

SISCER 2020 Module 9
Data Monitoring Committees and Statistical Data Analysis Centers: Guiding Principles and Best Practices

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Over the past 7 decades, the randomized clinical trial (RCT) has become the gold standard for evaluation of new drugs, biologics, devices, procedures, and behavioral interventions. The independent Data Monitoring Committee (DMC) plays a vital role in the ethical and scientifically rigorous execution of RCTs.

The mission of the DMC is to safeguard the interests of study participants and to enhance the integrity of clinical trials. DMCs have become widely used in both government and industry sponsored clinical trials worldwide. Accompanying the growth of DMCs has been the increased use of an independent Statistical Data Analysis Center (SDAC) that provides interim reports for the DMC. These reports allow the DMC to fulfill its mission of monitoring the progress of the RCT as well as periodically reviewing unblinded emerging efficacy and safety data. On the basis of the totality of evidence, the DMC may recommend changes in the RCT or perhaps early termination if the data show evidence of harm or overwhelming evidence of benefit.

This module will review the rationale and role for DMCs, describe current best practices, and share examples of DMC activity and recommendations for trial continuation or termination for overwhelming benefit, convincing evidence of harm, or likely futility. Learning objectives include:

- Provide insight into the challenges of monitoring accumulating interim data for safety and efficacy
- Understanding the roles and practices of the DMC and the SDAC
- Understand the importance of the independence of the DMC for protecting the integrity of the RCT
- Understand interactions among the DMC, the independent SDAC and the trial sponsor
- Provide insights about, and recommendations, for Best Practices for DMCs and SDACs.

MODULE OUTLINE

Live sessions are hosted on Zoom each day from 8:30am – 12PM PDT. There will be a 30-minute break at approximately the midpoint of each daily session.

Module materials and Zoom links will be posted approximately four days prior to the start of the Module. Please join the Zoom session using the name used to register for the module.

Zoom sessions will be recorded and made available to module registrants.

Monday, July 27

Susan Ellenberg, An Introduction to Data Monitoring Committees

I. Introductions

II. Lecture Part 1

- A. Purpose of and rationale for DMCs
- B. History of DMCs
- C. Basic principles and operational issues
- D. Overview of statistical methods for interim monitoring

30-minute break

III. Lecture Part 2

- A. When is a DMC needed and not needed
- B. Rules and Regulations
- C. Ethical issues

Tuesday, July 28

Janet Wittes, The Independent Statistical Reporting Group: Guiding Principles and Best Practices

I. Lecture Part 1 -Introduction to the reports to the DMC

- A. The role of the ISRG (aka, the SDAC)
- B. The organizational meeting
- C. What DMC members want to (and need to) see
- D. How to prepare DMC reports

30-minute break

II. Lecture Part 2 – The look and feel of the report

- A. Hard copy vs. electronic copy
- B. Tables, graphs, and text
- C. Approaches to specific types of data
- D. Special (but common) problems
- E. Summary

Wednesday, July 29

Thomas Fleming, Data Monitoring Committees: Best Practices

I. Lecture Part 1

- A. Motivation for DMC Mission
- B. Fundamental Principles of DMCs
- C. Types of DMC Meetings
- D. DMC Best Practices: Training, Indemnification, Currentness of Data

30-minute break

II. Lecture Part 2

- A. DMC Best Practices: Addressing Confidentiality Issues
- B. DMC Best Practices: Procedures to Enhance DMC Independence
- C. Summary