Category: Clinical Trial Operations (Trial Start-up, Regulatory, Data Management, IITs) – Completed Project

Sponsor-Proxy Infrastructure for Investigator-Initiated Trials: Enabling Translation of Natural Product Research in a Resource-Limited Cancer Center

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1. Background
Investigator-initiated trials (IITs) are essential for translating academic discoveries into clinical testing but are often constrained by regulatory complexity and limited institutional capacity to fulfill sponsor responsibilities, particularly at resource-constrained cancer centers. Natural product therapeutics introduce additional regulatory and sponsorship challenges related to product standardization, quality control, and safety documentation. In 2018, the Penn State Cancer Institute (PSCI) Clinical Trials Office established a Sponsor Support Unit (SSU) to enable faculty investigators, including basic science researchers, to initiate and conduct early-phase clinical trials.

2. Goals
To develop a sustainable operational framework that enables translation of investigator discoveries into Investigational New Drug (IND)-authorized clinical trials, reduces sponsor burden, improves trial start-up efficiency, and expands investigator-initiated trial capacity within a resource-limited cancer center.

3. Solutions and Methods
PSCI implemented a Sponsor-Proxy operational model in which investigators retain regulatory sponsor status while the SSU performs centralized sponsor-level operational functions. A cross-functional team of master's- and doctoral-level project managers with clinical research and medical expertise executes core sponsor responsibilities, including protocol development, Investigator's Brochure authorship, IND preparation and submission, Trial Master File management, regulatory coordination, and safety reporting.

The Sponsor-Proxy framework extends these functions across the entire clinical trial lifecycle, providing continuous operational execution from study design and IND authorization through study activation, ongoing safety oversight, regulatory maintenance, and trial close-out. Unlike consultative regulatory support models, this approach embeds sponsor execution within institutional infrastructure while preserving investigator scientific leadership and clinical oversight.

The model was applied to two National Cancer Institute–funded IITs evaluating Angelica gigas Nakai extract (INM176) in prostate cancer patients. To reduce participant travel burden, protocol-specified safety laboratory assessments were permitted at affiliated health system sites prior to scheduled visits, demonstrating operational flexibility supported by centralized sponsor oversight.

4. Outcomes
Implementation of the Sponsor-Proxy model enabled successful activation of two IND studies: a pharmacokinetic trial (NCT05375539; completed) and a Phase I/II prostate cancer trial (NCT06600698; ongoing). Both trials achieved activation timelines of 83 and 81 days, meeting National Cancer Institute Operational Efficiency Working Group benchmarks.

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Beyond study start-up, the SSU maintained ongoing sponsor-level responsibilities throughout trial conduct, including IND annual reporting, safety reporting coordination, protocol amendment support, DSMC reporting, and sponsor communication with the FDA when regulatory guidance was required for participant safety or major trial design considerations. These activities reduced operational burden on investigator sponsors while maintaining continuous regulatory compliance. Across both studies, sponsor oversight was sustained without clinical hold or regulatory interruption.

5. Lessons Learned and Future Directions

This experience demonstrates that institutional sponsor-level execution, beyond regulatory consultation alone, can enable investigator-initiated translation when investigators lack operational sponsor infrastructure. Embedding regulatory, operational, and documentation expertise within an integrated institutional framework improved trial efficiency and supported sustained regulatory compliance across the study lifecycle. The Sponsor-Proxy framework complements existing CTSA consultative resources by extending support from advisory functions to continuous operational execution. The model is adaptable to additional therapeutic areas and is currently being applied to new investigator-initiated IND programs. Ongoing training of next-generation clinical trial project managers is being incorporated to sustain institutional sponsor expertise and support long-term program scalability.