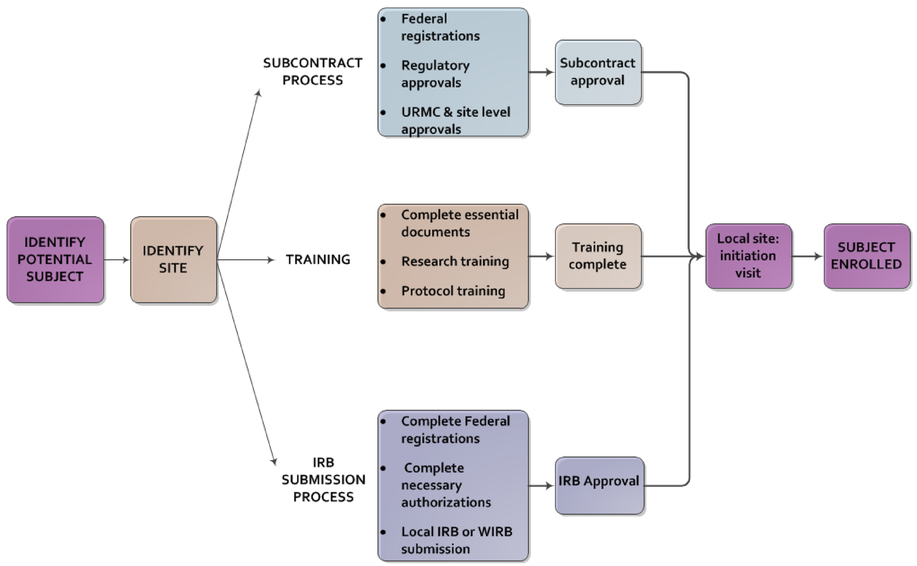


Figure 2. Enrollment process for study startup



UNIQUE FEATURES OF TRIAL DESIGN

In a typical investigator-sponsored clinical trial, the sponsor is responsible for recruiting sites.

Traditional site selection is based upon:

- Research qualifications
- Adequate resources
- Proper training
- Previous experience as an investigator

How this trial differs:

- Prospective subjects identified **before** site selection
- Subjects' families helped identify local physicians to serve as local, sub-investigator site.
- Often, local site was the primary care physician
- Research training and other pre-study activities often needed to be completed **after** subject and site were chosen.

DISCUSSION

- The Clinical Research Coordinator (CRC) plays a key role in the clinical trial process.
- CRC conducts many site startup and study procedures
- Local sites, without CRCs, have prolonged site initiation times ***(Fig. 1).***
- *The novel enrollment process **(Fig. 2)** facilitates*
  - Most timely site start-up possible
  - Compliance with all federal, ICH, OHRP regulations
  - Essential clinical research training for new investigators.

This trial is sponsored by the Batten Disease Support & Research Association (BDSRA) and the FDA OPD grant # 003908. We especially thank the children and families who have participated in this research.