Category: Finance/CCSG/PRMS – Completed Project

Re-envisioning Memorial Sloan Kettering's Data and Safety Monitoring Committee

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1. Background

Memorial Sloan Kettering Cancer Center's (MSK) Data and Safety Monitoring Plan includes the Data and Safety Monitoring Committee (DSMC) for non-phase 3 trials and the Data and Safety Monitoring Board (DSMB) for phase 3 randomized trials. These committees are essential for institutions like MSK, which has a portfolio of over 750 active protocols. In 2017, MSK created the Protocol Review Core (PRC) to optimize previously siloed processes. PRC provides centralized oversight and administration of MSK's protocol review committees, including DSMC and DSMB. Based on portfolio size, PRC prioritized streamlining DSMC's processes and identified several areas for improvement.

2. Goals

- Clarify DSMC monitoring criteria to appropriately identify protocols requiring DSMC oversight
- Update DSMC review processes
- Leverage technology to better coordinate DSMC reviews

3. Solutions and Methods

- Streamlined DSMC focus, review criteria, and processes
    - Focus on study conduct with emphasis on:
        - Safety
            - *Unanticipated or excessive toxicity*
            - *Protocol-specific stopping rules*
        - Data
            - *Completeness*
            - *Accuracy*
            - *Database integrity*
        - Progress and accrual
    - Review Criteria:
        - Eligible protocols:
            - MSK investigator-initiated trials
            - External studies where MSK is data coordinating center
        - Ineligible protocols:
            - Retrospective, biospecimen, and specimen banking
            - Externally sponsored studies with an external monitoring plan
        - Frequency of protocol monitoring is risk-based:
            - High – quarterly
            - Moderate – semi-annually
            - Low – annually (recently refined to focus on interventional protocols)
    - Streamlined processes:
        - PRC identifies eligible protocols instead of study teams and DSMC members.

    - Reviews initiated following first accrual or after one year if no accruals.
    - Monitors until there are no active participants instead of ending when protocol has closed to new accruals.
    - Revamped DSMC monitoring form, a submission requirement, with specific questions to help identify potential issues.
    - Incorporated routine statistical reviews to evaluate stopping rules, interim analyses, etc.
    - Updated reviewer checklist to ensure focus, detail, and consistency across reviews.
    - Created tools such as guidance documents to aid study teams.
- Leveraged institutional Protocol Information Management System (PIMS) for reviews.
    - Enables electronic submissions.
    - Improves identification of protocols and tracking of submissions.
    - Allows electronic meeting minutes and review letters.
    - Includes "interim" approval so information requests can be handled promptly and outside of scheduled meetings.
- Increased communication with committees such as Institutional Review Board (IRB) and Protocol Review and Monitoring System (PRMS).
- Incorporated educational presentations at meetings to aid committee members.

4. Outcomes and Future Directions

Outcomes:

- Currently, approximately 270 protocols are under DSMC oversight.
- In 2018, DSMC conducted 495 reviews.
- DSMC submission and review workflow is more efficient.
    - Simplified identification of eligible protocols.
    - Eliminated overlap with external monitoring.
    - Ensures adequate risk-based monitoring of MSK's complex and growing portfolio.
    - Increased quality of reviews with renewed focus on active protocols.
- Transparency has increased amongst DSMC and other institutional committees.

Lessons Learned:

- DSMC should function as an institutional service to investigators and study teams.
- DSMC must communicate with IRB and PRMS for adequate portfolio management with minimal overlap.
- DSMC processes, review requirements, and resources should be clear and transparent.

Future Directions:

- Streamline data requirements for submission
- Incorporate data visualization
- PIMS enhancements
- Create educational materials and DSMC-specific SOPs