

Optimizing Flexibility and Consistency in Statistical Programming for Platform Trials: Practical Approaches to Data Cut, SDTM, ADaM, and TLF Setup

Zhen (Laura) Li, zhen.li@astrazeneca.com

Kelly Fang, kelly.fang1@astrazeneca.com

Platform Trial Introduction

Master Protocol

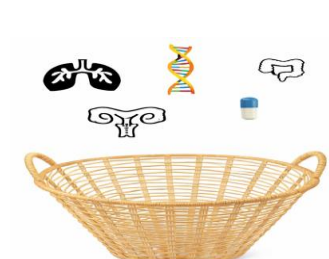
❖ A protocol that allows one or more interventions to be assessed within the same clinical trial, across patient populations sharing common enrollment, follow-up, and assessment procedures

Key Characteristics:

- Integrates multiple sub-studies under a single governance structure
- Sub-studies may pursue different objectives
- Shares control arms, protocol elements, infrastructure, and oversight among sub-studies
- Delivers expedited drug development, operational efficiencies, reduced patient burden, and increased cost-effectiveness

Typical Types¹:

Basket Trials



Umbrella Trials



Platform Trials



Platform Trials: Evaluate multiple medical products for a single disease or condition on an ongoing basis, with interventions entering and exiting the platform over time

¹Reference: Overview of Modern Clinical Trial Designs, George Washington University.

Trial Context

Phase II open label oncology trial

Sub-study 1

- Gastric cancer
- Monotherapy
- Randomized and assigned cohorts
- Safety, tolerability, and anti-tumour activity
- Started in 2023

Sub-study 2

- Pancreatic cancer
- Multiple chemotherapy combinations
- Safety run-in and dose expansion
- Safety and efficacy
- Started in 2023

Sub-study 3

- Biliary tract cancer
- Monotherapy
- Two parts
- Safety, tolerability, and anti-tumour activity
- Started in 2024

- Eligibility: The master protocol defines common criteria for all sub-studies; each sub-study protocol specifies its study-specific criteria
- Schema: Each sub-study protocol outlines its own study schema
- Dosing schedules: Each treatment has a defined dosing schedule; Sub-study 2 includes combination therapy with 5 distinct dosing schedules

Note: Information is sourced solely from ClinicalTrials.gov to ensure confidentiality requirements are met.

Solutions

Raw Data



Two separate data cut programs:
1) Patient-level data cut
2) Observation-level data cut



One data-cutting specification



- Programs stored in a central folder
- Three folders for:
1) Original data;
2) Post-cut data;
3) Selected patient list per raw dataset



Resource allocation for competing timelines: No need to split the team

SDTM Data



One set of programs



One SDTM specification



Programs stored in a central folder



Resource allocation for competing timelines: No need to split the team

ADaM Data / TLFs



Separate programs for each sub-study



- One ADaM specification file
- Separate derivation column for each substudy
 - leave derivation fields blank for non-applicable variables

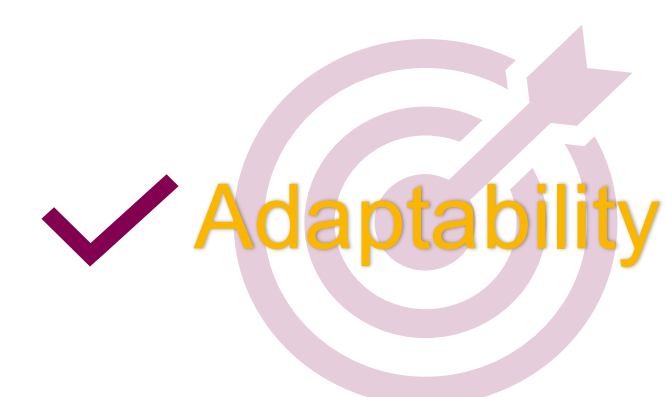


Programs kept in a central folder per sub-study



Resource allocation for competing timelines: Split the team to run in parallel

* Same approach for TLFs



↓ Programming Resource

↓ Program and Specification Maintenance Efforts

↑ Traceability

↓ Risk of Quality Control

↑ Operational Efficiency

↑ Streamline Program Updates

↓ Complexity of Programs

↑ Adaptable Dataset Subsetting

↑ Efficient Management of Sub-study Timelines and Deliverables

Challenges

RDS

- Single RDS across all sub-studies
- Sub-study-specific CRF pages
- Sub-study-specific questions



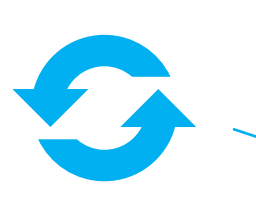
✦ Varies Analysis

✦ Rapid Turnaround

✦ Competing Timeline

Data Migration

- Frequent data migration
- Partly driven by evolving sub-studies



Various Analysis

- Data cut – Yes/No
- Patient selection – Yes/No
- Selection criteria – Arm/Sub-study
- Competing timelines



CSR

- Sub-study-specific derivations
- Separated CSR for each sub-study



✦ Switch Between Sub-studies

✦ Adaptability

✦ Consistency

Efficiency

Quality

Conclusion and Discussion



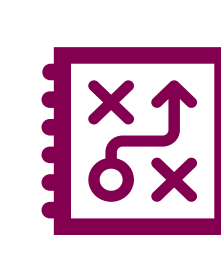
Achievements

- Delivered 35+ high-quality analysis requests with varying requirements in 2025 with a team of 2-3 study programmers
- Successfully managed competing and overlapping timelines with rapid turnaround
- Efficient program setup and maintenance reduced rework and duplication
- Reusable structures improved long-term maintainability and scalability



Enablers

- Teamwork drives success
- Effective communication is essential
- Commit to continuous team learning
- Anticipate and resolve risks collaboratively
- Plan early with a big-picture perspective
- Leverage tools to improve deliverables tracking efficiency



Obstacles

- Managing expectations for cross-sub-study comparability – Differences in populations, endpoints, timelines
- Preserving knowledge continuity throughout the study lifecycle
- Version control and single-source governance for analysis programs
- Managing program reuse across sub-study analyses



Learnings

- Align early with stakeholders on reporting approaches
- Adapt technical approaches to platform trial needs
- Strategically assign each programmer's role
- Establish clear communication channels to align teams and manage competing priorities
- Educate stakeholders on proper processes and realistic timelines