

Real-World Evidence & Observational Data Analytics — Hands-on

Design and execute robust Real-World Evidence (RWE) studies using clinical registries, claims, and EHR data. This hands-on module covers observational study designs, cohort construction, bias mitigation, causal inference, time-to-event modeling, safety signal detection, and audit-ready reporting aligned to payer and regulatory expectations.

Real-World Evidence & Observational Data Analytics

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Session Index **Category 5 · Clinical & Translational Bioinformatics**

Session 1 — RWE Designs & Data Sources **Session 2 — Cohorts, Bias & Confounding Control**
Session 3 — Outcomes, Survival & Causal Inference **Session 4 — Safety Signals, Reporting & Governance**

Session 1

Fee: Rs 20720 [Apply Now](#)

RWE Designs & Data Sources

Observational designs

cohort/case-control/case-crossover **registries & pragmatic trials** **new-user designs**

Data sources & standards

EHR/claims/registries **OMOP (overview)** **coding**

(ICD/SNOMED/LOINC/RxNorm)

Data quality & missingness

completeness & plausibility checks MCAR/MAR/MNAR
strategies linkage pitfalls

Session 2

Fee: Rs 24920 Apply Now

Cohorts, Bias & Confounding Control

Cohort building & indexing

eligibility & washout exposure/outcome windows
time-at-risk

Bias taxonomy & diagnostics

confounding/immortal time channeling/selection
negative controls

Adjustment strategies

propensity scores (PSM/IPTW/OW) DAGs & covariate
selection doubly robust methods

Session 3

Fee: Rs 29120 Apply Now

Outcomes, Survival & Causal Inference

Endpoints & estimands

effectiveness/safety/utilization estimand framework
(ICEs) composite outcomes

Time-to-event & longitudinal models

Kaplan-Meier/Cox/competing risks time-varying
exposures mixed models/GEE

Causal inference toolkit

target trial emulation **IVs/diff-in-diff** **synthetic controls**

Session 4

Fee: Rs 34720 Apply Now

Safety Signals, Reporting & Governance

Signal detection & monitoring

disproportionality (PRR/ROR) **sequential monitoring**
negative/positive controls

Transparent reporting

STROBE/RECORD **effect sizes & CIs** **sensitivity analyses**

Governance & compliance (overview)

privacy & de-identification **data use agreements**
audit trails & reproducibility