

Economic Evaluation in Health Technology Assessment (HTA) – Applied Training 1

Topic: Model concept and data for economic evaluations of different types of health technologies

Date: 16 September to 20 September 2019

Location: DHR Delhi

Number of Participants: A maximum of 30 participants in total is allowed in order to provide tailored technical advice and support and engage with each individual throughout training exercises.

Participant Requirements: All participants must be members of one of the pre-identified Technical Partner (TP) Institutes identified by DHR, and have an institutional MoU with DHR to conduct HTA as part of the HTAIN. Participants must have participated at least at Training 2 on economic evaluations (October 2018) and have developed, or at least started developing, the cost-effectiveness model for their HTA study.

Objective: For participants to have a clear understanding and technical capacity of all stages required to conceptualize and obtain data to develop a decision analytic model for the economic evaluation of different types of technologies: screening, diagnostic, surgical procedure, drug for chronic disease, drug for acute treatment.

1. To familiarize participants with:
 - a. Key aspects to consider to develop a model concept;
 - b. Key data requirements for modelling and their sources + solutions to lack of data availability;
 - c. Key statistics for decision analytic modelling;
 - d. Key stages of developing a decision model for HTA.
2. To build local capacity in HTAIN TP's to:
 - a. Design the model concept for economic evaluation of different types of health technologies considering both representativeness of disease/impact of intervention and data availability;
 - b. Understand when to use a decision tree vs a Markov model;
 - c. Identify the types of parameters required to populate the model;
 - d. Understand and use key statistics for modelling and HTA;

- e. Obtain data on cost/resource use and quality of life to fit model concept;
- f. Transform data in the literature into inputs needed in models, e.g. transition probabilities;
- g. Prepare the structure of the model engine based on model concept developed and cohort characteristics.

Structure of workshop:

1. The workshop will be organized over 5 days, in the form of presentations, discussions, case studies and group work. Most of the time of the workshop will be dedicated to hands-on work;
2. Participants will be divided in 5 groups and each will be assigned a HTA research question on a different type of health technology. Prior to the workshop, participants will receive a number of papers to read on the assigned HTA research question (informative for model concept development and data extraction). Having done the reading is a prerequisite for participation at the workshop;
3. At the end of the workshop, each group will be requested to present the model concept alongside with the data appropriately transformed to be used for model population;
4. Teaching Faculty for the workshop will be Imperial College London, PGIMER Chandigarh and HTAIn (Department of Health Research), as well as some of their TAC members.

By the end of the course, participants should have a clear understanding of how to develop a model concept starting from an HTA research question. They should also have a clear understanding of all data required to populate the cost-effectiveness model, how to identify and interpret relevant statistics, how to determine/estimate transition probabilities, resource use/cost and quality of life data to fit the model concept.

Workshop Agenda

- Day 1-

Time	Session	Format	Delivery Lead
9.00 am-9.30 am 9.30 am-9.45 am 9.45 am-10.00 am	Registration of workshop Welcome address Introduction of the workshop		
10.00 am-11.30 am	Model concept development for different types of health technologies: framework and examples	Power Point Presentation	Maria De Francesco, Imperial College
11.30 am-11.45 am	Tea break		
11.45 am-1.30pm	Practical session: model conceptualization (structure)	Group work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
1.30pm-2.00 pm	Lunch break		
2.00 pm-3.30 pm	Practical session: model conceptualization (data requirement)	Group work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
3.30 pm-3.45 pm	Tea break		
4.45 pm-5.30 pm	Group presentations (3 groups) of the model concept developed -structure and data requirement (~20 minutes x group + discussion time)	Group presentation and discussion	All

Day 1: Model conceptualization for different types of health technologies

- DAY 2-

Day 2: Identifying and adjusting QoL data to populate the model	Time	Session	Format	Delivery Lead
	09.30 am-10:20 am	Group presentations (2 groups) of the model concept developed -structure and data requirement (~20 minutes x group + discussion time)	Group presentation and discussion	All
	10.20am-10.40am	Facilitators views on the group performance and suggestions for improvement		Akshay, Malkeet, Gaurav and Akashdeep, Maria
	10.40am -11.00am	Tea Break		
	11.00 pm-11.45 pm	Obtaining and adjusting QoL data (utilities and disutilities) to populate cost-effectiveness models	Power Point Presentation	Dr.Gaurav Jyani PGIMER
	11.45 am-12.30 pm	Obtaining and adjusting QoL data to populate cost-effectiveness models: Examples of different types of health technologies	Power Point Presentation	Dr.Gaurav Jyani PGIMER
	12.30 pm – 1.30 pm	Practical session: obtaining and transforming QoL data to populate the model (part 1)	Group Work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
	1.30 pm-2.00 pm	Lunch break		
	2.00 pm-3.45 pm	Practical session: obtaining and transforming QoL data to populate the model (part 2)	Group Work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
3.45 pm-4.00 pm	Tea break			
4.00 pm-5.30 pm	Identify, interpret and extract clinical data to populate cost-effectiveness models for different types of technologies	Power Point Presentation	Dr.Malkeet and Dr.Akshay HTAIn Secretariat	

- DAY 3 -

Day 3: Identifying and transforming clinical data to populate the model				
	09.30 am-10:30 am	Transform clinical data in the literature to transition probabilities for decision-analysis	Power Point Presentation	Maria De Francesco, Imperial College
	10.30 am-11.30 pm	Practical session: identify and extract clinical data needed to populate the model (part 1)	Group Work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
	11.30 am-11.45 am	Tea break		
	11.45 am-1.30 pm	Practical session: identify and extract clinical data needed to populate the model – specify which data have time dependency (part 2)	Group Work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
	1.30 pm-2.00 pm	Lunch break		
	2.00 pm-3.45 pm	Practical session: transforming clinical data into transition probabilities/event data	Group Work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
	3.45 pm-4.00 pm	Tea break		
	4.00 pm-5.10 pm	Group presentations of clinical and QoL data obtained from the literature to populate the model (~15 minutes x group + discussion time)	Group presentation and discussion	All
	5.10pm-5.30pm	Facilitators views on the group performance and suggestions for improvement		Akshay, Malkeet, Gaurav and Akashdeep, Maria

- DAY 4 -

Time	Session	Format	Delivery Lead
9.30 am-10.30 am	Obtaining and adjusting resource use and cost data to populate cost-effectiveness models of different types of health technologies (macro vs micro-costing, different categories of costs, ongoing vs one-off costs, inflation)	Power Point Presentation	Dr.Akashdeep PGIMER
10.30 pm-10.45 pm	Tea break		
10.45 am-11.45 am	Practical session: define costing strategy to be used in the model and for each cost identified in model concept stage explain whether is ongoing or one-off	Group Work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
11.45 pm-1.10 pm	Practical session: extract and adjust resource use and cost data to be used in the model	Group Work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
1.10pm-1.30pm	Facilitators views on the group performance and suggestions for improvement		Akshay, Malkeet, Gaurav and Akashdeep, Maria
1.30 pm-2.00 pm	Lunch break		
1.30 pm-2.15 pm	Data mapping against model concept and model concept validation by experts	Power Point Presentation	Maria De Francesco, Imperial College
2.15 pm-3.45 pm	Practical session: data mapping against model concept	Group work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
3.45 pm-4.00 pm	Tea break		
4.00 pm – 5.30 pm	Group presentations of data mapping against model concept (~20 minutes x group + discussion time)	Group presentation and discussion	All

Day 4: Identifying and adjusting cost data to populate the model

- DAY 5 -

Day 5: Translating the model concept into the model engine	Time	Session	Format	Delivery Lead
	9.30 am-10.30 am	Developing the model engine for decision-tree models (with related examples)	Power Point Presentation	Maria De Francesco, Imperial College
	10.30 am-11.30 am	Developing the model engine for Markov models (with related examples)	Power Point Presentation	Maria De Francesco, Imperial College
	11.30 am-11.45 am	Tea break		
	11.45 am-1.00 pm	Practical session: prepare structure of the model engine in MS Excel	Group work	All (Material: Maria Facilitators: Dr Malkeet, Dr Akshay, & PGIMER)
	1.00 pm-1.30 pm	Lunch break		
	1.30 pm-2.00 pm	Group presentations of challenges in translating model concept into model engine (~5 minutes x group)	Group presentation and discussion	All
	2.00pm-2.30pm	Facilitators views on the group performance and suggestions for improvement		Akshay, Malkeet, Gaurav and Akashdeep, Maria
	2.30 pm-3.30 pm	Rapid assessment: international experience and vision for India	Power-point presentation	Dr.Kavitha Rajsekar HTAIn Secretariat
	3.30 pm-4.00 pm	Discussion with the participants to get the final views and Suggestion Plan for the next Work shop		All