CONCEPT

Health Technology Assessment and Health Economics: Cost-Effectiveness, QALYs and Budget Impact

24 – 28 October 2027
Riyadh - KAFD district five-star



Health Technology Assessment and Health Economics: Cost-Effectiveness, QALYs and Budget Impact

Ref: 396_13598 **Date:** 24 – 28 October 2027 **Location:** Riyadh - KAFD district five-star **Fees:** 20000 SAR

Introduction:

Health technology assessment decisions are often taken on list price, a single trial result or supplier pressure, so payers fund medicines and devices that add little health gain while better-value options wait. Health economics gives a structured way to ask what extra benefit a technology buys and at what extra cost. This Core Concept course equips payer, formulary, market-access and health policy staff to run cost-effectiveness and cost-utility analyses, measure QALYs, build decision tree and Markov models in Excel and appraise a submission dossier. Participants produce a Cost-Effectiveness Model and HTA Appraisal Report.

Course Objectives:

- Select the appropriate form of economic evaluation, from cost-minimisation to cost-benefit analysis, for a given coverage or formulary question
- Estimate direct, indirect and resource-use costs of a health technology with transparent unit costs, perspective and discounting choices
- Calculate QALYs from utility values and time in health states and interpret incremental cost-effectiveness ratios against willingness-to-pay thresholds
- Build decision tree and Markov cohort models in Excel that compare a new technology with current care
- Quantify uncertainty with one-way, scenario and probabilistic sensitivity analysis and forecast budget impact for a payer
- Appraise a manufacturer submission dossier against CHEERS 2022 and turn the evidence into a coverage or formulary recommendation

Target Audience:

- Payer and insurer staff responsible for benefit package design and coverage decisions on medicines and devices
- Hospital formulary and pharmacy committee members who review new product requests
- Market-access and health economics staff in pharmaceutical and medical device companies who prepare value dossiers
- Health policy analysts who advise on priority setting and resource allocation for health technologies
- Procurement and purchasing managers who negotiate price and access agreements with suppliers

Course Outline:

Day 1: Health Economics Principles and the HTA Decision Context

- Scarcity, Opportunity Cost and Efficiency Concepts in Healthcare Resource Allocation
- HTA Domains: Clinical Effectiveness, Safety, Economic, Ethical and Organisational Aspects
- Payer, Provider, Patient and Societal Perspectives in an Economic Evaluation
- PICO Framing of the Decision Problem: Population, Intervention, Comparator and Outcomes
- Current Coverage and Formulary Decision Process Mapping Checklist

Day 2: Types of Economic Evaluation, Costing Methods and Outcome Measures

- Cost-Minimisation, Cost-Effectiveness, Cost-Utility and Cost-Benefit Analysis Compared
- Costing Methods: Micro-Costing, Gross Costing, Unit Cost Sources and Resource-Use Data
- Discounting of Costs and Health Effects and Choice of Time Horizon
- QALY Calculation from Utility Weights and Time Spent in Health States
- Utility Measurement: EQ-5D, Time Trade-Off, Standard Gamble and Visual Analogue Scale

Day 3: Incremental Analysis and Decision-Analytic Modelling in Excel

- Incremental Cost-Effectiveness Ratio Calculation, Dominance and Extended Dominance
- Willingness-to-Pay Thresholds, Net Monetary Benefit and the Cost-Effectiveness Plane
- Decision Tree Model Build for an Acute Treatment or Diagnostic Test Choice
- Markov Cohort Model Build: Health States, Transition Probabilities and Cycle Length
- Half-Cycle Correction, Model Validation and Excel Model Structure Conventions

Day 4: Uncertainty, Budget Impact and Dossier Critical Appraisal

- One-Way, Multi-Way and Scenario Sensitivity Analysis with Tornado Diagram Output
- Probabilistic Sensitivity Analysis: Parameter Distributions and Cost-Effectiveness Acceptability Curves
- Budget Impact Analysis Model: Eligible Population, Uptake Curve and Displaced Treatments
- CHEERS 2022 Checklist Review of a Published Economic Evaluation
- Submission Dossier Red Flags: Comparator Choice, Extrapolation, Surrogate Endpoints and Model Bias

Day 5: Modelling Build: Cost-Effectiveness Model and HTA Appraisal Report

- Modelling Exercise: Markov Cost-Utility Model for a Chronic Disease Medicine
- Modelling Exercise: Probabilistic Run and Acceptability Curve for a Medical Device Case
- Budget Impact Worksheet for a Payer Covering Several Years of Uptake
- Managed Entry Agreement Options: Price-Volume, Outcome-Based and Coverage with Evidence Development
- HTA Appraisal Report Drafting and Mock Formulary Committee Defence

Skills You Will Gain:

- Economic Evaluation Design
- Healthcare Cost Estimation
- Health Utility Measurement
- Incremental Cost-Effectiveness Analysis
- Markov Cohort Modelling
- Probabilistic Sensitivity Analysis
- Budget Impact Forecasting
- Value Dossier Critical Appraisal

Why Attend This Course:

- Return with a working Cost-Effectiveness Model and HTA Appraisal Report built on a technology your organisation is reviewing
- Challenge supplier value claims by checking comparators, extrapolation and utility sources before a coverage vote
- Explain to committees why a lower-priced product may still offer poor value, and when a higher price is justified
- Compare evaluation practice with payers, hospital formulary teams, manufacturers and policy advisers from different health systems

Conclusion:

Health technology assessment works when every coverage choice is traced back to the extra health gained and the extra cost incurred. The course moves from health economics principles and decision framing, through the types of economic evaluation, costing and QALY measurement, to incremental analysis, decision tree and Markov modelling in Excel, and then to uncertainty, budget impact and dossier appraisal. The final day brings these methods together in a Cost-Effectiveness Model and HTA Appraisal Report defended before a mock formulary committee.