

Agile Clinical Data Visualization Using R Shiny: Transforming Oncology Study Analytics

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VISION, BACKGROUND, AND OPPORTUNITIES

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VISTA:

Visualization **I**nterface for **S**tudy
Tracking & **A**alytics

Vision:

Empower study teams with visualization and faster access to insights.

Background:

VISTA simplifies the conversion of clinical data into **SAP-aligned, analysis-ready** datasets using an R/Shiny framework.



Opportunities

- SDTM/ADaM preparation and reporting cycles are repetitive and time-consuming.
- Formal reporting delays timely insights.
- Frequent ad-hoc requests strain resources and disrupt workflows.

WHAT VISTA DELIVERS AND ITS IMPACT

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Delivers

Real-time dashboards that speed data-driven decisions with derived endpoints (PFS, OS, ORR, DOR).

Visual simplicity with user-friendly design for effortless cross-functional use.

Centralized platform that unifies study tracking and analytics in one system.

Impact

Efficiency improves by accelerating workflows and reducing ad-hoc effort

Transparency increases with **instant** visibility into study **progress** and easier discrepancy identification.

Confidence grows as teams make data-driven decisions with fewer surprises.

DIFFERENCES BETWEEN FORMAL DELIVERY VS VISUALIZATION TOOL

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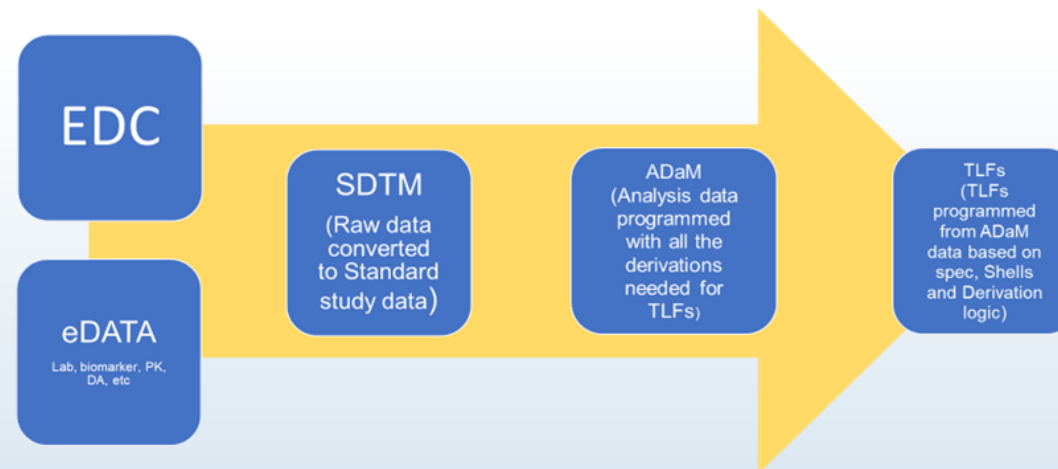
Visualization Tool:

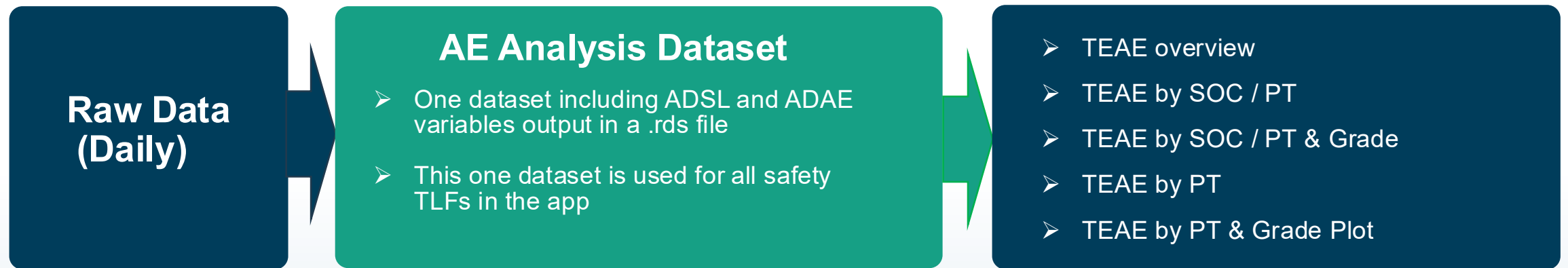
- Use live data as-is from EDC (no formal cleaning step)
- Accessible in real time, daily refresh – no need to wait for milestone outputs
- Provide engaging and interactive visualizations
- Support quicker insights and proactive decision-making
- ***Complements formal delivery — not a replacement***

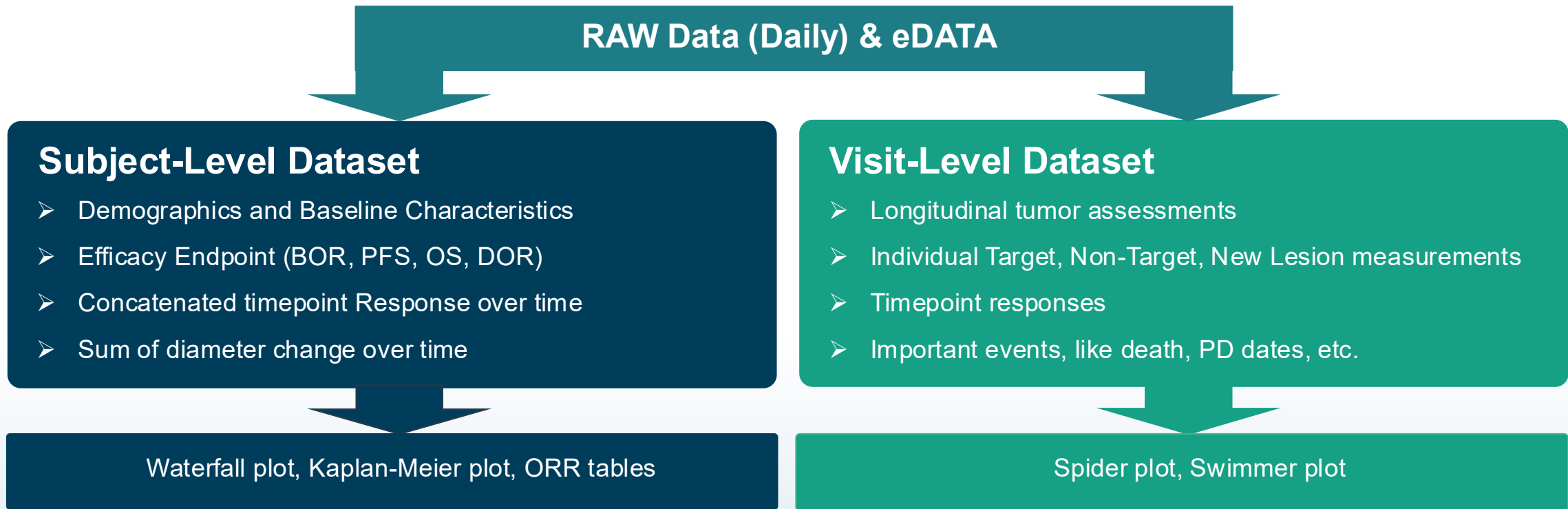


Formal Delivery:

- Involves DM data cleaning
- Require formal programming steps
- Planned at key milestones with PDF bundles
- Used in official documents and regulatory needs







RECIST & iRECIST Criteria Support

VISTA: USERS, ENHANCEMENTS, AND ROLLOUT

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Typical Users



- Clinical:** Medical Leads, Safety, Clinical Ops, Development Scientists
- Data & Analytics:** Statisticians, Data Management, Modeling & Simulation
- Translational:** Translational Medicine, Clinical Pharmacology
- Leadership:** Asset Leads

Future Enhancements

- AI-driven dataset generation
- Expansion to biomarkers, other endpoints, and subgroup analysis



Status & Rollout

- Pilots complete with strong feedback
- Phased rollout aligned with study priorities



R SHINY (VISTA) DEMO

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XXXX-CL-0101 Study Tracker

SafetyEfficacy

Cohort Options:

Tumor Type:

Assigned ASPXXXX Dose:

Assigned Treatment Group:

Dose Frequency of ASPXXXX:

Phase:

Reset All Filters

Get Outputs

TEAE Overview

TEAE by SOC/PT

TEAE by SOC/PT & Grade

TEAE by PT

TEAE by PT Plot

AE Listing

Please select filter options and press the Get Outputs button

VISTA Successfully Addresses Critical Gaps

By providing real-time medical monitoring, automated execution, VISTA complements traditional SAS-based regulatory workflows while meeting urgent clinical team needs for timely safety and efficacy information.

Key Achievements

Speed:

Reduce time-to-insights from 10-14 days to <1 day

Adoption:

Deployment across cross-functional stakeholders supporting multiple oncology trials

Efficiency:

80-90% reduction in manual programming time

Impact:

Accelerated safety and efficacy decisions

