DECISION ANALYTIC MODELLING

PATH has a multidisciplinary team of experienced researchers including health economists, decision scientists, mathematicians, pharmacists, epidemiologists, and clinicians. We have over two decades of experience in developing models in all major disease areas and on all types of healthcare interventions:

DISEASE AREAS STUDIED
Infectious and parasitic diseases
Endocrine, nutritional and metabolic diseases
Gastrointestinal, kidney, liver, urology
Mental and behavioural disorders
Diseases of the nervous system
Diseases of the eye and adnexa
Diseases of the ear and mastoid process
Blood disorders and autoimmunity
Diseases of the circulatory system
Diseases of the respiratory system
Diseases of the digestive system
Diseases of the skin and subcutaneous tissue
Diseases of the musculoskeletal system and connective tissue
Diseases of the genitourinary system
Neoplasms and diseases for oncology

TYPES OF INTERVENTIONS STUDIED
Prescription pharmaceuticals
Over-the-counter medications
Medical devices
Surgical procedures
Diagnostic imaging
Programs and services
Screening programs
Primary and secondary prevention strategies
Public health interventions

PATH has developed a range of decision analytic models from simple and recursive decision trees, to more complicated Markov, Discrete Event Simulation (DES) and infectious disease models. We specialize in modeling of disease progression, survival (mortality) analyses, time-to-event analyses, multiple treatment and indirect comparison methods, treatment sequencing analyses, probabilistic modeling and DES, and the incorporation of treatment side-effects, adverse events and treatment adherence (compliance and persistence). We are leaders internationally in techniques of applying various components of model validation throughout all stages of model design, development, parameterization and analysis.

Specializing in economic evaluations, cost-effectiveness (utility) models and Budget Impact Analysis (BIA) , all models are transparent, customized to each product and fully scalable in order to accommodate increasing disease and treatment sequencing complexity. To maximize flexibility and meet user needs, PATH utilizes a number of different software packages including Visual Basic programming in popular spreadsheet programs (Microsoft Excel), spreadsheet add-on packages (Crystal Ball, Tree Plan, Precision Tree), and free-standing modeling packages (TreeAge, @ Risk, Decision Pro, Arena, Monarch).