Optimizing Our Protocol Management System Data and Aiding Research Portfolio Decisions Through Use of Custom Dashboards

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1. Background

As the medical community continues to embrace digital transformation, it is important that institutions leverage new technologies which optimize real-time reporting and aid research portfolio decisions. Over the last decade, electronic data collection has been a focus of healthcare institutions and has made a significant impact on scientific research.

2. Goals

At Memorial Sloan Kettering Cancer Center (MSK), the Protocol Activation and Human Research Protection Program recognized that data could be utilized for real-time dashboard reporting to aid our review process in the following key areas of interest: institutional scientific prioritization of research, principal investigator (PI) performance and annual review reporting as mandated by federal regulations. Additionally, these dashboards can be used by investigators and their departments to facilitate conversations about streamlining resources.

3. Solutions and Methods

In collaboration with MSK's Clinical Research Informatics and Technology group, we sought to utilize data captured in our homegrown institutional Protocol Information Management System (PIMS) to develop and integrate two user-friendly dashboards into our protocol prioritization, activation, review, and monitoring processes.

4. Outcomes

The Department/Service Portfolio dashboard (DSP)[Fig1a] allows services to visualize their research portfolio by showing volume at each stage of a protocol's life cycle, from submission to closed to accrual. Volume is broken down by protocol category (e.g., industrial) and type (e.g., therapeutic) allowing Service Chiefs and Department Chairs a comprehensive look at their active portfolio when managing new proposals. The DSP indicates the time it takes protocols to move through the activation process (and ultimately provide patients the benefit of new treatments) using two metrics: Time To Activation (TTA) and Time To IRB Approval (TTIA), defined as time from first review to when a protocol is opened to accrual or IRB approved, respectively. The DSP shows a Year-Over-Year median TTA and TTIA comparison for the service and all MSK. The DSP includes a count of protocols with accrual performance notices issued by our Protocol Review and Monitoring System (PRMS), which can alert leaders of accrual problems.

The PI Metrics Dashboard (PMD)[Fig1b] provides reviewers from departmental and PRMS committees with visual aids to evaluate the performance of a PI's active trials, which inform the committees' review determination. The PMD allows the PI to evaluate his/her own performance and department chairs to evaluate their service's performance. The PMD provides the following PI-specific metrics:
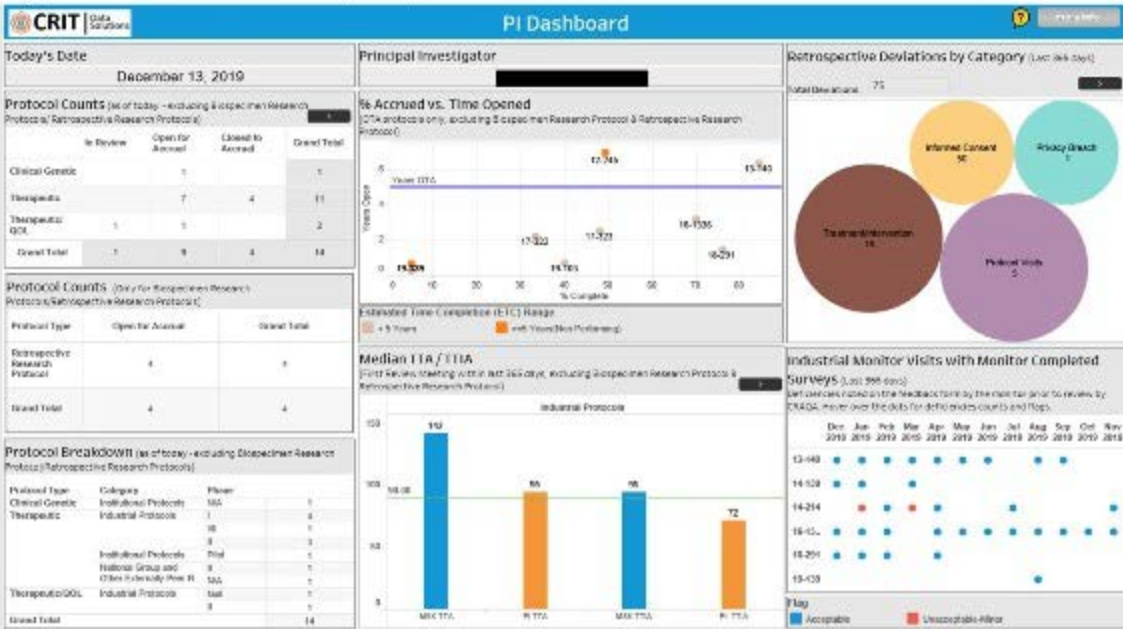
• Protocol volume
• Median TTA/TTIA
• Accrual details
• Retrospective deviations
• Monitoring visit deficiencies

Category: Clinical Trial Operations – Completed Project

Fig1a: Department/Service Portfolio Dashboard (DSP)

Fig1b: PI Metrics Dashboard (PMD)

5. Lessons Learned

The two dashboards are being integrated into our research community to allow PIs to self-evaluate and Service Chiefs or Department Heads to assess their own groups. We will also explore new ways to

integrate the dashboards into the review process to aid institutional committee reviewers in assessing new proposals from PIs and services with extensive portfolios. Furthermore, the IRB will evaluate how to integrate PMD into annual review reports as a visual representation of how a PI is handling his/her portfolio and assist with protocol monitoring.