DSMP
Data and Safety Monitoring Plan

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JCTO.WEILL.CORNELL.EDU
Outline

• Purpose

• When are they needed?

• What do they contain?
Purpose
Objective

Monitoring of:

- safety of study participants
- quality of research data
- appropriate conduct of the clinical research

Distinct from:

- IRB oversight
- scientific review
When is a DSMP necessary?
In general...

All studies that involve human subjects

Level of monitoring depends on study’s

• potential risk
• size
• Complexity

Monitoring level may be decided by

• study sponsor
• IRB
• institution
Type of plans

Embedded in the protocol
• minimal risk
• monitoring done by study PI/team

Separate DSMP
• greater than minimal risk
• monitoring done by Data Safety and Monitoring Board (DSMB)
Who should write/review the plan

Study team
- PI
- study statistician
- other relevant team members

Plan written for DSMB use
- needs to be approved by DSMB
- provides guidance to study team/DSMB
- submitted to the IRB
Large, multi-site, randomized, blinded, and Phase III trials

Phase I and II studies for which risk to the subjects appears unusually high

Phase I and II studies for which the principal investigator is the IND/IDE sponsor or manufacturer and independent monitoring is required to maintain the integrity of the trial

Gene transfer studies

Studies with vulnerable populations or risky interventions/procedures or any other factors that might indicate high morbidity/mortality end-points

Studies with high risk of toxicity or other major medical risks
Always “write” a DSMP for human subjects

Determine whether the WCM DSMB is required

http://researchintegrity.weill.cornell.edu/DSMB.html
Preparing a DSMP
## Participant safety

<table>
<thead>
<tr>
<th>DSMP Component</th>
<th>Examples of Monitoring Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>specific subject safety parameters</td>
<td>vital signs, weight, safety blood tests, cardiac status, anxiety, depression scores, adverse events, etc.</td>
</tr>
<tr>
<td>frequency of subject safety observations</td>
<td>weekly telephone FU, monthly appointments, observations of participant while in clinical setting, each treatment cycle, etc.</td>
</tr>
<tr>
<td>party responsible for safety monitoring</td>
<td>PI, study coordinator, safety monitor, independent monitor, DSMB, etc.</td>
</tr>
<tr>
<td>subject stopping rules</td>
<td>exclusion criteria, including adverse response to study procedure; pregnancy; specific AE grade; cardiac irregularity; non-compliance; etc.</td>
</tr>
<tr>
<td>study stopping rules</td>
<td>unanticipated problems involving risk to subjects or others (UPIRTSO), unexplained adverse outcomes, life threatening adverse events,</td>
</tr>
<tr>
<td>reporting mechanisms (i.e. deviations, adverse events, UPIRTSOs)</td>
<td>plans for reporting to IRB, FDA, sponsor, participating sites, DSMB, etc.</td>
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## Data integrity

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<tr>
<td>specific data items to be reviewed</td>
<td>participant eligibility, data is accurate and complete, calculations are standardized and performed properly</td>
</tr>
<tr>
<td>frequency of monitoring data: points in time, or after specific number of patients</td>
<td>First 3 subjects and every 20\textsuperscript{th} subject, monthly, quarterly, annually, etc.</td>
</tr>
<tr>
<td>individual responsible for data monitoring</td>
<td>PI, study coordinator, safety monitor, independent monitor, data manager, statistician, etc.</td>
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</table>
## Participation privacy

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<td>Under what conditions (time and place) will subject be consented, interviewed, or telephoned?</td>
<td>observations of consenting process, interviewing, or clinical visit performed quarterly on 3 subjects request input from 5 subjects related to their experiences regarding privacy expectations etc.</td>
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## Data confidentiality

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<tr>
<td>What are the conditions that will protect the confidentiality of the data?</td>
<td>Check for locked file cabinets, secure electronic records, secure location with protected health information is stored, etc.</td>
</tr>
</tbody>
</table>
# Product accountability

| DSMP Component                                                                 | Examples of Monitoring Activities                                                                 |
|-------------------------------------------------------------------------------|----------------------------------------------------------------________________________________|
| Who is responsible for obtaining, storing, preparing, administering, or disposing of the study drug or study device? | research pharmacy, PI, central pharmacy, research laboratory, nursing, etc.                        |
| Who is responsible for overseeing product accountability?                     |                                                                                                  |
## Study documentation

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<tr>
<td>study file management</td>
<td>study file management guidelines and checklists for monitoring (sample of study files annually, etc.)</td>
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</table>
## Study coordination

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<tr>
<td>roles and responsibilities are clarified, education needs are addressed, planned meetings or communications with documented meeting notes/minutes</td>
<td>periodic debriefing to determine if expectations are clear and if educational needs exist</td>
</tr>
<tr>
<td></td>
<td>scheduled meetings are on the calendar, and meeting outcomes are noted and available to staff etc.</td>
</tr>
</tbody>
</table>
DSMP specifics

GOAL: provide a framework by which to reduce harm or injury to participants, in order to further promote a level of conscientious conduct.
Minimum required

Assessment of level of risk

A plan for safety review
• anticipated AEs
• AE grading and attribution
• unanticipated and/or serious AE reporting
• periodic reporting of AEs

Ensure compliance with principles of informed consent

Assessment of protocol compliance, including violations/deviations

A plan for compliance with privacy related regulations (e.g., HIPAA)
Additional considerations

Prospective stopping rules
• unacceptable risk (toxicity stopping rule)
• strong evidence of futility/efficacy (interim analyses)

Plan for on-going review
• information to be provided
• review frequency
• rationale for info provided and frequency

Study enrollment
• observed accrual rate compared to expected accrual rate
• eligibility rate

Safety review questions
• reasons for drop-outs
• AEs too frequent or severe?
• should the protocol be modified?
Questions?

Please direct any questions to DSMB@med.cornell.edu for a prompt response!