Subject: Data and Safety Monitoring Plans

Definitions:
1. **Data and Safety Monitor (DSM):** An individual assigned to conduct interim monitoring of accumulating data from research activities to assure the continuing safety of research participants, relevance of the study question, appropriateness of the study, and integrity of the accumulating data. The individual should have expertise in the relevant medical, ethical, safety and scientific issues.
2. **Data and Safety Monitoring Board (DSMB):** A formally appointed independent group consisting of at least three (3) members assigned to conduct interim monitoring of accumulating data from research activities to assure the continuing safety of research participants, relevance of the study question, appropriateness of the study, and integrity of the accumulating data. Membership should include expertise in the relevant field of study, statistics, and research study design.
3. **Data and Safety Monitoring Committee (DSMC):** Another term for DSMB.
4. **Data and Safety Monitoring Plan (DSMP):** A DSMP describes how the Investigator plans to oversee the research participant’s safety and welfare and how adverse events will be characterized and reported. The intensity and frequency of monitoring should be tailored to fit the expected risk level, complexity, and size of the particular study.

Policy:
It is the policy of the Human Research Protections Program (HRPP) that each non-exempt research application submitted to the IRB for review includes a plan to assure the safety and welfare of its participants.

I. The Principal Investigator should appoint a DSM or DSMB for his or her study as appropriate for the size complexity, and level of risk involved in the research.

II. Research Activities that Should Include a DSM or DSMB
   A. The study is intended to provide definitive information about the effectiveness and/or safety of a medical intervention;
   B. Prior data suggests that the intervention under study has the potential to induce a potentially unacceptable toxicity;
   C. The study is evaluating mortality or another major endpoint such that inferiority of one treatment arm has safety as well as effectiveness implications; or
   D. It would be ethically important for the study to stop early if the primary question addressed has been definitively answered, even if secondary questions or complete safety information were not yet fully addressed

III. DSMB Composition
   A. The DSMB should have multidisciplinary representation, including physicians from relevant medical specialties and biostatisticians. This may include other experts such as bioethicists, epidemiologists and basic scientists.
   B. The DSMB should have membership limited to individuals free of apparent significant conflicts of interest whether they are financial, intellectual, professional, or regulatory in nature.
   C. The appropriate size depends on the type of study and types of expertise needed

IV. DSM or DSMB Responsibilities.
A. The primary responsibility of the DSM or DSMB is to safeguard the interests of study participants. Therefore, the DSM or DSMB will approve the safety measures in the protocol:
   1. To preserve the study integrity and credibility; and
   2. To facilitate the availability of timely as well as reliable findings to the broader clinical community

B. The DSM or DSMB should provide written documentation confirming that they have read the protocol and agree with the study design and the data safety monitoring plan (DSMP).

C. The DSM or DSMB will review the progress of the study carefully and diligently.

D. Each enrolled subject’s research chart should be reviewed monthly for side effects and tolerability of the investigational drug.

E. The DSM or DSMB will assure that all significant adverse events are reported to the HRPP according to policies and procedures.

F. The DSM or DSMB will be available to the Investigator for consultation concerning any untoward study events or any questions regarding consent issues.

G. The DSM or DSMB will provide a letter of predefined frequency to the IRB, through the Investigator, summarizing the oversight activities of the DSM or DSMB during the monitoring period which should include:
   1. Results of the chart reviews;
   2. Summary of consultations with the Investigator; and
   3. Concerns, if any, regarding subject safety or study drug tolerability.

V. DSM or DSMB Charter.

A. The DSM or DSMB Charter should include the following:
   1. A detailed presentation of the membership composition, including qualifications and experience;
   2. Roles and responsibilities of the DSM or DSMB and if relevant, of Steering Committee members;
   3. The authority of the DSM/DSMB (e.g., advisory to the Sponsor, PI);
   4. The timing and purpose of DSMB meetings;
   5. The procedures for maintaining confidentiality;
   6. The format, content and frequency of DSM or DSMB reports;
   7. Statistical procedures including monitoring guidelines, which will be used to monitor the identified primary, secondary, and safety outcome variables; and
   8. Plans for changing frequency of interim analysis as well as procedures for recommending protocol changes.

B. A copy of this Charter should be maintained with the research study file.

VI. DSM or DSMB Tasks.

A. Tasks may include, but not be limited to, the following:
   1. Conduct initial review of the proposed research to assure quality study conduct
   2. Review procedures to assure quality of study conduct including data management and quality control procedures;
   3. Evaluate the quality of ongoing study conduct by evaluating the study accrual, compliance with eligibility, participant adherence to study requirements, and accuracy and completeness of data;
   4. Consider factors external to the study when relevant information becomes available such as scientific or therapeutic developments that may have an impact on the safety of the participants or the ethics of the study
   5. Recommend early termination based on efficacy results;
   6. Recommend termination due to unfavorable benefit-to-risk or inability to answer study questions;
   7. Recommend continuation of ongoing studies;
   8. Consideration of overall picture; primary and secondary analysis;
   9. Modify sample sizes based on ongoing assessment of event rates and
   10. Review final results.

VII. Data Safety Monitoring Plan.

Some studies do not require a DSM or a DSMB. However, a detailed plan is required for all non-exempt research under federal regulations. The level of detail in the plan should be based on the degree of risk entailed by the research participants. Low risk studies may have simple plans but the plan must contain at a minimum the following
A. A description of how risks are minimized;
B. A description of how risks are reasonable in relation to anticipated benefit;
C. Identification of a DSM or DSMB;
D. A description of the general data safety monitoring plan;
E. A description of the plan to monitor progress and safety,
   1. This may include a plan for safety review either by an assigned board, committee or monitor at predetermined intervals relevant to the complexity of the research;
   2. Depending on the complexity of the research, the plan may include assessments of data quality, timeliness, participant recruitment, accrual and retention.
F. A description of the plan to assure compliance with reporting of adverse events and/or unanticipated problems involving risk to participants or others. This may include:
   1. A description of the process for detecting and reporting serious and unexpected adverse events an/or unanticipated problems involving risk to participants or others;
   2. A description of who will be monitoring and collecting the adverse event (e.g., PI, Research Nurse, etc.);
   3. Specification of who will be notified of an adverse event (e.g., IRB, NIH, FDA, PI, etc.)
   4. A reporting plan indicating the timing of reports;
   5. A plan for annual reporting of adverse events if study longer than one year;
G. A description of the plan to assure suspensions of funded trials are reported to the grants program director; and
H. A description of the plan to assure accuracy and protocol compliance.

References:
NIH/NIAMS "DSMB Charter"