Using Visual and Data Technology to Inform IRB Operations
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Problem Statement: Managing the efficient operations of one or more IRBs presents a complex undertaking for academic institutions. The pace of human subjects research and the budgetary impact associated with delays in initiating clinical studies suggests the need for clear, reproducible, standardized reports to evaluate IRB workflows. Recently, the implementation of a new data reporting tool in association with the IRB data warehouse provides a user-friendly, configurable set of metrics to assess IRB workflow and performance and to predict trends.

Methods: Using a commercially available visualization and data exploration platform in conjunction with the existing IRB data warehouse, the IRB’s associated information technology unit (ITU) developed a customized, interactive data dashboard. By incorporating information about the visual perception and color cognition of technology users, the ITU designed clean, uncluttered dashboards and graphic displays to provide concise visual narratives directed at the IRB’s business needs. By compiling otherwise disparate information from the data warehouse into customized and very flexible visual displays, the IRB office is now able to evaluate workflow pathways that were previously too complex or time-consuming to address. For example, a few mouse clicks allow IRB personnel to evaluate multiple variables impacting the review of a single IRB application and compare those outcomes to median or targeted review times for similar studies. The tool also enables the IRB office to fully evaluate information associated with various IRB application types, as well as review times for the IRB office, IRB members, and time spent with study teams. These new reports were validated for accuracy against existing older, semi-automated reports. Additionally, by organizing the underlying data in a hierarchical structure, the new reports can be predictive of future trends and, therefore, serve strategic planning purposes.

Additional Information: Using the same graphical representation as the IRB, institutional decision-makers use their mouse clicks to minimize specific data points and instead elevate their view to trend-analysis over longer periods of time such as monthly, quarterly, or yearly. The flexibility of the new data tool allows users to interact with dashboards from their laptops, tablets, or smartphones. Graphs are designed to be intuitive, interactive, and accessible from any web-based platform. The new data tool provides IRBs and research administration with new opportunities to meet the growing demand for meaningful, fact-based data.