



HTA WORKSHOP AT THE JAWAHARLAL INSTITUTE OF POSTGRADUATE MEDICAL EDUCATION AND RESEARCH (JIPMER) PUDUCHERRY, INDIA 3-5 OCTOBER 2019

Abbreviations

CMC	Christian Medical College
DHR	Department of Health Research
HITAP	Health Intervention and Technology Assessment Programme
HTA	Health Technology Assessment
ICER	Incremental Cost-Effectiveness Ratio
ICL	Imperial College London
iDSI	International Decision Support Initiative
INI	Institute of National Importance
JIPMER	Jawaharlal Institute of Postgraduate Medical Education and Research
MoHFW	Ministry of Health and Family Welfare
NLEM	National List of Essential Medicines
OUCRU	Oxford University Clinical Research Unit
PICO	Population, Intervention, Comparator, Outcome
PGIMER	Post-Graduate Institute of Medical Education and Research
QALY	Quality Adjusted Life Year
UHC	Universal Health Coverage
WHO	World Health Organization

Contents

Executive Summary.....	3
Introduction.....	4
Summary of sessions.....	5
Day 1	5
Day 2	6
Day 3	6
Assessing learning.....	7
Panel discussion.....	7
Feedback from the participants.....	8
Future collaboration.....	8
Appendix.....	9
1. JIPMER HTA workshop agenda	9
2. List of Participants.....	15
3. Responses from Feedback Forms.....	16
4. Blog Post	16

Executive Summary

The Health Intervention and Technology Assessment Program (HITAP) has supported the development of Health Technology Assessment (HTA) in India by building technical capacity and knowledge through collaborations with several academic institutions in India on HTA. HITAP recently partnered with the Jawaharlal Institute of Postgraduate Medical Research (JIPMER), an Institute of National Importance (INI) and a tertiary care referral hospital under the Ministry of Health and Family Welfare (MOHFW), Government of India. Staff from JIPMER hold positions across national and state level decision-making bodies.

As one of the resource hubs for HTA in India (HTAIn) under the Department of Health Research (DHR) Government of India, JIPMER holds great power in incorporating HTA within the decision-making processes. In taking this mandate forward, the institution is keen on building its conceptual foundation in research methods for HTA as well as short and long-term institutional capacity in the understanding and conduct of these assessments.

On 3-5 October 2019, at the request of JIPMER, HITAP co-organised an “Introduction to HTA” workshop at the JIPMER campus in Puducherry, as a first step to achieving this objective. The event was open to JIPMER researchers and students as well as external participants. 27 participants attended the three-day workshop, 12 of whom were from JIPMER. The rest represented a range of research institutes, government and non-governmental organisations.

The content of the workshop was drawn based on similar trainings that HITAP has co-led in the past but tailored to meet specific interests put forth by JIPMER. Training covered all aspects of HTA, ranging from HTA concepts, evidence identification and modelling to policy formulation, with a more hands-on approach using case study exercises and facilitated discussions. The workshop concluded with a panel discussion focusing on Indian and international experiences of HTA use and uptake.

Introduction

The Health Intervention and Technology Assessment Program (HITAP), Ministry of Public Health, Thailand, has collaborated with numerous partners in India on Health Technology Assessment (HTA). In recent years, HITAP has worked closely with Imperial College London (ICL) and partners in India such as HTAIn, Department of Health Research (DHR), Ministry of Health and Family Welfare (MoHFW) under the International Decision Support Initiative (iDSI) to support development of HTA in the country. HITAP engagements have included study visits for researchers and policy makers to Thailand, to learn how the country conducts and uses HTA in pursuit of Universal Health Coverage (UHC). Technical support has also been extended to Indian researchers through internship opportunities, academic support and by establishing collaborations between Indian researchers and policy makers with international HTA networks. These engagements have raised awareness on the need for HTA and facilitated knowledge exchange to strengthen capacity to create and use HTA in India.

JIPMER is an autonomous Institute of National Importance (INI) and a tertiary care referral hospital under MoHFW, Government of India. JIPMER has recently established and is recruiting faculty to its School of Public Health whose activities will include HTA, health economics, and health system strengthening. JIPMER recognises the importance of HTA in driving sustainable, evidence-based health policies and therefore, plans to institutionalise the discipline and establish itself as a knowledge centre and HTA hub in southern India through its newly established School of Public Health. In preparation, the Director of JIPMER and his faculty members attended the HTA workshop at the Christian Medical College (CMC), Vellore in India in May 2019 and recognised the value of conducting similar workshops in bolstering JIPMER's efforts to build its institutional capacity in HTA. To date, individual staff at JIPMER have undertaken cost-effectiveness analyses and economic modelling studies that have played a role in development of national policies regarding hepatitis vaccines and hepatitis C treatment. JIPMER and PGIMER are also jointly leading the study on estimating India's health utility index using the EQ-5D-5L questionnaire.

Upon JIPMER's request, HITAP, in partnership with the Oxford University Clinical Research Unit (OUCRU), Vietnam and the Postgraduate Institute of Medical Education and Research (PGIMER), India, co-organised an "Introduction to HTA" workshop at JIPMER on 3-5 October 2019. This report summarises the objectives of the visit, proceedings of the workshop and potential for future collaboration with supporting information provided in the Appendices.

Objectives of the Visit

The objective of the HITAP visit to JIPMER was primarily to introduce participants to the concept of HTA and techniques to effectively conduct one. Sharing the impact of these assessments on population health, as part of policy considerations, was also a significant component of the workshop.

It was recognised that building the institutional expertise of HTA at JIPMER would have significant impact on strengthening HTA capacity across the country. First, this capacity will allow JIPMER to directly conduct HTA studies as part of DHR's network of technical partners and resource hubs, which have been established across India to generate evidence for HTA. Second, given the considerable involvement of JIPMER faculty in health policy design and implementation at all levels of decision-making, enhancing faculty knowledge of HTA is critical to provide quality support and engagement to policy discussions across all health departments at national and state levels. Lastly, enhanced HTA capacity at JIPMER will allow increased consideration of HTA in existing research.

Beyond producing HTAs directly, there is need for all researchers to be aware of HTA, to integrate these considerations into research and inform resulting policy recommendations.

Summary of sessions

The content of this three-day event drew from previous HTA workshops conducted in the region, offering participants an overview of HTA using a combination of intensive lectures, hands-on computer exercises and seminars. In catering to JIPMER's request, the workshop was made more interactive with case study exercises following each theoretical session. The agenda of the workshop has been included in Appendix 1 and the list of participants, in Appendix 2.

Day 1

The workshop opened with the definition and rationale for HTA which then led into discussions on the process of topic nomination and selection (deciding which intervention to assess). Thailand's experience was shared, where various stakeholders are involved in the process and select topics based on multiple criteria including disease burden and severity, effectiveness of the intervention, economic impact on households, feasibility, and ethical considerations. Next, use of the "PICO framework", namely population, intervention, comparator, and outcomes, to translate any policy topic into a research question was explained. Following this, participants learnt the various types of economic evaluations in the literature and the means to conduct one.

A group exercise followed the theoretical session using a case study on, '*Cost-utility analysis of Dasatinib and Nilotinib in patients with chronic myeloid leukaemia refractory to first-line treatment with Imatinib in Thailand (2014)*'. Based on the background information provided, participants were asked to draft a research proposal to conduct an economic evaluation, the exercise included identifying the PICO, defining the research question, as well as the analyses framework.

The following sessions offered participants an overview of systematic reviews and meta-analysis, the latter, a powerful tool to pool the evidence that is already available, also discussing the concepts and types of biases as well as methods to address them. A central theme of these discussions concerned the use of the PICO framework with strict inclusion and exclusion criteria and PRISMA guidelines for methodological rigour as recommended by the [Cochrane Handbook for Systematic Reviews](#). Preparing and implementing a search strategy using the "AND", and "OR" functions using strict inclusion and exclusion criteria on some key databases was also demonstrated.

In the final session of the day, the participants used their learnings for a hands on group exercise on calculating health outcomes i.e. utility scores using three different methodologies, (i) the visual analogue scale (VAS), (ii) time-tradeoff (TTO), and (iii) EQ-5D-3L using the Thailand utility index values. A key takeaway from this session was that each of these methodologies produced different, requiring that researchers choose the most suitable one for their study based on the feasibility and disease of interest.

Participants then reverted to their groups for the practical exercise, where they were asked to choose a health outcome, decide on methods to derive them and enlist ways to collect the necessary data, based on the research proposal they had drafted in their first exercise. The groups then discussed their own plans in contrast with the original case study, identifying likely challenges they might face in conducting their own. Participants raised concerns of unavailable local health outcome data, given that India is still conducting a study to establish its local health utility index scores. They were advised

to look up existing literature and extract data from countries that closely resembled their own socio-economic and cultural contexts.

Day 2

The first half of the second day was dedicated to learning about costing methods, from concepts to practice, including an overview of a costing database being developed for India. Participants were then introduced to the three common adjustments that need to be made to cost data i.e. discounting, exchange rates, and inflation through a practical lecture based on a paper by [Turner et al 2019¹](#). Primary and secondary costing methods was also introduced in this session. Costing in India was addressed as a separate session, where the Indian costing database, developed by PGIMER was introduced. The audience raised several questions surrounding the nuances of cost variations with inpatient services and defining package rates, as well as addressing challenges such as the use of proxy costs, inputs from handwritten records and data quality. Participants reverted back to their groups to continue building upon their case study, where they were now required to identify all relevant costs, methods to collect the associated data, and plans of analyses such as modeling methods that the cost data could be used towards. The groups were not able to share their presentations due to the lack of time.

The next few sessions focused on technical topics related to modelling, which included the incremental cost-effectiveness ratio (ICER), decision rules to assess results, defining thresholds, conducting sensitivity analyses, and accounting for social, ethical and cultural factors alongside the results of an economic evaluation in decision-making. It was reiterated that results from an economic evaluation only serve as an input to inform decisions, not make them. Many examples were presented where an intervention was introduced despite not being cost-effective at the threshold on social and ethical grounds, or when a cost-ineffective intervention was introduced for a rare disease given the low budget impact. The reverse is also true, i.e. an intervention may not be included despite being cost-effective if it has a high budget impact. Results from an economic evaluation can also serve as a tool to negotiate price and volume with industry. Participants then applied concepts of decision tree modelling to a practical session on using a case study on population based versus ad-hoc diabetes screening.

The final session of the day gave participants an opportunity to engage with case studies on HTA from India. These were on Hepatitis B vaccine policy and economic modelling of Hepatitis C burden in the country, one of the first economic evaluations conducted in India.

Day 3

The third day began with a summary of modelling concepts, which allowed participants to dive deeper into another hands-on practical session on Markov modelling using the same case study on diabetes screening that had been introduced the previous day. Participants raised several issues in the model and the discrepancies between the decision tree and the Markov model. A very famous quote by George Box, *"All models are wrong, but some are useful"*, was used to communicate that most models can never simulate the real disease and treatment pathways perfectly for many reasons, but were useful in making some predictions towards addressing their burden. Recognising such limitations within each model and making clear assumptions as a mitigation strategy was the best way to minimize their impacts on all resulting forecasts. They were then introduced to budget impact analysis, highlighting the need for one and the best way to perform it.

¹ Turner et al. "Adjusting for Inflation and Currency Changes Within Health Economic Studies". Value in Health. 2019.

To address social aspects of the HTA process, an interactive lecture was delivered with discussions on the philosophical aspects of equity, decision making processes in developing countries, and to reemphasise that HTAs are only a guidance to the decision-making process. To complement this lecture and recognise the roles played by diverse groups within an HTA decision-making process, participants then engaged in a group stakeholder deliberation exercise to understand the considerations before reaching a policy decision. The economic evaluation of an HPV vaccine was used as a case study for this activity, with participants divided into 4 groups. Each group took on the roles of government, health professionals, patients and caregivers, pharmaceutical industry, to discuss the uptake of this vaccine program, despite being identified as cost-ineffective at the pre-defined willingness-to-pay threshold. Each group was required to decide their vote in line with their perspective and provide the rationale for the same. This deliberation activity was extremely beneficial to the participants and brought lively discussions on the learnings from the workshop. Health professionals and pharmaceutical industry representatives extensively discussed drug efficacy, which was agreed to, with some speculation, by the patients and care giver group. Government and policy makers too agreed on the efficacy of the drug, but paid careful attention to the unfavourable ICER, and requested negotiations with the pharmaceutical sector. The groups reached a consensus on including the vaccine into the health benefits package as a preventive strategy, as they perceived much bigger opportunity costs from having to treat cervical cancer in later stages. However, some concerns were raised around the uptake of this intervention due to socio-cultural implications about sexuality and reluctance of parents in vaccinating young girls, which led to questions regarding the introduction of this program as a beneficial investment.

Assessing learning

At the start of the workshop, HITAP conducted an HTA quiz to understand the baseline level of knowledge on the topic which was then be repeated at the end of the workshop to observe any improvements in participant learning on the subject. On the final day, participants answered a post-workshop questionnaire, offering organisers a tool to understand how valuable the learning from the workshop had been, in comparison to baseline quiz provided at the beginning of the workshop.

Panel discussion

Following this, the day proceeded onto a panel discussion on the institutionalisation of HTA in India and learnings from the Thailand experience. The panel was greatly informative, although there was no time left for audience discussion. The key takeaways were as follows:

- Dr. Kavitha from DHR, officially announced that JIPMER would be one of the regional hubs as part of HTAIn under DHR in her opening statement. She also detailed how the DHR functions as well as the current processes of topic nomination and the conduct of the HTA. She shared some examples of HTA studies conducted in the past including a study on intraocular lenses for treatment of age-related cataract in India, as well as the National Costing database in India.
- Dr. Wanrudee Isaranuwatjai, from HITAP, talked about importance of HTA and its use in Thailand's health policy. Specific reference was made to the role of HTA in developing the health benefits package and drafting the high-cost drugs list as part of the national list of essential medicines (NLEM) in the route to universal health coverage (UHC).
- Dr. Hugo Turner provided a specific example of a study on soil-transmitted helminths, discussing how HTA helps generate evidence in policy making.
- Dr. Sunderraman talked about the value of HTA in bringing evidence to policy making but stressed on the need for ethics to be included in policy decisions. In his speech, he focused

on HTA's capability to inform decisions and not decide, because "it is only a number". He prioritized feasibility, acceptability, budget impact and ethics as a holistic process alongside HTA.

Feedback from the participants

The end of workshop feedback showed that 80% of the participants indicated that they would attend another HITAP hosted workshop on the topic. 100% of the participants agreed or strongly agreed that the delivery and content of the workshop was wholesome, enthusiastic and broadened their knowledge on the topic. They also confirmed that the value added to them from the workshop would be seen in the work that they will engage with in the future. In terms of the group exercises, all the participants noted in their comments that these were highly beneficial and requested that more such initiatives be included in subsequent workshops, with perhaps more time given to them; a particular request a more hands-on meta-analysis session allowing the audience to critically appraise data. They found the facilitation provided by the teaching assistants very helpful and suggested that perhaps having access to materials beforehand of the course would be beneficial. Most participants reported that they enjoyed the Markov modelling sessions, as well as those on outcome measures as it was both very new learnings, even within economic evaluations. More details can be found in Appendix 3.

Future collaboration

The workshop was successfully concluded. JIPMER requested HITAP to continue the collaboration to build capacity for HTA by providing technical support on studies, similar to the support currently being provided on the rotavirus and enteric fever studies in CMC. Further, JIPMER requested an advanced course with greater emphasis on statistical and modelling techniques for those so inclined from the institution. JIPMER and HITAP are also co-organising an event titled "Vaccinology for Clinical and Public Health Practice: Policy Symposium and Workshop" together with the Translational Health Science and Technology Institute (TSHTI), the London School of Hygiene & Tropical Medicine (LSHTM) and the Saw Swee Hock School of Public Health (SSHSPH), National University of Singapore (NUS) on 18-21 November 2019.

Appendix

1. JIPMER HTA workshop agenda

Location: Puducherry, India

Date: 3-5 October 2019

TIME	AGENDA	KEY CONTENTS	APPROACH	INVITED FACULTY
Day 1				
09:00 – 09:10 (10 mins)	1. Welcome	<ul style="list-style-type: none"> Opening remarks Course overview 		Welcome panel: Dr. Rakesh Aggarwal (lead); Dr. Wanrudee Isaranuwatchai
TIME	AGENDA	KEY CONTENTS	APPROACH	INVITED FACULTY
09:10 – 09:20 (10 mins)	2. Course overview	<ul style="list-style-type: none"> Run through the agenda House-keeping rules Introduce Menti for participants to upload questions throughout the day and workshop 	10 mins of presentation	Juliet Eames (HITAP)
09:20- 09:30 (10 mins)	3. Quiz	<ul style="list-style-type: none"> Participants to fill out a pre-workshop HTA quiz to assess the starting level of HTA knowledge. 	Electronic or paper-based	Sarin KC (HITAP) TAs
09:30 – 09:50 (20 mins)	4. Introduction activity		Human bingo	Sarin KC (HITAP) Dr. Katika Akksilp (HITAP)
09:50 – 10:35 (45 mins)	5. Introduction to HTA	<ul style="list-style-type: none"> HTA definition and justifications Good practices in getting the right topic for HTA Translating policy questions to research questions including ‘PICO’ approach Selecting the right methodological approach to address policy relevant research questions Different types of health economic evaluations (pros and cons) 	35 mins of lecture with 10 mins of Q&A	Dr. Wanrudee Isaranuwatchai (HITAP)

10:35 – 11:05 (30 mins)	6. Defining the research question	For the case study provided <ul style="list-style-type: none"> Define the process for topic refinement Define the research question Define the PICO 	Group work 1 (divide into 5 groups (TBC))	Sarin KC (HITAP) TAs
11:05 – 11:20 (15 mins)	<i>Tea Break</i>			
11:20– 11:40 (20 mins)	7. Group discussion	<ul style="list-style-type: none"> Overview of case 1 Case 1 discussion 	Group presentation and discussion	Facilitator: Sarin KC (HITAP)
TIME	AGENDA	KEY CONTENTS	APPROACH	INVITED FACULTY
11:40 – 12:30 (50 mins)	8. Evidence synthesis part 1: Systematic review	<ul style="list-style-type: none"> Need for evidence synthesis Methodological issues in conducting systematic review and meta-analysis Good practice, e.g. PRISMA Pros and cons of using synthesised evidence 	40 mins of lecture with 10 mins of Q&A	Dr. Kadiravan Tamilarasu (JIPMER)
12:30 – 12:35 (5 mins)	9. Physical exercise	<ul style="list-style-type: none"> TBC 	YouTube video	JIPMER (TBC)
12:35 – 13:20 (45 mins)	10. Evidence synthesis part 2: Meta-analysis	<ul style="list-style-type: none"> When to use meta-analysis Conducting meta-analysis 	45 mins of lecture	Dr. Kadiravan Tamilarasu (JIPMER)
13:20 – 14:20 (1 hour)	<i>Lunch Break</i>			
14:20 – 15:10 (50 mins)	11. Outcome measures	<ul style="list-style-type: none"> Different types of clinical/health outcomes, e.g. immediate, intermediate and final outcomes Health utility measures, e.g. DALY, QALY Challenges in measuring and using health utility measures, Good practice, e.g. ISPOR good practice for outcome research 	40 mins of lecture with 10 mins of Q&A	Dr. Sitanshu Kar (JIPMER)

15:10-15:55 (45 mins)	12. QALY estimation	Part 1: <ul style="list-style-type: none"> Using EQ5D to elicit health state preferences in case scenarios using (comparing) Singapore and Thai value sets 	Group work 2 (40 mins)	Juliet Eames and Dr. Katika Akksilp (HITAP)
15:55 - 16:15	<i>Tea Break + Exercise</i>			Sarin KC (HITAP)
16:15 - 16:45 (30 mins)	13. Defining outcomes	Part 2: For the case study <ul style="list-style-type: none"> Identifying case outcomes How to collect outcomes data How to convert findings into QALYs 	Group work 3 (30 mins)	Juliet Eames and Dr. Katika Akksilp (HITAP)
TIME	AGENDA	KEY CONTENTS	APPROACH	INVITED FACULTY
16:45 - 17:05 (20 mins)	14. Group discussion	<ul style="list-style-type: none"> Overview of case 1 Case 1 discussion 	Group presentation and discussion	Facilitator: Juliet Eames (HITAP)
17:05 - 17:30 (25 mins)	15. Review and wrap up	<ul style="list-style-type: none"> Summary Questions and discussions Group photo 	Q&A	Juliet Eames (HITAP)
Day 2				
09:00 - 09:10 (10 mins)	16. Review and summary	<ul style="list-style-type: none"> Summary of concepts from previous day Overview of the day agenda 	Q&A	Dr. Wanrudee Isaranuwachai (HITAP)
09:10 - 09:50 (40 mins)	17. Introduction to costing concepts and good practice for cost identification	<ul style="list-style-type: none"> Economic vs Accounting costs Categories of costs Perspectives of cost studies Potential uses of cost data, and related methodologies which best suit a particular objective 	Lecture	Dr. Shankar Prinja (PGIMER)
09:50 - 10:25 (35 mins)	18. Cost identification and data collection from primary and secondary sources	<ul style="list-style-type: none"> Designing primary cost data collection Measuring and valuing resources Collecting relevant information for dealing with joint costs: time allocation studies 	Lecture	Dr. Shankar Prinja (PGIMER)

		<ul style="list-style-type: none"> Identifying secondary data sources for cost data Using the Indian costing database 		
10:25 – 10:45 (20 mins)	<i>Tea Break + Exercise</i>			Juliet Eames (HITAP)
10:45 – 11:20 (35 mins)	19. Adjusting and apportioning costs and reporting results	<ul style="list-style-type: none"> Discounting for inflation Adjusting for Exchange rate adjustment Apportioning joint and shared costs Presentation of data and results 	Lecture	Dr. Shankar Prinja (PGIMER)
TIME	AGENDA	KEY CONTENTS	APPROACH	INVITED FACULTY
11:20 – 11:50 (30 mins)	20. Cost identification practical	For the case study provided <ul style="list-style-type: none"> Identification of relevant costs Process of collecting cost data Adjustment and analysis of cost data Potential challenges and solutions 	Group work 4	Dr. Shankar Prinja (PGIMER) and Sarin KC (HITAP) TAs
11:50 – 12:10 (20 mins)	21. Group discussion	<ul style="list-style-type: none"> Overview of case 1 Case 1 discussion 	Group presentation and discussion	Facilitators: Dr. Shankar Prinja (PGIMER) and Sarin KC (HITAP)
12:10 – 13:20 (1hr 10 mins)	22. Results presentation and the decision rule	<ul style="list-style-type: none"> Need for incremental analysis, i.e. ICER Decision rules (league table and threshold approaches) Defining cost-effectiveness thresholds Uncertainty and PSA 	1 hr of lecture with 10 mins of Q&A	Dr. Hugo Turner (OUCRU)
13:20 – 14:20	<i>Lunch Break</i>			
14:20 – 15:05 (45 mins)	23. Model-based health economic evaluation	<ul style="list-style-type: none"> Need for modeling Different types of modeling techniques, e.g. decision tree, Markov model, dynamic modeling 	35 mins of lecture with 10 mins of Q&A	Dr. Hugo Turner (OUCRU)

		<ul style="list-style-type: none"> • Good practice e.g. Modeling good research practice of ISPOR 		
15:05 - 16:15 (1hr10)	24. Modeling exercise 1	<ul style="list-style-type: none"> • Simple decision tree 	Group work 5 Computer-based exercise	Juliet Eames (HITAP) TAs
16:15 - 16:35	<i>Tea break + Exercise</i>			JIPMER
16:35 - 17:15 (40 mins)	25. Best practices in HTA: Experience from India	<ul style="list-style-type: none"> • Evidence generation and initiating policy dialogue on a public health issue (Hepatitis B vaccination in India) • Model based economic evaluation in Management of Hepatitis C: a case study from India. 	Interactive lecture	Dr. Rakesh Aggarwal (JIPMER)
Day 3				
TIME	AGENDA	KEY CONTENTS	APPROACH	INVITED FACULTY
09:00- 09:05 (5 mins)	26. Review and summary	<ul style="list-style-type: none"> • Summary of concepts from previous day • Overview of the day agenda 	Q&A	Dr. Wanrudee Isaranuwatchai (HITAP)
09:05 - 10:05 (1hr mins)	27. Modeling exercise 2	<ul style="list-style-type: none"> • Markov modeling 	Group work 6 Computer-based exercise	Sarin KC (HITAP) TAs
10:05-10:15 (10 mins)	28. Q&A	<ul style="list-style-type: none"> • Q&A arising from modelling exercises 	Q&A and group discussion	Dr. Hugo Turner (OUCRU)
10:15 - 10:55 (40 mins)	29. Budget impact analysis	<ul style="list-style-type: none"> • Need for and how to conduct budget impact analysis • Good practices, e.g. ISPOR budget impact analysis good practices 	35 mins of lecture with 10 mins of Q&A	Juliet Eames (HITAP)
10:55 - 11:15 (20 mins)	<i>Tea break + Exercise</i>			Dr. Katika Akksilp (HITAP)
11:15 - 12:00 (45 mins)	30. Addressing equity and social concerns in HTA and policy use in India	<ul style="list-style-type: none"> • Philosophy of Equity • Decision making process in developing world • Is HTA always needed for decision making? 	Interactive lecture	Dr. T. Sundararaman (DHR)

12:00 – 13:00 (1 hr)	31. Stakeholder deliberation exercise	<ul style="list-style-type: none"> • Criterion to consider for investment decisions • Perspective of various stakeholders • How to reach a policy decision 	Group work and role play	Juliet Eames (HITAP) TAs
13:00 – 14:00 <i>Lunch Break</i>				
14:00 – 14:15 (15 mins)	32. Quiz	<ul style="list-style-type: none"> • Participants to fill out a post-workshop HTA quiz to assess learning from the course. 	Electronic- or paper-based	Juliet Eames (HITAP)
14:15 – 16:00 (1hr 45 mins)	33. Panel discussion and Q&A	<ul style="list-style-type: none"> • Institutionalization of HTA In India - How HTA is being used to support the policy making process • Evidence to Policy: Use of HTA in Thailand • Evidence to Policy: An international case study • HTAIn: Aspirations and the way forward 	Presentation, Q&A, Group discussion format	Dr. Sitanshu Kar (Chair) Dr. Kavitha Rajsekar, Dr. Wanrudee Isaranuwachai, Dr. Hugo Turner, Dr. T. Sundararaman
16:00 – 16:15 (15 mins)	34. Evaluation and presentation of quiz outcomes	<ul style="list-style-type: none"> • Participants to complete evaluation forms provided • HITAP to present group improvements from pre and post-workshop quiz. Identify winners for highest score and greatest increase 	Paper-based Presentation	Sarin KC (HITAP)
16:15 – 16:30 (15 mins)	35. Closing remarks			Dr. Rakesh Aggarwal, JIPMER
End				

2. List of Participants

Name (first and last name)	Job title	Organization/Affiliation(s)
Amit Goel	Associate Professor, Gastroenterology	SGPGI, Lucknow
Anandaraj.R	Assistant Professor	IGMCRI
Harivenkatesh Natarajan	Assistant Professor	JIPMER, Puducherry
Vijayageetha M	Consultant II	National Institute of Epidemiology, ICMR
Pankaj Shah	Professor & Head, Dept of Community Medicine	SRMC & RI, SRIHER, Porur, Chennai 116
Rakhee Kar	Additional Professor of Pathology	JIPMER, Puducherry
Sendhilkumar	Scientist-C	National Institute of Epidemiology (ICMR-NIE)
Venkatachalam Jayaseelan	Associate Professor	JIPMER
Fredrick Dermawan Purba	Department Head	Faculty of Psychology Universitas Padjadjaran, Jatinangor, Indonesia
Marie Gilbert Majella	Senior Resident	Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry
Joe Abraham	Assistant Professor	Dept of Community Medicine, Pushpagiri Institute of Medical Sciences & Research Center, Tiruvalla
Kushagr Duggal	Fellow	National Health Systems Resource Centre
Jayalakshmy Ramakrishnan	Associate Professor	JIPMER
Lopamudra	Assistant Professor	IGMCRI
Manikanda Nesan S	State Program and Technical Manager	SAATHII
Palanivel	Associate Professor	JIPMER
Akash Prabhune	Scientist C (Medical)	ICMR - National Centre for Disease Informatics and Research, Bengaluru
Preeti Kandasamy	Child and Adolescent Psychiatrist	JIPMER
Rajeswari Aghoram	Assistant Professor	Department of Neurology, JIPMER
Ram Sankar Padmanabhan	Associate professor	JIPMER
Saurabh Singh	Senior Resident	SGPGIMS, Lucknow
Subitha Lakshminarayanan	Associate Professor	Dept. of PSM
Dharm Prakash Dwivedi	Associate professor	JIPMER
Nanda Kishore Maroju	Addnl Professor	JIPMER
Jeby Jose Olickal	PhD Scholar	JIPMER
Parthibane Sivanantham	PhD Scholar	JIPMER
Dinesh Raj Pallepogula	PhD Student	JIPMER

3. Responses from Feedback Forms

Number of respondents: 24

Question	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The aims and objectives of the event were clear and well defined.	18 (75%)	6 (25%)	0	0	0
The content of the event was well prepared.	15 (63%)	9 (38%)	0	0	0
The delivery of the event was conducive to increasing my understanding of the topics discussed.	17 (71%)	7 (29%)	0	0	0
This event enhanced my knowledge about the topic.	18 (75%)	6 (25%)	0	0	0
I will apply the knowledge gained from this event in my future activities	19 (79%)	5 (21%)	0	0	0
I found the group exercises related to the case study i.e. PICO identification, health outcomes, & cost.	17 (71%)	7 (29%)	0	0	0
I found the health outcome estimation (visual analogue scale, time-trade off, & EQ-5D) exercises useful.	22 (92%)	2 (8%)	0	0	0
I found the decision tree modelling exercise useful.	18 (75%)	5 (21%)	1 (4%)	0	0
I found the Markov modelling exercises useful.	11 (46%)	11 (46%)	2 (8%)	0	0
I was able to identify avenues for future collaborations with likeminded individuals/organisations.	9 (38%)	12 (50%)	3 (13%)	0	0
Question	Yes	No	Maybe		
If HITAP conducted another HTA related workshop or training in the future, would you attend it?	18 (79%)	0	5 (22%)		

Note: Only quantitative responses summarised

4. Blog Post

Title: Expert in Estimating Quality of Life Values, Student In Using Them in Economic Evaluations: My Experience Participating in an HTA Workshop at JIPMER, India

Author: Fredrick Dermawan Purba

Link: www.globalhitap.net/expert-in-estimating-quality-of-life-values-student-in-using-them-in-economic-evaluations-my-experience-participating-in-an-hta-workshop-at-jipmer-india/