



Feature Overview

nQuery versus East



nQuery Licensing

nQuery operates on a tiered licensing model

Base

Fixed Term Sample Size

Sample size and power for fixed terms trials over 100's of designs, endpoints and hypothesis types.

Plus

Bayesian + Fixed Term

Sample size for fully Bayesian (e.g. credible intervals) + Hybrid Bayes/Frequentist methods and designs (e.g. Assurance).

Pro

MOST POPULAR

Adaptive + Bayesian + Fixed

Sample size & power for a range of early-stage & confirmatory clinical trials. Adaptive Designs and tools for monitoring and in-trial adjustment.

Expert

Prediction + All Lower Tiers

Additional tools for study design and monitoring. Focus currently on milestone prediction for enrollment and (survival) event targets.

***Built for every type of trial complexity,
[see which nQuery tier suits you the most](#)***

Base Overview

Fixed Term

Means

t-test/z-test (One, Paired, Two, Log-Normal), ANOVA/ANCOVA, MANOVA, Repeated Measures, Cluster Randomized, Cross-over/Bioequivalence, Non-inferiority

Proportions

Chi-Squared (One, Two, General), Exact (One, Two), Mantel-Haenszel, Paired Proportions (e.g. McNemar), Non-inferiority/Equiv. (Farrington-Manning, Gart-Nam etc), Logistic Trend, Crossover, Shedding, Cluster Randomized, Vaccines (Efficacy, Safety, Durability)

Survival

Log-Rank (Fixed/Variable Followup, Piecewise), One Group, Paired, >2 Groups, Non-proportional Hazards (MaxCombo, Piecewise Model, RMST, Weighted Rank-tests (e.g. Farrington-Manning, Modestly Weighted)), AFT/Relative Time, NI/Equivalence, CRT

Counts/Rates

Poisson (One, Two, Crossover), Negative Binomial (Two), Andersen-Gill (Two), CRT, Post-Marketing Surveillance, Non-inferiority/Equivalence

Non-Parametric

Mann-Whitney U-Test (Ordinal/Continuous), Wilcoxon Signed-Rank Test (One/Paired), Proportional Odds Model (Two Group, Cross-over), Kruskal-Wallis (Ordinal/Continuous)

Base Overview

Fixed Term

Regression

Linear Regression, Logistic Regression, Cox Regression, Poisson Regression, Gamma Regression – Continuous and Binary Independent Variables

Correlation/Agreement/Diagnostic

Pearson, Spearman, Kendall Tau-b, ICC, Point Biserial, Tetrachoric, Concordance (Lin, Cronbach), Kappa, ROC (One/Two), Sensitivity/Specificity

Cluster Randomized/Hierarchical

Fully Randomized, Matched-Pair, Stepped-Wedge, Three-Level, Mixed Models – Means, Props, Survival, Rates, Prop Odds

Confidence Intervals

Means (One, Paired, Two, >2), Proportions (One, Paired, Two), Survival (One, Two), Counts (One), Correlations/Agreement/Diagnostic, Regression (Linear, Logistic), Vaccine Efficacy, Prediction Intervals, Tolerance Intervals

Other

Variance Tests, n-of-1, Composite (Win Ratio), Mendelian Clinical Prediction Models, Three-Arm “Gold Standard” NI, Multi-Regional (MRCT) + Bridging Study Allocation

Randomization Lists

Simple Randomization, Block Randomization, Random Sorting, Biased Coin, Urn-Model, Smith’s Model

Plus Overview

Bayesian

Fixed Term

Assurance

Means, Proportions, Survival - Conjugate, Uniform, Custom and Joint Priors

Credible Intervals

Means, Proportions + HPD Intervals + Mixed Bayesian / Likelihood HPD Interval + Consensus-Based Approach

Bayesian Hypothesis Testing

Posterior Error, Bayes Factors, Bayesian Average Error (BAE)

Bayesian Bioequivalence

Region of Practical Equivalence (ROPE), Bayes Factor

Continual Reassessment Method

CRM (Phase I)

Pilot Study Sample Size

Two Sample t-test, Problem Detection, Upper Confidence Limit from Pilot Study

Pro Overview

Adaptive

Bayesian

Fixed Term

Group Sequential Design

- **Spending Function Only**

Means, Proportions, Counts (Poisson, Negative Binomial), Two Survival (Various)

- **GSD Overhauled**

Two Means, Two Proportions, Two Survival (Accrual % - Constant or Piecewise), One Mean, Two Poisson, Information-Based + Simulation for Operating Characteristics

Unblinded Sample Size Re-estimation

Two Means, Two Proportions, Two Survival - Chen-Demets-Lan & Cui-Hung-Wang
Promising Zone Designs

Blinded Sample Size Re-estimation

Two Means, Two Proportions, Two Poisson Counts – Inequality, Non-inferiority, Equivalence, Bioequivalence Two-Stage (Potvin, Maurer)

Phase II

Simon's Design, Custom 2-stage Design, Fleming GST, Bryant & Day (Efficacy + Toxicity), Lin & Shih, Litwin's (PFS), 3-stage Designs, Single-Stage Design, MCP-Mod (Means, Proportions, Counts), Simon's Selection Design

Multiple Comparisons + Multi-Arm Multi-Stage (MAMS) Designs

Multiple Comparisons for Means (Bonferroni, Weighted Bonferroni, Sidak, Dunnett (Single-Stage, Step-Up, Step-Down), Step-Down Holm-Bonferroni, Step-Down Holm-Sidak, Step-Up Hochberg, Stepwise Fixed Sequence Testing, Stepwise Fallback, False Discovery Rate (Benjamini-Hochberg, Benjamini-Yekutieli))
MAMS Group Sequential Design for Means, Proportions

Expert Overview

Prediction

Adaptive

Bayesian

Fixed Term

Predict: Enrolment Prediction; Events Prediction

- Target: Predict length of time until study end/interim analysis
- Non-Survival trials: Enrolment Milestones
- Survival trials: Event and Enrolment Milestones

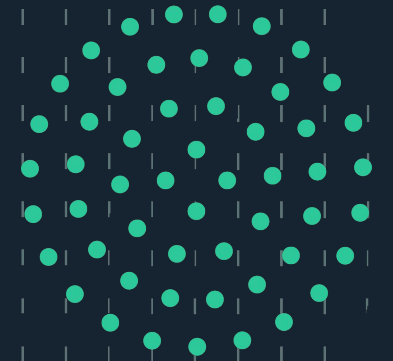
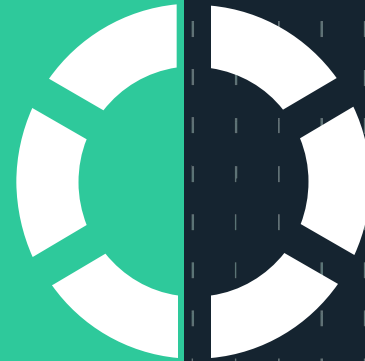
Predict based on Fixed Parameters or Interim Data

- Generate Predictions before or during trials
- Reports, Plots and Tables to explore results and data

Predict uses simulations to estimate study length

- Range of models for Enrolment, Survival and Dropout
- Enrolment: Poisson, Piecewise Poisson (9.3), Per-Site Poisson
- Survival: Exponential, Piecewise Exponential, Weibull
- Dropout: Exponential, Piecewise Exponential

nQuery / East Feature Comparison



BASE Module (Continuous)	nQuery	EAST	Detailed Breakdown
Single Mean	✓	✓	Both: t-test/Z-test, Confidence interval, Assurance nQuery Only: Wilcoxon Signed Rank Test, Finite Population t-test, Log-Normal test, Prediction Interval EAST Only: Accrual/Dropout option, Simulation Tool, Analysis Tool
Paired Mean	✓	✓	Both: t-test/Z-test (incl. Non-inferiority, Equivalence), Confidence interval, (Log) Ratio test, Assurance nQuery Only: Wilcoxon Signed Rank Test, Finite Population Adjusted t-test EAST Only: Accrual/Dropout option, Simulation Tool, Analysis Tool
Difference of Two Means	✓	✓	Both: t-test/Z-test (incl. Non-inferiority, Equivalence), Confidence interval, Assurance nQuery Only: Satterthwaite t-test, Cluster Randomized EAST Only: Super Superiority (1), Accrual/Dropout option, Simulation Tool (2), Analysis Tool
Ratio of Two Means	✓	✓	Both: t-test for Log-Normal Ratio (incl. Non-inferiority, Equivalence) nQuery Only: Original Scale Ratio Test, Fold Change Tests EAST Only: Z-test, Accrual/Dropout option, Simulation Tool, Analysis Tool
Cross-over Designs (Difference, Ratio)	✓	✓	Both: t-test (incl. Non-inferiority, Equivalence) for difference and ratio (log-scale) for 2x2 Design nQuery Only: Original Scale Ratio Test, Higher-order Cross-over (3), N-of-1 trials, X-over for binary, counts, ordinal endpoints EAST Only: Analysis Tool
ANOVA	✓	✓	Both: One-Way ANOVA (incl. Contrasts, Confidence Interval), Two-Way ANOVA, One-Way Repeated Measures ANOVA (incl. Contrasts, Confidence Interval), nQuery Only: ANCOVA, MANOVA, Kruskal Wallis, Greenhouse-Geisser Correction for RM EAST Only: Accrual/Dropout option, Analysis Tool
Non-Parametric (Continuous, Ordinal)	✓	✓	Both: Wilcoxon-Mann-Whitney U Test (WMW) Noether Approximation for Continuous Data, WMW for Ordinal nQuery Only: Lehmann Approximation (Effect Size, Moment or Pilot Study input), Proportional Odds Model (Whitehead - Parallel, Stratified), One-way Kruskal-Wallis (Continuous, Ordinal), Wilcoxon Signed-Rank Test, N-P Correlations EAST Only: Analysis Tool
Linear Regression	✓	✓	Both: One Slope Test (+ confidence interval), Difference in Slopes Tests (incl repeated measures) nQuery Only: Covariate tests (single, multiple), Linear Clinical Prediction model, Pearson Correlation (One, Paired, Two) EAST Only: Accrual/Dropout option, Analysis Tool
(1) Note “Super Superiority” tests can be conducted in equivalent Non-inferiority table, (2) Can use Group Sequential Simulation Tool for same purpose, (3) Higher Order Tests Covered: 2x2x3, 2x3x3 (Partial Replicate), 2x2x4, 2x4x2 (Balaam's), 2x4x4, 3x3x3, 3x6x3, 4x4x4, 2x2x2r (Liu), William's Design			

BASE Module (Discrete)	nQuery	EAST	Detailed Breakdown
Single Proportion	✓	✓	Both: Chi-Squared Test, Wald Confidence interval, Assurance nQuery Only: Continuity Corrected Test, Wilson Interval, Clopper-Pearson Interval EAST Only: Accrual/Dropout option, Simulation Tool, Analysis Tool
Paired (Correlated) Proportions	✓	✓	Both: McNemar Test, Confidence Interval for Paired Differences nQuery Only: Case-Control Study (1:N), Non-inferiority/Equivalence, Risk Ratio tests, Conditional Logistic Regression, McNemar-Bowker Test EAST Only: Simulation Tool, Analysis Tool
Two Proportions	✓	✓	Both: Z-Test for Difference, Ratio, Odds Ratio (incl Non-inferiority, Equivalence); Wald Confidence interval, Fisher's Exact Test, Assurance nQuery Only: Likelihood Ratio Tests (Gart-Nam, Farrington-Manning, Miettinen-Nurminen), t-test, Cluster Randomized, Vaccine Efficacy (Conditional Method, Composite BOI) EAST Only: Log Odds Ratio, Log Risk Ratio, Super Superiority (1), Accrual/Dropout option, Simulation Tool (2), Analysis Tool
Stratified Proportions	✓	✓	Both: (Cochran)-Mantel-Haenszel (CMH) Test for Odds Ratio (incl. Non-inferiority) nQuery Only: Continuity Correction, Cluster Randomized, Confidence Interval EAST Only: Risk Ratio CMH, Accrual/Dropout option, Simulation Tool, Analysis Tool
Contingency Table	✓	✓	Both: Chi-squared tests for 1xC, 2xC, RxC tables nQuery Only: n/a EAST Only: Accrual/Dropout option, Simulation Tool, Analysis Tool
Ordinal Data	✓	✓	Both: Wilcoxon-Mann-Whitney U Test for Two Groups, Logistic Trend Test for >2 Groups nQuery Only: Whitehead Proportional Odds Method, One-Way Kruskal-Wallis, Cluster Randomized, 2x2 Cross-over Design EAST Only: Accrual/Dropout option, Analysis Tool
Logistic Regression	✓	✓	Both: Normal Covariate (option to adjust for other covariates) nQuery Only: Binary Covariate (+ additive or multiplicative interactions), Confidence Interval, Conditional LR, Logistic Clinical Prediction Model EAST Only: Accrual/Dropout option, Analysis Tool
Agreement	✓	✓	Both: Cohen's Kappa for Binary, Cohen's Kappa for Categorical nQuery Only: Confidence Interval for Binary/Categorical, Concordance, Cronbach Alpha, ICC, ROC (AUC) EAST Only: Accrual/Dropout option, Analysis Tool
(1) Note “Super Superiority” tests can be conducted in equivalent Non-inferiority table, (2) Can use Group Sequential Simulation tool for same purpose			

BASE Module (Counts)	nQuery	EAST	Detailed Breakdown
Single Count	✓	✓	Both: Poisson Count nQuery Only: Poisson Regression, Confidence Interval EAST Only: n/a
Two Group - Poisson	✓	✓	Both: Two Poisson Ratio Superiority nQuery Only: Two Poisson Difference, Non-inferiority, Equivalence, Cluster Randomized EAST Only: n/a
Two Group - Negative Binomial	✓	✓	Both: Two Negative Binomial Ratio Superiority (Equal Follow-up) nQuery Only: Unequal Follow-up, Non-inferiority, Equivalence EAST Only: n/a
Two Group – Andersen-Gill	✓	✗	Both: n/a nQuery Only: Superiority, Non-inferiority, Equivalence for Two Groups using Andersen-Gill Model EAST Only: n/a
Cross-over Design	✓	✗	Both: n/a nQuery Only: Superiority, Non-inferiority, Equivalence for 2x2 Design using Poisson Model EAST Only: n/a
Poisson Regression	✓	✗	Both: n/a nQuery Only: Normal, Uniform, Binary or Exponential Covariate EAST Only: n/a
Post-Marketing Surveillance	✓	✗	Both: n/a nQuery Only: Single Cohort, Two Cohort, Case-Control EAST Only: n/a
Multiple Counts	✓	✗	Both: n/a nQuery Only: Three-Arm Non-inferiority Trial EAST Only: n/a

SURVIVAL Module	nQuery	EAST	Detailed Breakdown
One Survival	✓	✗	Both: n/a nQuery Only: Log-Rank Test, Exact Test, Cure Model, Cox Regression (Covariate), Confidence Interval EAST Only: n/a
Paired Survival	✓	✗	Both: n/a nQuery Only: Log-Rank Test EAST Only: n/a
Two Group Log-Rank Test (Accrual Rate)	✓	✓	Both: Solver for N/Accrual Period (with piecewise or constant accrual, piecewise or constant hazard rates (or survival %), piecewise or constant dropout hazard rates, event-drive or fixed follow-up design, null or alternative variance), Assurance nQuery Only: n/a EAST Only: Non-inferiority, Super Superiority, Prob. of Dropout Rate Input, Simulation Tool (2), Analysis Tool
Two Group Log-Rank Test (Study Length)	✓	✓	Both: Solver for Events/N (with piecewise or constant accrual, piecewise or constant hazard rates (or survival %), piecewise or constant dropout hazard rates, event-drive or fixed follow-up design, null or alternative variance), Non-inferiority, Assurance nQuery Only: Equivalence, Stratified Log-Rank, Competing Risk, Piecewise Weighted Log-Rank Test, Cluster Randomized EAST Only: Super Superiority (1), Simulation Tool (2), Analysis Tool
Cox Regression	✓	✗	Both: n/a nQuery Only: Covariate, Two Groups (Superiority, Non-inferiority, Equivalence) EAST Only: n/a
Non-Proportional Hazards Methods	✓	✗	Both: n/a nQuery Only: Linear-Rank Tests (Wilcoxon, Tarone-Ware, Peto-Peto, Fleming-Harrington, Threshold Lag, Generalized Linear Lag, Modestly Weighted) + MaxCombo (for same tests) for Superiority, Non-inferiority, Equivalence, RMST (superiority, non-inferiority), Relative Time/Accelerated Failure Time Models, EAST Only: n/a
>2 Group Survival	✓	✗	Both: n/a nQuery Only: One-Way Log-Rank Test, One-Way Contrast Test, 2x2 Factorial Interaction, Three-Arm Non-inferiority EAST Only: n/a

(1) Note “Super Superiority” tests can be conducted in equivalent Non-inferiority table, (2) Can use Group Sequential Simulation tool for same purpose

SEQUENTIAL (1)	nQuery	EAST	Detailed Breakdown
Group Sequential One Mean	✓	✓	Both: t-test/Z-test nQuery Only: n/a EAST Only: n/a
Group Sequential Two Means	✓	✓	Both: t-test/Z-test for Inequality, Non-inferiority + Simulation nQuery Only: n/a EAST Only: Equivalence
Group Sequential One Proportion	✓	✓	Both: Chi-Squared Test for Inequality nQuery Only: Fleming Design EAST Only: Exact Test, Non-inferiority, Equivalence
Group Sequential Paired Proportions	✗	✓	Both: n/a nQuery only: n/a EAST Only: McNemar Test
Group Sequential Two Proportions	✓	✓	Both: Chi-Squared Test + Simulation nQuery Only: EAST Only: Exact Test, Log(Risk Ratio), Log(Odds Ratio), Stratified (CMH)
Group Sequential Two Survival	✓	✓	Both: Log-Rank Test (Various Scenarios) + Simulation nQuery Only: n/a EAST Only: Non-inferiority
Group Sequential Two Counts	✓	✗	Both: n/a nQuery Only: Poisson, Negative Binomial EAST Only: n/a

(1) Including SEQUENTIAL and EXACT module interactions

Sequential	nQuery	EAST	Detailed Breakdown
Error Spending	✓	✓	Both: O’Brien-Fleming, Pocock, Hwang-Shih-DeCani (Gamma), Power Family (Rho), User Defined (Interpolated) nQuery Only: 2-Parameter Family (Logistic, Normal, Cauchy), Exponential, Beta, t-distribution EAST Only: n/a
Haybittle-Peto	✓	✓	Both: Total Alpha, Last p-Value, Custom p-values nQuery Only: n/a EAST Only: n/a
Wang-Tsiatis	✓	✓	Both: Wang-Tsiatis, Pampallona –Tsiatis (Binding, Non-binding) nQuery Only: n/a EAST Only: n/a
Unified Family	✓	✗	Both: n/a nQuery only: Unified Family Design EAST Only: n/a
Custom Efficacy Bounds	✓	✗	Both: p-value (via Haybittle-Peto), Alpha error (via Interpolated) nQuery Only: Z-statistic scale, Score Statistic Scale, Effect Size Scale, B-value Scale EAST Only: n/a
Custom Futility Bounds	✓	✓	Both: p-value, Effect Size, Conditional Power, Beta error (via Interpolated) nQuery Only: Z-statistic Scale, Score Scale, B-value Scale, Reverse Conditional Power, Predictive Power, Conditional Power with User Input θ EAST Only: n/a
Efficacy/Futility Only Looks	✓	✓	Both: n/a nQuery Only: Poisson, Negative Binomial EAST Only: n/a

Sequential Module	Detailed Breakdown
Context: nQuery currently has two types of Group Sequential table: Spending Function only and Overhauled. 2025-2026 updates will replace existing spending function only tables with overhauled version + adding additional tables. Below is summary of each “type”, a comparison of overhauled vs EAST and designs covered across three categories	
Within nQuery Comparison	Spending Function Only: 1-sided efficacy and/or futility or 2-sided efficacy designs using O’Brien-Fleming, Pocock, Power Family, Hwang-Shih-DeCani (Gamma) spending function or Custom Z-statistic input bounds. Outputs for Z-scale bounds, error spending + exit probability Overhauled: Spending Function (9 options incl. 4 above + piecewise error), Haybittle-Peto, Wang-Tsiatis (incl Pampallona-Tsiatis), Unified Family group sequential designs for efficacy/futility across 1 & 2-sided tests with additional option for fully custom bound inputs on Z, p-value, Score, effect size, B-value, (futility only) conditional power, reverse conditional power, predictive power scales. Detailed report with H0/H1 per boundary exit probabilities and for survival the expected timing, sample size, events, dropout etc at each look. Boundary plots + Simulation tool integrated into each table.
EAST Feature Comparison vs Overhauled	In Both: Spending Function (O’Brien-Fleming, Pocock, Power Family, Hwang-Shih-DeCani/Gamma, Interpolated), Wang-Tsiatis/Pampallona-Tsiatis, Haybittle-Peto, Custom Futility bounds for p-value, effect size, conditional power incl. individual efficacy or futility only looks. Can display Z, p-value, Score, Effect Size scale bounds in table or in detailed GST report (w/ exit probabilities and for survival look information (e.g. timing) under H0/H1), boundary plot, error spending plot, simulation tools for operating characteristic nQuery Only: Custom efficacy and futility bound inputs on Z, p-value, score and effect size scales, Unified Family Designs, 4 additional spending functions (Exponential, Beta, t, 2-parameter) EAST Only: Group Sequential Monitoring Tool, Survival Sample Size/Events vs Time Plot
Design Availability Comparison	SF Only + Overhauled + EAST: Two Means, Two Proportions, Two Survival (Constant or Piecewise Input, Study Length), One Mean, Two Poisson Overhauled Only + EAST: Information-Based Design SF Only + EAST: One Mean, One Proportion, Two Means Non-inferiority Only, Two Survival (Constant Input, Accrual Rate versions) SF Only: Two Negative Binomial EAST Only: Paired Means, Two Means Equivalence, Paired Proportions, Two Proportions Non-inferiority/Equivalence, Two Proportions Log(Ratio), Two Proportions Log(Odds Ratio), Stratified Proportions, Two Survival Non-inferiority, Sample Size Based.

ADAPT/SURVADAPT Modules	nQuery	EAST	Detailed Breakdown
Chen-DeMets-Lan (CDL) Design	✓ (1)	✓	Both: Conditional Power, calculate exact lower conditional power CDL bound (Mehta-Pocock), manual SSR input nQuery Only: Automatically recalculate Sample Size at Monitoring Stage using rules (target CP, max N etc) EAST Only: Simulation tool for SSR
Cui-Hung-Wang (CHW) Design	✓ (1)	✓	Both: Conditional Power, manually calculate sample size required for target conditional power, manual SSR input nQuery Only: Automatically recalculate Sample Size at Monitoring Stage using rules (target CP, max N etc) EAST Only: Simulation tool for SSR
Muller and Schafer Design	X	✓	Both: n/a nQuery Only: n/a EAST Only: Multi-stage adaptive GSD using MS method, Simulation tools for SSR
Two Means Promising Zone	✓	✓	Both: Solver for Events/N (with piecewise or constant accrual, piecewise or constant hazard rates (or survival %), piecewise or constant dropout hazard rates, event-drive or fixed follow-up design, null or alternative variance), Non-inferiority, Assurance nQuery Only: Equivalence, Stratified Log-Rank, Competing Risk, Piecewise Weighted Log-Rank Test, Cluster Randomized EAST Only: Super Superiority (1), Simulation Tool (2), Analysis Tool
Two Proportions Promising Zone	✓	✓	Both: n/a nQuery Only: Covariate, Two Groups (Superiority, Non-inferiority, Equivalence) EAST Only: n/a
Two Survival Promising Zone	✓	✓	Both: n/a nQuery Only: Linear-Rank Tests (Wilcoxon, Tarone-Ware, Peto-Peto, Fleming-Harrington, Threshold Lag, Generalized Linear Lag, Modestly Weighted) + MaxCombo (for same tests) for Superiority, Non-inferiority, Equivalence, RMST (superiority, non-inferiority), Relative Time/Accelerated Failure Time Models, EAST Only: n/a

(1) Integrated with spending function only group sequential tables – separate overhauled version planned for overhauled group sequential tables

EXACT/MCPMOD Modules	nQuery	EAST	Detailed Breakdown
Simon’s Design	✓	✓	Both: Minimax, Optimal, nQuery Only: Admissible, Custom EAST Only: n/a
Additional Simon’s Like Designs	✓	✗	Both: Ahern’s Design (single-stage) nQuery Only: Fleming Design, Bryant and Day (Efficacy + Safety), Lin & Shih (Adaptive), Litwin (PFS), Three-Stage Design, Simon Selection Design EAST Only: n/a
Unconditional Exact Tests	✗	✓	Both: n/a nQuery Only: n/a EAST Only: One Proportion, Paired Proportions, Two Proportions (incl. Non-inferiority, Equivalence) Note: nQuery covers design for conditional exact tests such as Fisher’s Test for these scenarios
Exact One Proportion Group Sequential	✗	✓	Both: n/a nQuery Only: n/a EAST only: One Proportion Exact GST Note: nQuery covers asymptotic one proportion group sequential
MCP-Mod Means	✓	✓	Both: Z-test, Same Candidate Dose-Finding Models nQuery Only: n/a EAST Only: n/a
MCP-Mod Binary	✓	✓	Both: Z-test, Same Candidate Dose-Finding Models nQuery Only: n/a EAST Only: n/a
MCP-Mod Counts	✓	✓	Both: Poisson, Same Candidate Dose-Finding Models nQuery Only: Negative Binomial MCP-Mod EAST Only: n/a

(1) Note “Super Superiority” tests can be conducted in equivalent Non-inferiority table, (2) Can use Group Sequential Simulation tool for same purpose

MULTIARM/ENDPOINT S/MAMS Modules	nQuery	EAST	Detailed Breakdown
Multiple Comparisons	✓	✓	Both: MC for Means. MC Methods: Bonferroni, Weighted Bonferroni, Sidak, Dunnett (Single-Stage, Step-Up, Step-Down), Step-Down Holm-Bonferroni, Step-Down Holm-Sidak, Step-Up Hochberg, Stepwise Fixed Sequence Testing, Stepwise Fallback, nQuery only: False Discovery Rate (Benjamini-Hochberg, Benjamini-Yekutieli)) EAST Only: MC for Binary, MC for Survival, Analysis Tool, Simulation Tool
Gatekeeping Procedures	✗	✓	Both: n/a nQuery only: n/a EAST Only: Serial Gatekeeping, Parallel Gatekeeping
MAMS Group Sequential Means	✓	✓	Both: Design using O’Brien-Fleming, Pocock, Power Family, Hwang-Shih-DeCani (gamma) spending function for efficacy/futility nQuery only: n/a EAST Only: Simulation tools
MAMS Group Sequential Binary	✓	✓	Both: Design using O’Brien-Fleming, Pocock, Power Family, Hwang-Shih-DeCani (gamma) spending function for efficacy/futility nQuery only: n/a EAST Only: Simulation tools
MAMS P-value Combination Means	✗	✓	Both: n/a nQuery only: n/a EAST Only: P-value combination design, Simulation tools
MAMS P-value Combination Binary	✗	✓	Both: n/a nQuery only: n/a EAST Only: P-value combination design, Simulation tools
MAMS P-value Combination Survival	✗	✓	Both: n/a nQuery only: n/a EAST Only: P-value combination design, Simulation tools

PREDICT/PROGRAM Modules	nQuery	EAST	Detailed Breakdown
Accrual Prediction	✓	✓	Both: Constant Poisson model on global or site-level basis based on fixed parameter inputs (pre-trial or interim) or interim subject-level (and if relevant) site-level data –output average study length and relevant reports + plots nQuery only: Non-homogenous global Poisson model for accrual generation EAST Only: Uniform model for accrual generation
Event Prediction	✓	✓	Both: Exponential (constant, piecewise) and Weibull model for simulating hazard and dropout times for event-driven or fixed term designs including effect of accrual prediction (see above). Can be based on fixed parameter or interim data on blinded or unblinded basis –output average study length and relevant reports + plots nQuery only: n/a EAST Only: n/a
Prediction Interval Plots (within GSD monitoring)	✗	✓	Both: n/a nQuery only: n/a EAST Only: PIP feature within Interim Monitoring Tool Note: Not to be confused with prediction plots for study length given by predict tools above
Dose Escalation with Cohort Expansion	✗	✓	Both: n/a nQuery only: n/a EAST Only: Dose Escalation Design with Cohort Expansion (Phase I/IIa)
Combining Trials Program	✗	✓	Both: n/a nQuery only: n/a EAST Only: Phase II/III Program

(1) Note that for group sequential designs, substantial overlap with equivalent simulation tools

ESCALATE/ENRICH Modules	nQuery	EAST	Detailed Breakdown
3+3	X	✓	Both: n/a nQuery only: n/a EAST Only: 3+3 Simulation
Continual Reassessment Method (CRM)	✓	✓	Both: n/a nQuery only: Sample Size for CRM EAST Only: CRM Simulation
Modified Toxicity Probability Interval (mTPI)	X	✓	Both: n/a nQuery only: n/a EAST Only: mTPI Simulation
Bayesian Logistic Regression (BLRM)	X	✓	Both: n/a nQuery only: n/a EAST Only: BLRM Simulation
Combination BLRM	X	✓	Both: n/a nQuery only: n/a EAST Only: Combination BLRM Simulation
Product of Independent Beta Probabilities (PIPE)	X	✓	Both: n/a nQuery only: n/a EAST Only: PIPE Simulation
Log-Rank Enrichment Design	X	✓	Both: n/a nQuery only: n/a EAST Only: Log-Rank Enrichment Design



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