



MISSION REPORT ON THE WORKSHOP ON ECONOMIC EVALUATION IN HEALTHCARE

Chandigarh, India

Abstract

The Post Graduate Institute of Medical Education and Research (PGIMER) requested HITAP to provide technical support to a national workshop on the use of economic evaluation analyses and research for decision making in healthcare in India. The workshop ran for four days and covered the different types of economic evaluations, practical application of the concepts, and communication of the results. The participants, coming from academia and public health institutes from different states, grasped the concepts of the highly technical workshop. A one-day symposium was also conducted to learn from the perspectives of hospital administrators and clinicians as well as state government officials to understand the health system context. Potential applications of economic evaluation as well as health technology assessment (HTA) in the country were discussed. The HITAP team found that participants in the workshop showed much promise in terms of capacity in conducting HTA. In the long-run, HTA may feasibly be implemented through the state governments as health is a state subject; however, in the short-run, a national HTA body coordinating research for policy throughout the country could prove useful.

Saudamini Dabak, Waranya Rattanavipapong, Alia Luz, Nitichen Kittirachakool
Contact: alia.l@hitap.net

OVERVIEW

This report provides an overview of activities and the HITAP team's reflections on a national level workshop and symposium held between 30th November and 3rd December, 2015 in Chandigarh, India. The program was organized by the School of Public Health, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh and the Public Health Foundation of India (PHFI), New Delhi as part of a USAID funded health financing project. In addition to support from the USAID, three HITAP staff that contributed to this workshop were supported by the international Decision Support Initiative (iDSI), which aims to assist countries in making evidence-informed healthcare resource allocation decisions. The HITAP team attended the last two days of the workshop (1-2 December) and the one-day Symposium (3 December).

The report consists of four parts: 1) Workshop Summary, 2) Symposium, 3) Organizations working on public health and HTA in India and 4) Current and Potential Development of HTA in India. Appendices with additional information have also been included. The first two sections of the report summarize the lectures and activities during the workshop and symposium and are based on notes and observations of the presentations and discussions that took place. The summary focuses on HITAP staff's activities in order to report back to the HITAP International Unit's funder, i.e. iDSI, which provided additional budget for HITAP staff involved in these activities in India. The third and fourth sections provide an analysis of the HTA situation in India by the HITAP team. These sections reflect information gathered during the workshop including interactions with participants, personal communication, and review of online resources in addition to the team's first impressions of the situation in the country. These analyses are *not* based on any scientific evidence and our views may change as we continue to engage further with our colleagues in India and learn more about the public health landscape in the country. Given this background, we hope that the report offers insights and useful information to colleagues and partners working on HTA in India.

WORKSHOP SUMMARY

The four-day workshop “Economic Evaluation in Health Care Workshop” was conducted in Chandigarh, India between 30 November and 2 December 2015. The HITAP team attended only the last two days of the workshop (December 1-2, 2015) during which members of the team gave some lectures and sessions. The other sessions were conducted by Dr. Shankar Prinja from the PGIMER and Dr. Stephen Jan, the head of the Health Economics Department at the Sydney University, and Mr. Blake Angell, a PhD student in health economics at the Sydney University.

The aim of the workshop was to provide capacity-building support in the field of health financing and economics to key local partners, including participants that are health care program managers working in state and central government, academics, researchers, and policy makers. Thirty four participants attended the workshop, with the majority of them academics and researchers. The list of participants can be found in [Appendix 1](#). In general, the participants learned about basic concepts of economic evaluation, costing, measurement of health benefits, decision modelling and analyses, systematic review and critical appraisal as well as communicating HTA results. Please see [Appendix 2](#) for the full meeting agenda. The HITAP team provided support for the sessions as follows:

Lecture on “Decision rules and thresholds” by Dr. Yot Teerawattananon showed the participants how to interpret cost-effectiveness results of economic evaluation. His presentation covered the concept of cost-effectiveness ratio (CER) and incremental cost-effectiveness ratio (ICER). Two approaches to priority setting, league tables and thresholds, were explained. Using examples from Australia, the UK and Thailand, Dr. Yot illustrated how the process works in practice. He also pointed out the limitations of the threshold approach and explained the intuition behind the approach of adjusting expenditures on a continuous basis as opposed to having a fixed threshold.

Next, Waranya Rattanavipapong presented on “Systematic review”, where she discussed a systematic and explicit approach of collecting and summarizing all empirical evidence in order to answer a specific research question as well as the application of systematic reviews in economic evaluations. The PICO framework was discussed in order to define the scope and search terms. Giving an example of searching via Pubmed, she showed participants how to search and identify economic evaluation studies using free-text and MeSH (Medline Subject Headings) terms. Moreover, she also presented different guidelines that can be used for conducting a good literature review and reporting the results from systematic review.

Dr. Yot Teerawattananon also gave a lecture on “Identifying economic evaluations from other settings and transferability”. This session focused on learning and applying economic evaluations from other settings. The challenges of adapting data and economic evaluation from one setting to another, especially those from resource-rich settings to resource-poor settings, were mentioned. He showed the international guideline that provides information about transferability of economic data. This presentation was followed by exercise on priority setting by HITAP staff. All participants were assigned to six groups. This exercise allowed them to think about how to set priorities and allocate resources with the constraints of limited funding in mind. After that, each group was asked to present their ideas on which interventions should be funded and the criteria that they used for making the decisions.

Based on the observation by HITAP staff, it was found that the groups seemed to be enthusiastic. The participants were keen on doing the exercise and they found this exercise was very useful. The participants had a good understanding of the concept of priority setting. The exercise allowed them to interact in groups and share their ideas, finding the exercise to be collaborative. The important factors that most of the groups considered were number of extra patients to be treated and total costs. However, some groups made a value judgment; for example, preference for an intervention concerned with children who would perhaps have a longer, more productive life.

Lastly, Chalarntorn Yothasmutra delivered a lecture on “Communicating results”. The presentation contained details of communication strategies that can be used to communicate research results to policy makers. This skill is essential to make the scientific research accessible to the users. Useful tools included policy briefs, publications, blogs and other results dissemination activities/materials. In order to be able to apply the theory on policy briefs, the participants were provided with the exercises on brainstorming the idea of a title of policy brief.

During the workshop, the following discussions were generated:

➤ How to conduct a study over a short time-frame

There were suggestions to researchers that they should look ahead to the research topic and set up a clear process and timeline for conducting research on a topic. This timeline should be publicly announced to all relevant partners. Research topics that are identified by stakeholders may help to ensure the relevance of the topics (policy-relevant research). Evidence can also be generated alongside the implementation or the rollout of the program. This offers some insights to the policy

makers about the potential use and usefulness of the research results as a decision tool.

- How to choose different types of economic evaluation and their use as a decision tool for policy decision making

Cost-minimization analysis and cost-benefit analysis may be used to assess a particular program, whereas cost-utility analysis is useful when decision making has to be made across many programs/diseases. Infrastructure can enhance the ability to plan and conduct different type of economic evaluation. For example, cost-utility analysis requires a standardized instrument for use as a measure of health outcome.

- Which type of economic evaluation can be done for assessing the impact of universal health coverage (UHC)

Economic evaluation can be a support for development of the benefits package. The impact of UHC or government policy can be assessed by estimating costs and health consequences (health gain such as QALYs and DALYs) resulting from those policies. Another possible outcome is the number of population that can access health programs/services under UHC.

In addition, each day of the workshop ended with the protocol development. These sessions encouraged the participants to make plan and discuss a protocol for economic evaluation of an intervention of their choice in the health sector program relevant to their setting. The participants then can think about applying theory and research to practice. Seven protocols from six groups were presented on the last day of the workshop. Some of the topics are programs that are being managed by those present and so may be implemented.

1) Assessing the economic burden of alcohol use disorders and estimating cost-effectiveness of policies to reduce harm caused by alcohol.

The discussant asked the presenter to clarify more about the time horizon, the perspective and out-of-pocket costs. The main issue is the availability of local data, especially the loss in revenue to the government from tax on alcohol sales. The presenter explained that with a higher tax rate, the government will earn more income and will increase the burden on consumers. Further, the cost of health care arising from alcohol intake will reduce. Another participant provided the example of Tamil Nadu, where such a policy was applied. It was noted that the study is trying to suggest optimization. Another limitation of this study is the model will not specifically take into account the effect on addicts.

2) Comparison between Universal Immunization Program (UIP) and UIP + Mission Indradhanush.

Questions about which vaccines are considered in this study was raised. The meeting discussed the data sources of cost and health outcomes including mortality rates. On costs, a question was asked on how to classify costs for each vaccine. Regarding health outcomes, a question was asked about who will assess mortality (doctor, etc.). A participant noted that the cost of the Indradhanush program is likely to be higher since it is intended to focus on areas that are hard to reach. Moreover, UIP is implemented differently in many areas; therefore, indicators for measurement may vary. There was a concern whether applying a decision tree model and such a short time frame (the time horizon of 5 years) would be able to capture the cost and consequences if looking at the morbidity and mortality. One of their limitations is that the model will not specifically take into account the effect of herd immunity.

3) Cost-effectiveness of systematic source reduction activity by students in controlling dengue infection.

The main issue was the transferability of the data obtained from the trial to economic modelling. For example, the measurement of outcomes in terms of dengue cases and the benefits from the intervention in which not only individuals are receiving benefits, but also the community as a whole. It was also noted that the methodology for some parts of the cost-effectiveness analysis, such as the model and time horizon, was unclear.

4) Cost-utility analysis of telemedicine

The discussants raised questions about how to classify the difference in outcomes (better, worse, and death), the time horizon used in the model, and the relationship between health states in Markov model. There was a suggestion to the research team that health states in Markov model should be more complex to reflect/capture all possible events of diseases.

5) Economic evaluation of breast cancer in India

The team provided an overview of the disease burden in the country, saying that it was on the rise but there was no program to counter it. Screening programs include clinical breast examination and mammography compared to no screening strategy. The discussants asked the presenter to outline the relevant cost data and diagnostic criteria of each screening tool. Moreover, the participants asked questions including the baseline comparison of cost-effectiveness results (ICER value). The research team was suggested to incorporate misdiagnosis cases (false positives) in the model. Another question arose on how the team is going to identify early and late diagnosis.

6) Cost-utility analysis of cancer awareness and symptom-based early detection campaign in Punjab

The required information will be gathered from a door to door campaign using the survey. The research team had clear data source for each of the aims of the study as well as for outcomes. Further, the team identified limitations of this study, such as that the effectiveness of the campaign will be obtained from observational study (which has no control group). Some participants asked how the team is going to estimate pre campaign costs and whether all types of cancers are considered in the analysis.

7) Economic evaluation of mobile medical units for screening cervical cancer

This program would seek not just to screen but also provide treatment. An evaluation would be conducted to determine the cost-effectiveness of both screening and treatment of cervical cancer. The evaluation would be a quasi-experimental, non-randomized trial in one selected district for a period of one year. The team used a decision tree model and measured outcomes in terms of QALYs. Questions asked were on intervention and study design such as details on each outcome of interest and whether the evaluation covered lifetime of patients. The research team clarified that costs would include both program and beneficiary costs.

Based on the communication with the participants, they had a good perspectives towards this workshop. Participants seem to have found the workshop to be useful. Several have a basic background in research skills such as systematic review, meta-analysis, and clinical trials. Therefore, they said it was good to refresh and update knowledge on economic evaluation. On the other hand, for those who do not have background in economic evaluation, participants do not think that the lectures were too technical and welcomed it as such. Majority of participants agreed that this workshop provided them helpful knowledge of assessing the health program and motivated them to conduct the evaluation in the future.

Symposium

A final event called the “National Symposium: Using Economic Evidence for Policy and Clinical Decision Making” was also conducted at a conference hall in the PGIMER.

Overall objectives of the symposium:

1. Sensitization on the need for thinking about economic evidence while planning and evaluating health programs
2. To showcase successful case studies where economic evidence has been used for policy making: Identifying the opportunities
3. To identify the opportunities and challenges for application of economic evidence for policy and clinical decision making
4. To identify the roles of researchers and policy-makers in promoting evidence-based policy making

Audience: Clinicians, program managers, policy makers, researchers and academicians.

Date& time: 4th Dec, 2015: 9.00 AM-1.30 PM

Welcome: Dr. Manmeet Kaur, Additional Professor, School of Public Health, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh.

A. Plenary Session

Topic: Using Economic Evidence for Policy Making: Global Experiences

Chair: Prof YK Chawla, Director, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh.

Presentation:

- (1) *Dr. Yot Teerawattananon, Founding Leader, Health Intervention and Technology Assessment Program (HITAP), Thailand - “Role of HITAP in shaping Decision Making in Thailand”*

The presentation opened with HITAP’s video on the power of HTA, Dr. Yot introduced the approach of convening stakeholders with different interests through HTA. He described the health sector situation in Thailand. While India is a fast growing economy compared to Thailand, both countries have very limited resources and so need to be judicious in spending their resources. Further, both countries have a range of stakeholders that need to be brought together.

Dr. Yot pointed out that there are three channels through which HTA operates in Thailand: Universal Health Coverage (UHC)’s benefit package, the drug reimbursement list and other public health policy development. Noting that economic evaluation is a part of HTA, he emphasized that it is not just a technical approach, but also a matter of institutional process as not everyone is aware of all

the issues and therefore understands. Hence, the process of doing HTA is very important. He illustrated this point by explaining the process for UHC in Thailand where seven groups of stakeholders can nominate issues which are important but currently not included in the benefits package. Certain criteria are used to prioritize topics and then an assessment is conducted for a small proportion of these topics. In addition, the cost and value of money are estimated through a budget impact analysis. The results of the appraisal are presented to a committee which then makes a decision. Stakeholders can then make an appeal. The technical aspect of this process is only the assessment of the topic. Dr.Yot gave the example of including treatment of End Stage Renal Disease (ESRD) and that there are similar examples for drugs. Another use of evaluation is in price negotiation with pharmaceutical companies. One may also release information to public which can equip civil society groups and influence policy. HTA does not just impact policy but also leads to better health outcomes for example, on one hand, alcohol poses a major risk of death to people but also generates large revenues for government. HITAP is working on this issue with Sri Lanka as part of iDSI.

(2) Prof. Stephen Jan, Professor, Sydney Medical School, University of Sydney, Australia - "Role of economic evaluation in decision making-The Australian experience"

In Australia, the health system is a federal government responsibility and is implemented through Medicare and the Pharmaceutical Benefits Scheme (PBS), which is a prescription system. While public hospitals are free for citizens, private health insurance is heavily regulated and subsidized for the public.

In terms of the source of finance, it comes mostly from the Australian government. Australia's spending is lower than the OECD average, among which the US has the highest spending at about 17%. In Australia, the proportion spent on health has increased over time, which also indicates that the HTA process, introduced in the early nineties, did little to stem the rising needs of health care in the country in terms of expenditure.

The Australian PBS provides subsidies to individuals for medicines. It has now been subject to HTA for a few decades. No minister is allowed to put new drugs on the list without going through the HTA process. Private health insurance plays a very small role. This system predates NICE. It is a sponsor driven process such that 99% of the time, the drug company is the one that conducts the assessment. The main concern is price of the drug or device, which, if low enough, can be on the list. PBAC has its guidelines that require the drug to not only be cost effective but also to be affordable in terms of its budget impact. Usually a health sector perspective is adopted and not a societal one. There are debates around modelling as it can be a bit of a black box especially when it's being done by industry. The guidelines discourage CBA as there are issues around monetizing health outcomes. While there is no explicit threshold, there is an implicit threshold of around AUD 65,000 per QALYs gained. In some cases, the "rule of rescue" is applied as in the case of dialysis for ESRD patients which can be catastrophic or "orphan drugs" for rare

diseases. The committee also takes into account affordability of the drug so that even if it is cost effective, it may be excluded because of its high budget impact. He noted that in Australia, government monopsony keeps drug prices low.

(3) Dr. Shankar Prinja, Associate Professor, Health Economics, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh – “State of Economic Evidence for Health in India”

Dr. Shankar compared the situations in Thailand and Australia, leading to the discussion on India. Having conducted a systematic review of the economic evaluation studies available in India, data has been collected to compare author characteristics, types of economic evaluations, study designs, and funding agencies, among others. The main areas of focus are public health and pharmaceuticals. Since studies use different methodologies, it is difficult to make comparisons. Thus, there is a need for standardization. The review compared studies pre and post 2005; this year was chosen as several important health sector initiatives took place such as the National Health Mission (NHM), decentralized planning process, some use of evidence, global effort in the form of the DCP report. Using this yardstick, more studies used discounting in the post 2005 time frame and there was an increase in model based studies. Further, there was a surge in studies on HIV, which was probably a function of funding available and international attention. There has also been a focus on preventive care. In terms of authors, there has been an increase in public health professionals but there has also been a reduction in clinicians. The quality of studies are rated “moderate” (65% score). The review also identified areas of strengthening such as cost data analysis, dealing with uncertainty and conducting economic evaluations along with clinical trials in a way so that they are not only piggy backing but also given priority. For this, one needs to build capacity, standardize methods, institutionalize the process of generating evidence and improve the transmission of research to policy by simplifying the message, highlighting the use of communication as is being done by of HITAP.

(4) Dr. Abha Mehndiratta, India Technical Advisor, National Institute for Health and Care Excellence, UK – “Better Decisions for better Health: Experience from NICE, UK & iDSI”

Dr. Abha made a presentation on NICE, its international work and iDSI. She chronicled the history of NICE which introduced guidelines on treatment and grew to conduct a range of activities. Dr. Abha gave an overview of the organizational and governance structure, including how it works with universities or “centers of excellence”. She emphasized NICE’s status as an autonomous agency as well as its transparent and participatory process. Dr. Abha then elaborated on the role of iDSI in India, the partners involved as well as the work on capacity building and evidence based decision making. She added that iDSI also supports hands on pilots. Describing the initiative, she mentioned that it is funded by international partners and is demand driven, working in countries by adapting international guidelines or

including relevant issues, for example, in India, they looked at issues such as maternal care and snake bites.

Discussion and Q&A:

- *What are the factors behind the success of HITAP?*

Dr. Yot responded by saying that the UHC has been one of the major drivers: once the government promised that it would take care of all people from all health conditions, it led to a huge expectation from public and the demand surges. For example, now the public is asking about Hepatitis C (which is good but the treatment is expensive). In India, given the government commitment to UHC, he noted that India needs to have HTA capacity and he is therefore supportive of building capacity in India to support decision making. Building HTA capacity is not only for scholars and researchers but also for decision makers and clinicians. It is important for the public to be able to understand as it is to them that politicians listen to.

- *How can one ask a clinician to compromise with policy decision as well as patients to compromise on treatment?*

Dr. Abha gave the example of an early study by NICE on rolenza: when NICE said that the drug was not cost effective, there was a lot of outcry from the company and patients. However, the decision was transparent and participatory so NICE was able to defend its decision. This is a policy decision and clinicians and patients are bound to push back. Mr. Narayanan said that over time, such a system can evolve.

- *How do you get quality data for economic evaluations?*

Prof. Stephen said that in Australia, they have access to electronic data, which is linked between hospitals. This way, one can report on people's use of hospital services. The alternative is to rely on self-reporting which may not be accurate. He added that this information can be collected without electronic data but it is difficult. One can routinely include economic questions along with clinical trials as it doesn't cost much more to collect data and increases the value of the trial.

However, cost data and routine data which could potentially be available isn't. Better availability of data and in a digital format would make it easier.

- *How is advocacy happening in Thailand and Australia?*

Prof. Stephen said that in the pharmaceutical space, they are trying to use scientific evidence on whether to invest. Patients and industry are often on the same side of the argument and decisions inevitably push up costs.

B. Panel discussion

Topic: Identifying the Challenges and Opportunities for Use of Economic Evidence for Policy and Clinical Decision Making.

Panelists:

1. Sh. Chetan PS Rao, IRS, Deputy Director, Administration, (DDA), Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh.
2. Sh. S Narayanan, IFS, MD, National Health Mission (NHM), Haryana.
3. Dr. Abha Mehndiratta, India Technical Advisor, National Institute for Health and Care Excellence (NICE).
4. Dr. Joseph L. Matthew, Additional Professor, Advanced Paediatrics Centre, Post Graduate Institute of Medical Education and Research (PGIMER) Chandigarh
5. Prof. Stephen Jan, Professor, Sydney Medical School, University of Sydney.
6. Dr. Yot Terrawattananon, Founding Leader, Health Intervention and Technology Assessment Program (HITAP), Thailand.

Moderator: Dr. Shankar Prinja, Associate Professor of Health Economics, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh.

Panel discussion:

(1) For policy making in Haryana, how are decisions made in terms of resource allocation?

Mr. Narayanan talked about decision makers, he said that often those who rise to the top, don't understand policy. Health is a state subject but since there is so much variation, the central government wanted to fill the gap. The NHM was a short term arrangement. The funding structure is such that the central government contributes 85% of the funds and the state government pays for 15% in order to encourage states to spend on health. This cost sharing was later reduced at the central level to 75%, now to 60%. States have to prepare plans such as program implementation plan, after which the central government determines resource envelope by prioritizing programs. It also connects the state government with partners. Once funds are provided, it is the state government that implements it. One of the strategies of health mission is that the state government has to give a certain amount and this amount has to increase by 10% per year. However, unless someone reviews it, one cannot know whether this is happening. With the NHM, programs are monitored online with GPS tracking to connect all projects.

(2) Do you feel that program managers need understanding in terms of decisions, and should there be sensitization?

Dr. Shankar added that the state has the biggest role to play. The patterns of spending put onus on state. A question was asked regarding flexibility of spending to which Mr. Narayanan said the process is transparent even as there are variations in districts. Dr Shankar added that Haryana has been very forthcoming in using evidence in decision making.

(3) How are priorities selected for the hospital of Chandigarh, which services more than one state?

Mr. Rao talked about hospital planning at PGI. To give a sense of the volumes, he said that 80,000 people are at PGI per day. He explained that it is an autonomous institution, funded by the central government. On how to spend the planned budget, the decision is based on three factors: top down (what centre wants), bottom up (what PGI wants to do) and stakeholders. Constructing new buildings, for

example, reflect what PGI wants. Setting up satellite centres in Punjab, on the other hand, is something that is mandated by the central government. On whether they use economic evaluation, he said there is a role for it as limited resources have to cope with unlimited demands.

(4) How do you collect data for costs and resources?

Dr. Shankar asked on the use of budget impact analysis and marginal cost, which are important, as well as about procurement. To this, Mr. Rao said that a costing exercise is being done. Further, they are setting up pharmacy which would offer integrated services, including prepaid cards on a pilot basis. The hospital information system (HIS), they can have data but then management needs to think about other arrangements such as privacy and data usage policies.

(5) For a clinician working in PGI who has an interest in HTA (conducted economic evaluation and been involved in HTA networks and committees locally and internationally), how does the clinician feel when there is economic evidence restricting clinicians?

Mr. Mathew, a clinician, has been interested in health economics. He said that unlike the UK, India is different in that most of the costs are out of pocket payments. One needs to balance affordability and best medical practice. He observed that many people are going out of the country to access medical services. Referencing Oscar Wilde, he highlighted the distinction between price and value for example, the cost of vaccines and vaccination (consumables, disposables, etc.) plus the cost of immunization. Mr. Mathew pointed to the role of NICE international in setting up a system for using economic evaluations, noting that this may take time. From his perspective, Dr. Shankar said that he has noticed changes in teaching styles, citing evidence, etc.

Comments from panel:

- *Commonalities between Thailand and India include constraints in resources and accountability for decisions, which is similar to other countries in Southeast Asia. How is evidence used in Thailand?*

Dr. Yot pointed out that while there were differences between Thailand and India, there were some similarities especially in terms of having limited resources and being accountable to citizens. He said that while policy makers want to use evidence, they may not know how to do so. In this vein, he suggested the following: One, a good governance structure, with clear decision making bodies and to have representatives from different groups. Two, government bodies having regular meetings to discuss details of the projects. Three, having a record of meetings that are made publicly available. This will ensure that everyone acts on what they promise. Four, it is important to be able to provide strong technical support and so it would be good to have a secretariat. Finally, five, focus on enforcement of decisions.

Discussion and Q&A:

- Why is spending so low in India? What is the optimum level of spending on health? The group could not agree on a single percentage. Mr. Mathew noted that developing countries such as India spend a large portion of their GDP on defense. The group also noted that as the US example shows, there is a lot of spending on health, but poor health outcomes.
- Local context: big public sector but also private sector. How can we make an impact and influence the private sector as well? The need to have strong support from health professionals was agreed on.
- Dr. Yot said that in India, there are complex structures with the center, states and hospitals playing a role which is unlike Thailand, where it is centralized. Possible strategies for India are two ways:
 - o Short term is 1) to support HTA at national level only due to limited capacity and human resource 2) to do HTA for disinvestment in order to free resources for funding other cost-effective interventions.
 - o Long term is build capacity for state-based HTA. Central level (federal) management should ensure the standard/quality of HTA in different states.
- Dr. Yot answered the question about barrier. According to a research on conducive factors of HTA development in Asia, a barrier may be respect of authority or seniors, with evidence ranked as the lowest in terms of strength or value.

Organizations working on public health and HTA in India

The workshop in Chandigarh brought together participants from various organizations that are working on health issues in India. Overall, participants represented 10 organizations and came from different parts of the country along with representatives from NICE International, Sydney University and HITAP. Participants from India came from academic institutions, an autonomous public institution, government agencies and government sponsored research institutes. Thus the group was a mix of academics, researchers and program managers who had specific interests in the topic (see [Appendix 3](#)). In this section, we provide a brief overview of the organizations at the workshop and the context in which they operate.

In the division of responsibilities set out in the Constitution, public health falls under the purview of states¹. This means that the 29 states and 7 union territories have their own health policies that cater to their needs. Data suggests that there are differences in basic health outcomes such as life expectancy and infant mortality across states² motivating policy makers to take a national level approach. In this context, the National Health Mission (NHM), originally launched to serve rural areas only, works with state level agencies to strengthen their capacity and health systems through a cost sharing mechanism. Administered by the Ministry of Health and Family Welfare (MoHFW), it is supported by the National Institute of Health and Family Welfare (NIHFW), an autonomous institution under the Ministry that is concerned with training on public health as well as serving as a think tank, and the National Health Systems Resource Centre (NHSRC), which provides technical support to both central and state agencies³. In addition, the Ministry's Department of Health Research (DHR) oversees the Indian Council of Medical Research (ICMR) which is responsible for coordinating biomedical research in the country. Several participants at the workshop came from these institutions, including 7 from NHM offices in Punjab, Haryana and Kerala, 2 from ICMR and 4 from different divisions of the NHSRC.

In terms of building the capacity of trained professionals, three types of educational institutions working on public health and health economics can be identified from the sample of organizations represented at the workshop: academic, autonomous institutions and government sponsored research institutes. The three academic institutions represented were the hosts, Post Graduate Institute of Medical Education and Research (PGIMER), the Tata Institute of Social Sciences (TISS) from Mumbai and the Indian Institute of Technology (IIT) at Chennai. The Sree Chitra

1 Constitution of India, Schedule VII: List II. Link: [http://lawmin.nic.in/olwing/coi/coi-english/Const.Pock%20Pg.Rom8Fsss\(35\).pdf](http://lawmin.nic.in/olwing/coi/coi-english/Const.Pock%20Pg.Rom8Fsss(35).pdf)

2 National Health Profile 2015. Link: http://www.thehinducentre.com/multimedia/archive/02557/National_Health_Pr_2557764a.pdf

3 NHM Implementation Framework 2012-17. Link: http://nrhm.gov.in/images/pdf/NHM/NRH_Framework_for_Implementation__08-01-2014_.pdf

Tirunal Institute for Medical Sciences and Technology at Trivandrum did not participate in the workshop but was mentioned as being one of the collaborating partners. The second type is the Public Health Foundation of India (PHFI), an autonomous “public private initiative”, which has set up four institutes of public health (“IIPH”) across the country. And finally, government sponsored research institutes such as the National Institute of Epidemiology (NIE) and the National Institute of Research on Tuberculosis (NIRT), both of which are under ICMR. NIE houses the ICMR School of Public Health with a program on public health and NIRT offers a PhD program that is recognized by five universities.

The role of HTA in setting priorities for healthcare expenditure is still evolving in India. In 2013, the DHR decided to establish the Medical Technologies Assessment Board (MTAB) which would be responsible for determining the cost effectiveness of health interventions⁴. While ICMR, also under the DHR, has advertised positions for the new body⁵, the MTAB does not appear to have taken form yet (per information available online). Even as conducting cost effectiveness studies is in the mandate of MTAB, the division of Healthcare Technology and Innovations of the NHSRC also describes conducting HTA as one of its responsibilities and conducts a workshop on HTA every six months⁶. Further, this division is a member of the INAHTA, which is an international network of HTA agencies. Organizationally, the NHSRC is under the NHM, which is one of the Departments of Health and Family Welfare of the MoHFW whereas the MTAB is under the Department of Health Research (DHR). Based on information available, it is not clear what the division of labor or the roles and responsibilities are or will be with regards to HTA in India and this is an area that could be clarified through discussions with stakeholders or with additional research.

During the workshop, it emerged that Tamil Nadu has made progress in providing health services to its citizens and has performed well on health indicators among major states in the country⁷. The Chief Minister’s Comprehensive Health Insurance Scheme (CMCHIS) is a generous health insurance package for families with an annual income less than INR 72,000. In what resembles a benefits package, the state government has developed a list of procedures and services at empaneled hospitals that can be availed as part of this scheme. Although not ‘universal’ in nature, the state seems to have other health schemes in place as well including the Tamil Nadu Health Systems Project (TNHSP) which works towards strengthening services for the poor and vulnerable. Given that Tamil Nadu is relatively advanced in managing its healthcare system, a detailed study on the lessons learned from its experience may be worth exploring.

⁴ “Medical Technology Assessment Board to Be Set Up”, 10 December 2013. Link: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=101329>

⁵ “Indian Council of Medical Research (ICMR) Recruitment: Apply by Feb 21”, Link: <http://indiatoday.intoday.in/education/story/indian-council-of-medical-research-icmr-recruitment/1/418511.html>

⁶ NHSRC webpage. Links: http://www.nhsrccindia.org/index.php?option=com_content&view=article&id=173&Itemid=642

& INAHTA webpage: <http://www.inahta.org/our-members/members/hct-nhsrcc/>

⁷ Table 9.1: Selected Indicators of Human Development for Major States, Economic Survey of India 2014-15 Statistical Appendix. Link: <http://indiabudget.nic.in/es2014-15/estat1.pdf>

To summarize, since health is a state subject, it is state governments that are responsible for health policies and their implementation. The central government apparatus is geared towards supporting state governments and in enhancing the research and educational capacity in the field. While HTA is still evolving in India, there appears to be an appetite for it amongst practitioners and researchers working on public health. In addition to academic and public institutions, there are several other entities such as associations of clinicians, non-governmental organizations (NGOs) and donors that play a role in the health sector in India. A study of Tamil Nadu, a state that has made strides in implementing health policies, may be studied in greater depth. As an additional resource, Chapter 2 of the Manual on Health Statistics published by the Central Statistical Office provides information on government policies and institutions related to health in the country⁸. This analysis suggests that a multitude of actors are active in the health sector in India which would need to be taken into account going forward.

⁸ “Manual on Health Statistics in India”, Central Statistical Office, Government of India. Link: http://mospi.nic.in/Mospi_New/upload/Manual-Health-Statistics_5june15.pdf

Current and Potential HTA Development in India

The enthusiasm and deftness with which the participants grasped the concepts during the workshop was very impressive and encouraging in terms of the current capacity for economic evaluation in India. During a prioritization exercise, the participants in general made use of the available information and relied primarily on cost-effectiveness, budget management, and efficiency to come to their decisions. Despite coming from a variety of organizations, they applied the concepts to their pieces of work effectively (as evidenced by the presentations during their projects) and are likely to use them as they continue on in their work. Several participants have educational backgrounds incorporating these concepts, and even mentioned that the workshop functioned as a refresher or review for them from their masters or undergraduate studies.

The expertise of public health agencies such as HITAP and NICE are geared towards implementation of HTA within a UHC system in Thailand and the United Kingdom, respectively. Health interventions are provided through a centralized system in these countries. In India, on the other hand, health is a state subject and the union government does not have a direct line of command and communication with providers; as such, implementing UHC is infeasible. Despite this, HTA may be implemented without tying it to a UHC system. States have begun to consider programs that provide healthcare to majority of the population, such as the case with Tamil Nadu's healthcare system. Yet even states that choose not to provide some form of health coverage will eventually face limitations. As with all countries, India also faces constraints in terms of resources, which may be exacerbated on the state level depending on funding allocations. The resources that are provided to each state must be allocated efficiently through an acceptable process – a prime justification for conducting HTA. In spite of these reasons for conducting HTA, challenges exist to the national and state implementation of HTA. The extent to which HTA or even economic evaluation is directly used in policy on the state level remains to be investigated. This is often not due to low quality of research but may be attributed to decision makers' low knowledge or capacity to understand the implications of the research. It is also likely that the number of individuals with this type of capacity is limited to the participants or the organizations they belong to; as such, while there may be some capacity present in each state, the potential uses of HTA may still be limited on the state level.

To address the concerns mentioned above, an HTA program established at the national level to provide a coordination role and assist institutions with HTA capacity spread across the country (such as IIT Chennai and PGI) could prove useful in the initial stages of HTA development. HTA could focus on three areas: a) public policy issues such as tobacco and alcohol control, b) vertical programs such as diabetes or

cancer screening, and c) a comprehensive package to deal with the major disease burdens in India, which would include prevention, health promotion, treatment and rehabilitation. Conducting a few ex-ante HTA studies prior to passing policy and/or resource allocation to anticipate results would be instrumental in demonstrating the usefulness of HTA. The national HTA program should push for this result as well as encourage existing institutions that have carried out this research for their own states to expand the analysis that would be relevant to the context of other states in order to ensure continuity to the national level. In terms of the use of these studies, the products that the national HTA program develops could be used at both national level (public policy and screening program) and state governments (comprehensive package for particular health problems or diseases) so that they can make relevant decisions.

Acting as a Secretariat to the HTA units in each state, the national HTA program must then establish standards for research as well as process guidelines for conducting HTA to ensure that the results are rigorous academically and acceptable to stakeholders at all levels. This includes instituting a process of topic nomination and selection, assessment, appraisal, linking research to policy, and communication of results to other stakeholders. Each state may have its own health issues, but a standardized process will provide a framework for which the high variability in health policies may be situated without compromising health outcomes. In addition to this role, the Secretariat may be able to coordinate the use of the states' researches in price negotiations should there be an overlap in their needs, because the combined volume of medicines needed for several states may be used as a bargaining tool. States could potentially pool their resources to afford even high-cost technologies or medicines if purchased.

During the workshop, the participants mentioned that decision makers often focus on immediate results, which is consistent with observations from other countries with a similar context. In this case, an important aspect of this process is the policy makers' understanding of HTA. Advocacy may be necessary to garner the interest and investment of policy makers in HTA. It is vital that their capacity to translate the results, even on a superficial level, be developed alongside the capacity of the researchers to conduct the research. The demand of the populace for healthcare could be answered through a justifiable process such as that outlined above. Researchers must be able to communicate these results to the policy makers in such terms. In addition to this, communicating the results to the public and the media would be useful as well. The national HTA program could also coordinate and assist the improvement of the communication and understanding between the important stakeholders.

Appendices

Appendix 1: Participants List

Sl. No.	Name	Designation
1	Dr Stephen Jan	Head, Health Economics, Sydney Univ.
2	Dr Muthu Ramalingam	TNHSP, Chennai
3	Ms Veluswamy Kalaiarasi	TNHSP Chennai
4	Dr Saiju Hameed	NHM KERLA
5	Dr Geetha R. Menon	ICMR Delhi
6	Dr Saritha Nair	ICMR Delhi
7	Dr Tarun Bhatnagar	NIE Chennai
8	Sarit Rout	PHFI
9	Kirti S Sahoo	PHFI
10	Karthik Sharma	PHFI
11	Manushi Sharma	PHFI
12	Dr Nilesh Gawde	TISS Mumbai
13	Dr M Mariappan	TISS Mumbai
14	Dr Jyotsna Negi	NHSRC Delhi
15	Ms Tanushree Chaudhary	NHSRC Delhi
16	Dr Kavita Kachroo	NHSRC Delhi
17	Veenapani Rajeev Verma	IIT Chennai
18	Sumirtha Gandhi	IIT Chennai
19	Amit Sahoo	PHFI
20	Dr M Muniyandi	NIRT Chennai
21	Mr Blake Angell	PhD Student, Health Economics, Sydney Univ.
22	Ms Chalarntorn Yothasmutra	Comm Officer, Ministry Of Public health, Thailand
23	Ms Alia Luz	Project Asso., Ministry Of Public health, Thailand
24	Ms Saudamini Dabak	Intl Fellow, Ministry Of Public health, Thailand
25	Dr Yot Teerawattananon	Prog. Leader, Ministry Of Public health, Thailand
26	Ms Waranya Rattanavipapong	Researcher, Ministry Of Public health, Thailand

Sl. No.	Name	Designation
27	Ms Nitichen Kittiratchakool	Research Asst., Ministry Of Public health, Thailand
28	Dr Abha Mehndiratta	NICE Intl.
29	Navdeep / Satinderpal / Ram Singh	NHM Punjab
30	Navdeep Gautam	NHM Punjab
31	Satinderpal S Chahal	NHM Punjab
32	Ram Singh	NHM Punjab
33	Dr Amit	NHM Haryana
34	Dr Kishan Kumar	NHM Haryana
35	Dr Gaurav Jyani	PGIMER Chandigarh
36	Pankaj Bahuguna	PGIMER Chandigarh
37	Akashdeep Singh Chauhan	PGIMER Chandigarh
38	Dr Shankar Prinja	PGIMER Chandigarh
39	Dr Gunjeet	PGIMER Chandigarh
40	Dr Atul Sharma	PGIMER Chandigarh
41	Dr Ankur Sangwan	PGIMER Chandigarh
42	Dr Meenu Sharma	NHSRC Delhi

Appendix 2: National Workshop: Economic Evaluation in Health Care Agenda

Date & Day	Time	Session	Topics	Outline of the sessions	Resource Person
Day 1	10.30 - 11.15 am	Lecture 1	Economic Evaluation: What and Why?	Concept and need of health care evaluation. Concept of efficiency and its types.	SP
	11.15 - 12.00 noon	Lecture 2	Economic Evaluation: Perspective & Interpreting Evidence	What is a full economic evaluation and its types? Perspective of Economic Evaluation Interpreting CER and ICER results of economic evaluation.	SJ
	12.00 - 12.15 pm	Tea Break			
	12.00 - 1.00 pm	Practical	Exercises on efficiency and economic evaluation	Situations and perspectives Calculation and interpretation of evidence from economic evaluation	SP

	2.00-03.15 pm	Lecture 3	Economic Evaluation: How to do? Alongside an RCT or Decision Modeling	Introduction to RCT based economic evaluation and its limitations. Need for decision modelling. Introduction to methods of decision modelling	SP
	3.30-5.00 pm	Practical	Protocol development	Participants to be asked to present their interventions and address the following: <i>Basically present the ideas you were asked to think about pre-workshop.</i> <ul style="list-style-type: none"> Describe your intervention and the evidence that supports it. What are the aims/outcomes of the intervention? What evidence (if any) was used to inform its initial implementation? 	SJ/BA
Day 2	8.45-9.00	Reflection			
	09.00 - 10.00 am	Lecture 1	Designing a cost study	Type of Costs, Perspective, Methods Designing a costing study	SP
	10.00 - 11 am	Lecture 2 Tea Break	Analysing Cost Data	Exercise on estimating unit cost both from economic as well as financial perspective.	SP SJ/SP

	11am - 11.30 am	Practical	Costing Exercise	Exercise on Cost Data Analysis	
	11.30 am -1.00 pm				
	02.00 -3.15 pm	Lecture 3	Valuation of Benefits	Different types of benefit measures. Concept of DALY and QALY. Concept of WTP.	SJ
	3.15- 3.30 pm	Tea Break			
	3.30- 5.00 pm	Practical	Protocol development:	Specifying the question and designing the basics for Cost and Consequence Valuation	SP/ SJ
Day 3	8.45- 9.00 am	Reflection			
	09.00 - 10.00 am	Lecture 1	Uncertainty Analysis	Types of uncertainties in economic evaluation. Analysing uncertainties	SP
	10.00 - 11.30 am	Lecture 2	Decision rules and thresholds	Interpreting CER and ICER results of economic evaluation. Introduction to league tables and thresholds.	YT
		Tea Break			

	11.30 - 11.45				
	11.45 - 01.00 pm	Lecture 3	Systematic review	Collecting and summarising all empirical evidence	WR
	02.00 - 2.45p m	Lecture 4	Critical Appraisal of Economic Evaluation	Using the Drummond checklist for reading and critical economic evaluation.	SJ/BA
	2.45- 3.00 pm	Tea Break			
	3.00- 4.00 pm	Practical 1	Critical Appraisal of Economic Evidence	Guided reading of economic evaluation paper & its Critical appraisal	SJ/BA
	4.00- 5.00 pm	Practical	Protocol Development	Identifying methods for reviewing evidence for the research question	YT/ SP
Day 4	8.45- 9.00	Reflection			
	09.00 - 10:00	Lecture 1	Identifying economic evaluations from other settings and transferability	Learning and applying economic evaluation from other settings Ensuring results are comparable	YT

pm			with similar studies in other settings	
10.00 - 11.00 pm	Lecture 2	Priority Setting	Influence of economic evaluation in policy making Frameworks used to prioritise different programs Equity concerns	SJ/ YT/BA
11.00 - 11.30	Tea Break			
11.15 - 12.15	Lecture 3	Communicating results	How to communicate results through policy briefs, media materials, reports and other results dissemination activities/materials	CY
12.15 - 1 pm	Open discussion			SJ/ YT/ SP
2.00- 5.00 pm	Group Presentations			SJ/ YT/ SP

*Tentative timings for Lunch break:1-2 pm

Day 5: Symposium: Using Economic Evidence for Decision Making

Audience: This day will have a larger group of audience, which will comprise of clinicians, program managers, policy makers, researchers and academicians.

Objective:

5. To sensitize the audience on the need for thinking about economic evidence while planning and evaluating health programs
6. To identify the right questions for meeting the policy needs
7. To showcase successful case studies where economic evidence has been used for policy making: Identifying the opportunities
8. To highlight the limitations of economic evidence, and the role of value judgement
9. To identify the roles of researchers and policy-makers

Time	Method	Topic	Speaker	Chair
09.00-10.30	Opening: Welcome and Introduction			
10.00-11.15	Plenary Session: Using Economic Evidence for Policy Making	<ol style="list-style-type: none"> 1. Role of HITAP in shaping Decision Making in Thailand (20 min) 2. Australian Experience (20 min) 3. State of Economic Evidence in India (10 min) 4. Recent Developments for Use Health 	<ol style="list-style-type: none"> 1. Yot 2. Steve 3. Shankar 4. NHSRC/ ICMR/ NICE 	Sakthivel

		Technology Assessment in India (10 min)		
		5. Q&A (15 min)		
11.15-11.30	Tea			
11.30-12.45	Panel Discussion: Identifying the Challenges in Use of Economic Evidence for Policy and Clinical Making	Yot, Steve, Program Managers, ICMR/ NHSRC, State Policy Maker, Clinician, Hospital Administrator	The policy makers, program managers, clinician and hospital administrator will be invited first to share their views on how they perceive the role of economic evidence; and the extent of application of economic evidence in policy making. Steve and Yot could then be asked to comment on each of these concerns, and identifying opportunities for both researchers and policy makers on how it could be made possible	SP could moderate
12.45-1 pm	Short Video: HITAP			
1.00-1.30	Summary and			

pm	Closing			
1.30-2.30 pm	Lunch			

Appendix 3: List of Organizations in India represented at PGIMER Workshop, 30 November - 3 December, 2015

Source: Based on list of attendees shared by workshop organizer

Organization Name	Brief Description	Link	Location (of participants)	# Participants
Department of Humanities and Social Sciences, Indian Institute of Technology, Chennai (IIT, Chennai)	Academic: One of the premier technology institutes in India, the department of Humanities and Social Sciences offers MA and PhD programs, and hosts faculty and students who focus on health economics. IIT Chennai (and not specifically the department of humanities and social sciences) has a joint initiative with the Department of Biotechnology (Ministry of Science and Technology, Govt. of India) called "Healthcare Technology Innovation Center" which aims to bring together scientists, industry and healthcare professionals for innovative technologies in healthcare.	http://www.hss.iitm.ac.in/index.php	Chennai	2
School of Public Health, Post Graduate Institute of Medical Education and Research (PGIMER)	Academic: The workshop and symposium were organized by the School of Public Health at PGIMER, which is one of the most reputed medical institutions in India. The School of Public Health offers courses in health economics including an online course. Faculty has conducted several economic evaluations of health interventions, particularly in North India.	http://www.healtheconomics.pgisph.in/index.html	Chandigarh	7
School of Health System Studies, Tata Institute of Social Sciences (TISS)	Academic: A renowned institution in the social sciences, the School of Health Systems Studies at TISS offers programs at the Master's level including an MPH in Health Policy, Economics and Finance)	http://s.hss.tiss.edu/	Mumbai	2
National Health Mission (NHM)	Government (Program/Agency): A national level program, it aims to attain "universal access to Equitable, Affordable and Quality health care services" with a "high focus" on 18 states. It was originally set up as the National Rural Health Mission in 2005 but has evolved	http://nrhm.gov.in/	Punjab, Haryana, Kerala	7

	into an umbrella program with sub-missions on rural and urban areas. It is administered by the Ministry of Health and Family Welfare at the central level and works with institutions at the state level (State Health Missions) led by the Chief Minister. It is primarily involved in strengthening state capacity and health systems in the areas of reproductive, newborn, adolescent health and disease control. One of its flagship programs, the “Accredited Social Health Activist (ASHA)”, mobilizes and trains community volunteers to increase access to healthcare in rural communities. The Twelfth Five Year Plan frames the outcome indicators for the NHM.			
National Health System Resource Centre (NHSRC)	Government (Agency): The NHSRC, set up under the NHM in the Ministry of Health and Family Welfare, Government of India, serves as the apex body for technical support to both the center and states. It has been designated as a WHO Collaborating Centre for Priority Medical Devices and Health Technology and is based in Delhi with a regional, autonomous center in the Northeast of India. It comprises eight "practice areas" or divisions. One division, called Healthcare Technology and Innovations is responsible not only for the technical aspects of medical devices and equipment, but also for identifying innovative interventions and conducting health technology assessment. This division is part of INAHTA (an international network of HTA agencies) and conducts an HTA Fellowship program (workshop and conference) every six months. Participants at the workshop came from different divisions of the NHSRC.	http://www.nhsrcindia.org/	Delhi	4
Tamil Nadu Health Systems Project (TNHSP)	Government (Program/Agency): This is a project under the Department of Health and Family Welfare, Government of Tamil Nadu, with support from the World Bank. It covers topics such as non-communicable diseases and health system performance and is targeted at addressing gaps in health care for low income and vulnerable groups. There does not appear to be an explicit use of HTA in its programs.	http://www.tnhsp.org/	Chennai	2
Public Health Foundation of India (PHFI)	Government (Autonomous): Described as a “public private initiative” with several stakeholders represented, as of 2013, close to 30% of funding was received from the central and state governments with the rest coming from foundations, the private	http://www.phfi.org/	Delhi, Bhubaneswar	5

	sector and philanthropists. PHFI aims to develop institutional capacity in public health through "education, training, research and policy development" and increase the number of health professionals in the country. It has played a role in establishing Indian Institutes of Public Health (IIPH) of which there are four across the country. In addition to educational work, PHFI also conducts research and supports strengthening of health systems.			
Indian Council of Medical Research (ICMR)	Government (Research): ICMR is a research institution under the Department of Health, Ministry of Health and Family Welfare, Government of India, which is responsible for the "formulation, coordination and promotion of biomedical research" in the country. It has set up a constellation of research institutes and medical research centers, has partnered with other institutes and administers fellowships for researchers.	http://www.icmr.nic.in/	Delhi	2
National Institute of Epidemiology (NIE)	Government (Research): One of the research institutes of ICMR, the NIE supports a range of research on topics such as Biostatistics, Epidemiology and Health Systems among others. It also hosts the ICMR School of Public Health and offers a Master's Programme in Public Health and Field Epidemiology Training Programme. (see also ICMR NIE profile page)	http://www.nie.gov.in/	Chennai	1
National Institute for Research in Tuberculosis (NIRT)	Government (Research): This is also one the research institutes under the ICMR and is responsible for conducting research on all aspects of TB and HIV. It has conducted several RCTs and developed an evidence base for treatment of TB in India. It has been successful in influencing policy. It has a range of divisions that support the work of the institution (clinical research, bacteriology, etc) and also has a PhD program in place. (see also ICMR NIRT profile page)	http://www.nirt.res.in/index.html	Chennai	1

