Category: Regulatory - Work in Progress

A Review and Recommendations for Implementing eRegulatory Investigator Site File Systems (eBinder, eISF)

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1. Background

Investigators are required to maintain adequate and accurate source documents and records to support the validity/reproducibility of human subjects. These documents are collectively referred to as a "regulatory binder" or "investigator site file (ISF)." In a digital world, additional requirements are imposed to ensure the infrastructure managing electronic information is trustworthy, reliable, and generally equivalent to process execution in a paper environment (21CFR11). The Abramson Cancer Center Clinical Research Unit, Office of Regulatory Affairs (ACC-CRU-ORA) has adopted an eISF infrastructure utilizing a commercially available cloud-based document management system. This eISF contains the administrative regulatory documentation required by law and as associated with the conduct of human subject research. Historically, the ACC-CRU-ORA maintained regulatory documentation in a paper format. Beginning in 2019, a program was initiated to migrate paper ISF information from the digital representations housed on a department shared server to the eISF cloud-based format.

2. Goals

The goals of the project were to implement of a cloud-based document management system fully addressed the compliance concerns associated with 21CFR11, streamlined process, and promoted continued support of best practices in clinical research document storage. Implementation, in advance of any formal enforcement action by an inspection agency, would allow us to resolve compliance issues with minimal impact on day-to-day operations.

3. Solutions and Methods

University of Pennsylvania (UPenn) allocated experts in the fields of information systems (IS), institutional policy, and the conduct of human subject research. Vendor resources, technical support, and ongoing maintenance of the system is overseen by vendor and IS partners. End-user account creation and account maintenance, with associated role-directed technical training is supported by UPenn central resources. Best practices for end-user adoption and function within the system are established through shared institutional governance in partnership with departments.

4. Outcomes

Implementation of this system has enhanced efficiency across both the site and exchanges with external collaborators (such as sponsors and monitors) and forced real-time health authority inspection readiness – overall improving the quality and efficiency of our systems. Further, we improved our ability to assess and report out important key performance indicators about the research portfolio, including: reports on product utilization; inpatient vs. outpatient services; partner organizations; person profile documents; compliance with protocol specific training documentation requirements; time to and outstanding e-signatures documenting investigator oversight; and quality assurance measures for supervisor oversight.

5. Lessons Learned and Future Directions

Acquiring and implementing an eISF regulatory document management system requires a significant

upfront investment and translates to increased economies with efficiencies over time. A clear vision including scope of documentation for migration and/or decision to begin with only new research projects is essential. Sites must consider future utilization across departments/divisions and ensure unified acceptance of best practices while working within the system. Guard rails should be established for aligned quality control and quality systems management. Centralization of key resources for IS and institutional policy including infrastructure for supporting processes such as account creation and shared document management is essential. Efficiencies demonstrated are offset by the need for resources supporting change control, frontend data entry, and quality assurance maintenance.