Safety Oversight and Monitoring in NIDDK-funded Clinical Trials
Appendix A: Elements of a Data and Safety Monitoring Plan (DSMP)

The Data and Safety Monitoring Plan (DSMP) should include a description of:

1. Potential risks to participants
   - Adverse events expected because of the underlying condition;
   - Known side effects of the intervention;
   - Risks or complications of the outcomes being assessed;
   - Actions to be taken to minimize or mitigate these risks.

2. Participant Safety Monitoring
   - The overall framework for safety monitoring and what information will be monitored;
   - The process by which Adverse Events (AEs), including Serious Adverse Events (SAEs) such as deaths, hospitalizations, and life threatening events and Unanticipated Problems (UPs), will be managed and reported, and how it will be determined whether the SAE is related to the intervention;
   - The frequency of monitoring;
   - How recommendations regarding the trial continuation, modification or early termination will be considered, including the use of stopping rules (if applicable). Generally, stopping rules reflect one of the following conditions: 1) there is clear evidence of harm; 2) there is no likelihood of demonstrating treatment benefit (futility), including because of slow recruitment or lower than expected frequency of events; 3) there is overwhelming evidence of the benefit of treatment; and
   - The individual(s) or group that will be responsible for trial monitoring and how/when SAEs will be communicated to the IRB, to NIDDK, to the trial safety monitor or oversight board, and to the FDA if applicable. The monitoring plan should be commensurate with the risk, size and complexity of the study. Monitoring may range from a single Safety Officer to a Data and Safety Monitoring Board (DSMB). For studies not requiring a DSMB, a Safety Monitor should be designated. The program director should approve the choice of the Safety Monitor. In general, the Safety Monitor should not be an individual involved in conducting the study; it is preferable to have a Safety Monitor who is completely external to the clinical study. The Safety Monitor should not be a subordinate to the PI and must be free of any conflicts of interest so that independence and objectivity are maintained. If the trial is not masked and is low risk, it may be appropriate for the PI to be involved with oversight of the study in conjunction with the external Safety Monitor. If there is no external monitor, the plan should include a discussion of how the Institution will avert or manage any conflict of interest (COI) implicit in having the Principal Investigator, or person directly reporting to the PI, or person having partial salary or monetary compensation, as the only monitor of a clinical study. The plan should specify how COI will be ascertained and tracked. For masked studies, the plan should make clear how masking is maintained (and whether any staff are unmasked) and under what circumstances unmasking would occur as well as who would be unmasked. Studies conducted in a clinical studies unit may be monitored by its designated team.
3. Quality Assurance/Clinical Monitoring

- A description of a plan to ensure adherence to the protocol, and the quality and consistency of the intervention(s), including the frequency of monitoring, and a description of protocol adherence and data quality control to date;
- A description of plans to ensure participant confidentiality and privacy. An additional level of protection for human subjects involved in clinical studies is a Certificate of Confidentiality, which is issued to a researcher to provide special privacy protection to subjects involved in clinical research. A Certificate of Confidentiality can be used by the researcher to avoid involuntary disclosure (e.g., subpoenas) of identifying information about research subjects. More information on this subject, as well as the application process, can be found at the NIH Office of Extramural Research Certificates of Confidentiality Kiosk.
- A description of plans to ensure the quality of all data collected, including laboratory measures;
- Plans for handling any deficiencies that are uncovered.

Information for investigators about DSMPs is available on the NIDDK website: