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Ministry of Health and Family Welfare
(Department of Health Research)

Report of Health Technology Assessment (HTA)- Stakeholders' Consultative Workshop (25th-27th July, 2016)

(Department of Health Research)
Ministry of Health & Family Welfare



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Report of the
DHR-ICMR-iDSI Collaborative
Health Technology Assessment
(HTA)-Stakeholders'
Consultative Workshop

July 25-27, 2016
India Habitat Centre, New Delhi

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Acronyms and Abbreviations

AAR	After Action Review
ANZHSN	Australia and New Zealand Horizon Scanning Network
DHR	Department of Health Research
GoI	Government of India
HITAP	Health Intervention and Technology Assessment Program, Thailand
HTA	Health Technology Assessment
ICER	Incremental Cost-effectiveness Ratio
ICMR	Indian Council of Medical Research
iDSI	International Decision Support Initiative
IPR	Intellectual Property Rights
M&E	Monitoring and Evaluation
MCDA	Multi-Criteria Decision Analysis
MoH&FW	Ministry of Health and Family Welfare, India
MoPH	Ministry of Public Health, Thailand
MTAB	Medical Technology Assessment Board
NHM	National Health Mission
NHS	National Health Service
NHSO	National Health Security Office
NHSRC	National Health Systems Resource Centre
NICE	The National Institute for Health and Care Excellence
NPPA	National Pharmaceutical Pricing Authority
NSSO	National Sample Survey Organisation
OOPE	Out of Pocket Expenditure
PoL	Price of Life
STG	Standard Treatment Guidelines
UCBP	Universal Health Coverage Scheme Benefits Package
UHC	Universal Health Coverage
UK	United Kingdom

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Dr. Ashoo Grover
Dr. Ravinder Singh

Preface

With the support of Parliament of India and erstwhile Planning Commission (now NITI Aayog), the Department of Health Research (DHR) was mandated to establish Medical Technology Assessment Board (MTAB) as an independent body to look into health resources and their evidence based utilization. MTAB is expected to use Health Technology Assessment (HTA) as a most accepted tool. National and international organisations use HTA for effective priority setting for their governments. The active involvement of the Department of Health & Family Welfare under Ministry of Health & Family Welfare, State Departments of Health along with stakeholders and partners was a crucial step in this direction.

The new National health protection policy marks an important and opportune moment for a sustainable future. This will also help our country to move towards Universal Health Coverage, wherein the majority of its population is covered under state-supported public healthcare services. HTA will act as a fulcrum among stakeholders and technical partners. The assessed technologies like drugs, devices, diagnostics, treatment guidelines etc. would be made available for Government to rationalize its resources.

The beginning of new era of HTA with present Workshop is expected to gain momentum with training of existing and new partners. DHR is has initiated the steps for identifying and engaging the technical partners which could be the Institutes/organizations like IIT, AIIMS, PGIMER, NHSRC, SCTIMST, AIMS and some state governments and have already done commendable work on HTA.

DHR is committed towards establishment of MTAB in next few months. The concept note for briefing of the Union Health Minister has been prepared and the talks have been initiated with international organizations for the training of the potential individuals. We have created a roadmap for the MTAB. I take this opportunity to thank Ministry of Health & Family Welfare and all national and international participants for their unstinted support.

Dr. Soumya Swaminathan

Executive Summary

A workshop was jointly convened by the Department of Health research (DHR), Government of India, The Indian Council of Medical Research (ICMR), and the international Decision Support initiative (iDSI) in order to raise awareness of the initiative to institutionalize Health Technology Assessment (HTA) in India from July 25-27, 2016. The workshop provided the opportunity for key stakeholders within the field to share experiences, and engage in rich discussions and debate regarding the context, need, function, structure, and future plans for this initiative. The Workshop was attended by more than 200 delegates, including senior members of the Indian government such as the Hon'ble Ministers of State for Health, Shri Faggan Singh Kulaste and Smt Anupriya Patel; Sh. B.P. Sharma, the then Secretary, Department of Health & Family Welfare; Dr. Jagdish Prasad, DGHS; and Dr. Soumya Swaminathan, Secretary DHR.

Mr Manoj Jhalani, Joint Secretary and Mission Director (NHM), Ministry of Health and Family Welfare, Prof K. Srinath Reddy, President of the Public Health Foundation of India (PHFI), Prof T Sundararaman, Dean, Tata Institute of Social Science (TISS), and Dr. Sanjiv Kumar, Executive Director, National Health Systems Resource Centre (NHSRC) also supported the Workshop with their presence and views. Distinguished International speakers from Thailand and the UK also attended and shared global experiences of utilising HTA to set priorities in health. Speakers shared their insight into both the promise and challenge of implementing HTA in India and raised key issues for consideration, such as how the board will function at the central and state level, and what kinds of evidence and data will be used to inform analysis and decision making.

The backgrounds of participants ranged from central and state government, academic institutions, NGOs, public and private health insurers, international agencies such as the WHO and the World Bank, the armed forces, and think-tank institutions.

The inaugural session was opened by the Dr. Soumya Swaminathan, Secretary, DHR and Director General ICMR. Hon'ble Ministers of State for Health, Shri Faggan Singh Kulaste and Smt Anupriya Patel; Sh. B.P. Sharma, the then Secretary Health; and the DGHS, Dr. Jagdish Prasad were also present in the inaugural session.

Technical session-1 focused on learning from International examples of how HTA has been used globally to transform the political economy of decision making into a fairer, transparent, and effective system of allocating health resources. International speakers from Thailand and the UK delivered presentations sharing global experiences of utilising HTA to set priorities in health.

Technical Session-2 focused on the intrinsic link between improving priority setting and achieving Universal Health Coverage.

Importance of defining a Health Benefits Package (HBP) to reduce out-of-pocket spending and ensure access to healthcare for the population in line with the UHC agenda was discussed. Experts from international agencies; HITAP, Thailand and NICE International, UK shared their perspectives and country experiences on utilising HTA tool towards achieving UHC and sustainable development goals.

The technical session-3 provided a platform to share the views of those engaged in the process of Evidence to Policy translation, either as generators of evidence or as end users of the evidence produced for formulation of policy decisions; the development of Standard Treatment Guidelines in India and the way in which HTA can inform best practice guidelines of care.

Over the next day and half, a Topic Selection workshop was conducted and included a lecture, panel sessions and group work activities. The opening session was a lecture on the importance of topic selection followed by a group exercise to discuss various aspects of investing in and disinvesting from health technologies. A panel session in the afternoon gave participants a flavor of the topic selection process in different settings. Building on the sessions during the day, participants then examined the scope of HTA in India and how it could operate in the context of national and state level responsibilities. On the third day, participants worked in two sets of groups to discuss, on the one hand, how to engage with stakeholders identified during the workshop and, on the other hand, to develop a process for topic selection in the country. The topic selection component of the consultative workshop was capped off with a panel session on the activities that follow from the topic selection process through the lens of institutions in India, the UK and Thailand. Participants had been asked to complete a paper-based survey on the need, demand and supply of HTA in India on the second day of the workshop, the results of which were presented in the panel session on the third day.

The 3-days 'HTA-Stakeholders' Consultative Workshop' was concluded by a closing ceremony presided by Prof Arvind Panagariya, Vice-Chair of the NITI Aayog. Dr. Soumya Swaminathan, Secretary, Department of Health Research shared the future plans for the institutionalization of HTA in India. Participants shared their perspectives and the learning experiences. Prof Panagariya spoke in detail about the challenges Indian health system is currently facing ranging from quantity and quality of doctors in the country, regulation of medical education, and inadequate public spending on health due to budget limitations. He stated that health expenditure in absolute terms has risen in the past decade, but not as a proportion of GDP spending. Prof Panagariya shared that in the last decade, the Government has been able to introduce insurance schemes, which is a new concept to India. Prof Panagariya stated that a two-pronged strategy is required to strengthen the Indian health system. The public health system needs to be strengthened by the provision of insurance, infrastructure and equipment, training, and health education. The private health sector has problems of asymmetry of information and unqualified providers, which needs to be addressed.

The workshop was concluded by a vote of thanks to all who participated and shared their experiences over these 3 days.

Day 1 of the Health Technology Assessment (HTA)- Stakeholders' Consultative Workshop

Background

The rapid emergence of new and expensive drugs, devices, technologies, diagnostics etc. coupled with the growing public expectation for accessing such treatments at an affordable level has led to the pressure of delivering high quality healthcare with constrained public funds. These conditions heighten the importance of evidence – based decision making for resource allocation and strategic planning of policymakers and other key stakeholders. For these decisions, Health Technology Assessment (HTA) has emerged as an important tool to inform allocation and decisions given in limited resources. HTA has been used effectively to inform Universal Health Coverage (UHC) related policy decisions in many other countries successfully.

Ministry of Health & Family Welfare, Department of Health Research (DHR) intends to set up a system for the clinical and economic evaluation of appropriateness and cost-effectiveness of the available and new health technologies in India as part of the research governance mandate of the Department of Health Research. Many national institutions/organisations directly or indirectly are engaged in HTA related activities. In order to bring these various institutions/organisations in a common platform; a workshop was organised on “*Health Technology Assessment (HTA) – Stakeholders' Consultative Workshop*” from July 25-27, 2016 at India Habitat Centre, New Delhi.



Dr. Rakesh Kumar, Prof Anthony Culyer, Prof Anthony Culyer, Sh. B.P. Sharma, Smt. Anupriya Patel, Sh. Faggan Singh Kulaste, Dr. Soumya Swaminathan, Dr. Phusit Prakongsai, Dr. Jagdish Prasad (left to right)

Introduction

On the 25th July, 2016, a workshop was jointly convened by the Department of Health research (DHR), Government of India, The Indian Council of Medical Research (ICMR), and the international Decision Support initiative (IDSI) in order to raise awareness of the initiative to institutionalise health technology assessment (HTA) in India. This initiative aims to introduce a more transparent, inclusive, fair, and evidence-based process by which decisions regarding the allocation of health resources are made in India. The official government press release for the event highlighted the interest of the Indian government to utilise the event to learn from international iDSI partners on how HTA can be best utilised to improve access to affordable health care for the people of India towards the ultimate goal of Universal Health Coverage (UHC). The workshop provided the opportunity for key stakeholders within the field to share experiences, and engage in rich discussion and debate regarding the context, need, function, structure, and future plans for this initiative.

The conference was well attended with over 200 delegates, including senior members of the Indian government such as the 2 newly appointed ministers of state for health, Shri Faggan Singh Kulaste and Smt Anupriya Patel; The DG of health services, Dr. Jagdish Prasad; and the secretary of DHR, Dr. Soumya Swaminathan.

Speakers at the event included distinguished leaders of health research and public health strategy in India, including Mr Manoj Jhalani, Joint Secretary and Mission Director (NHM), Ministry of Health and Family Welfare, Prof K. Srinath Reddy, President of the Public Health Foundation of India (PHFI), Prof T Sundararaman, Dean, Tata Institute of Social Science (TISS), and Dr. Sanjiv Kumar, Executive Director, National Health Systems Resource Centre (NHSRC). Distinguished International speakers from Thailand and the UK were also in attendance, and delivered presentations sharing global experiences of utilising HTA to set priorities in health. Speakers shared their insight into both the promise and challenge of implementing HTA in India and raised key issues for consideration, such as how the board will function at the central and state level, and what kinds of evidence and data will be used to inform analyses and decision making.

The breadth of backgrounds of attendees, ranging from central and state government, academic institutions, not-for-profit organisations, public and private health insurers, international agencies such as the WHO and the World Bank, the armed forces, national trusts, and think-tank institutions made for lively debate and rich discussion.

Institutionalising HTA in India will require government support, technical capability and capacity, and a fit for purpose of health system that can support its implementation. By bringing together Indian academics, healthcare providers, insurers, and policy-maker representatives with international experts in the field, this joint DHR-ICMR-iDSI workshop facilitated an open platform to discuss and address these issues and plan a way forward for India. This workshop paves the way for the beginning of the long path towards building a sustainable HTA framework to inform coverage decisions as part of India's Universal Health Coverage agenda.

The Inaugural Session

The inaugural session provided a platform by which leaders in the Indian, UK, and Thai governments could share their ideas on what institutionalising HTA can do for India and express their united support for his initiative on behalf of their respective departments and organisations. The event was opened by the Secretary DHR and Director General ICMR, who discussed the mandate to establish an MTAB, as laid out in the 12th Five Year plan and the responsibility for this that was allocated to DHR. Dr. Soumya reiterated that India looks forward towards achieving the SDGs and UHC, and that the Government has expressed commitment to increase expenditure on health and towards supporting this HTA initiative.

"HTA will provide a transparent, consultative process of decision making that is based on evidences and provides inputs to policymakers for providing universal health services that are affordable, appropriate and effective"

- Dr. Soumya Swaminathan, Secretary, Department of Health Research

Senior members of the Indian government such as the two newly appointed ministers of state for health, Shri Faggan Singh Kulaste and Smt Anupriya Patel; and the DG of Health Services, Mr Jagdish Prasad were also in attendance and spoke of their support on behalf of the government of India towards this initiative.

"Health Technology Assessment is very essential and needed for achieving Sustainable Development Goals (SDGs) and goals set under the Five Years Plans of the Government...this will aid in fulfilling commitment of the Government and will help in bringing people of the country under the Universal Health Coverage (UHC)"

- Shri Faggan Singh Kulaste, Hon'ble Minister of State for Health & Family Welfare

"Universal Health Coverage (UHC) is the need of the hour for India and HTA can be a potent solution for this. The Government is very keen and has already started a journey towards achieving this...the Government is committed towards HTA ...HTA will help us to shift towards evidence-based policymaking and the insights and valuable experiences of NICE (UK) and HITAP (Thailand) [iDSI] will help in framing an effective UHC"

- Smt. Anupriya Patel, Hon'ble Minister of State for Health & Family Welfare



Smt. Anupriya Patel, Hon'ble Minister of State for Health and Family Welfare, Govt. of India

The new National health protection policy was discussed as soon be unveiled and adopted and that this marks an important and opportune moment in time to look to how to best plan health for a sustainable future. Priority setting was raised as a highly important area of focus for India, whereby the question of how to provide best possible health care, including treatment, preventive and promotive healthcare within the limited resources that India has available must be considered. HTA was discussed as the tool to achieve more effective priority setting. Both National and international examples were discussed to highlight the use of HTA towards more effective priority setting. The National Technical Advisory Group on Immunization (NTAGI) was discussed as a successful national example of a program which translates evidence to policy and makes recommendations to the Government regarding which vaccines should be paid for and when and how they should be used. This is an example of well thought out evidence-based policy being practiced in India. Examples from NICE in the UK and HTAP in Thailand were also discussed, and both Dr. Soumya and Smt. Anupriya raised the importance of working with these countries in order to engage in meaningful knowledge exchange and learn from International partnerships.

The inaugural session was closed with an outline of the key messages for improving priority setting in India through ensuring the implementation of a transparent process, free from conflict of interest, incorporating the views of a wide range of stakeholders, where decisions are explicit and based on clearly defined processes and principles.

"The decision-making process should be open to all to see and clear on what process it is based on – this is the science of decision making, and this is what HTA will provide"

- Dr. Soumya Swaminathan, Secretary, (DHR)

Technical Session 1: Sharing Experiences

Technical session 1 focused on learning from International examples of how HTA has been used globally to transform the political economy of decision making into a more fair, transparent, and effective system of allocating health resources.

International speakers from Thailand and the UK delivered presentations sharing global experiences of utilising HTA to set priorities in health. Dr. Yot Teerawattananon gave a compelling presentation on the establishment of the Health Intervention and Technology Assessment (HITAP) program of Thailand, which has been key to Thailand's success in achieving Universal Health Coverage. He spoke about how HTA has influenced health policy decisions in Thailand including the pharmaceutical reimbursement list, non-pharmaceutical benefits package and public health policy. Dr. Yot reiterated the fact that regardless of what mechanism are being utilised, policy makers are making difficult decisions on a daily basis. What HTA provides is a mechanism to ensure that decisions are evidence-based and thus easier to defend to the public because the process of decision-making is fair and transparent. HTA allows a reason behind the decisions to be given.

"If we develop a HTA system in India, decision makers are able to be more comfortable in their ability to say no due to limited resources. HTA gives a reason behind the decisions"

- Dr. Yot Teerawattananon, Founding leader, HITAP

Professor Antony Culyer, director of iDSI, and Dr. Kalipso Chalkidou, founding leader of iDSI, presented on the utility of the iDSI network in providing strategic support and opportunity for knowledge exchange in India to establish the HTA program, outlining the following key criteria to the success of any initiative to effectively establish a functioning HTA system:

- Strong Government commitment and leadership
- Creation/strengthening of government and public structures
- Adoption of strategic plans
- Ability to compare interventions (consequences, costs, other effects)
- Explicit criteria
- Transparent processes
- Allocation of resources for data collection and analysis
- Ongoing stakeholder consultation and participation in setting up, maintaining, and running the system



Prof Antony Culyer, Professor Emeritus & Chair, iDSI

“Each country must exercise local power to invest and advocate for this initiative. The result is to create something credible, sustainable, and leads to better health decisions. Better health decisions lead to better health”

- Prof Antony Culyer, Professor Emeritus & Chair, iDSI

Prof Bruce Campbell shared his experiences of how NICE was established in the UK and the important lessons learned during this process, such as working closely with the clinical community and public stakeholders in order to gain their trust and acceptance of HTA decisions. In addition, Mr Lluís Vinals Torres, health finance advisor of the WHO South East Asia Regional Office (SEARO) gave an enlightening presentation outlining the need for defining platforms where HTA can be developed and utilised, such as to inform the health benefits package. Mr Torres reiterated that strengthening such platforms of healthcare delivery to make best use of HTA decision-making will improve the prospect of India moving towards Universal Health coverage.

Dr. Ashoo Grover, Scientist E at ICMR, discussed the need for establishing a fair and transparent system of priority setting through the use of HTA. Dr. Grover outlined the actions that have been taken so far to establish a Medical Technology Advisory Board (MTAB) housed within the Department of Health Research (DHR), including the convening of an advisory committee to oversee this initiative.

Technical Session 2: Priority Setting for Universal Health Coverage

Technical Session 2 focused on the intrinsic link between improving priority setting and achieving Universal Health Coverage.

Professor Srinath Reddy opened the session by discussing the importance of defining a health benefits package (HBP) to reduce out of pocket spending and ensure access to healthcare for the population in line with the UHC agenda. Prof. Reddy raised the importance of the collection and utilisation of evidence towards defining what services are included in a HBP, how services are best delivered, and what kind of financing model is most appropriate to ensure feasibility and sustainability. Strengthening the primary care system, which is estimated to account for 70-80% of healthcare needs, was discussed as imperative towards the UHC agenda.

Mr Manoj Jhalani spoke on behalf of the Ministry of Health and Family Welfare of the importance of utilising HTA to strengthen the National Health Mission and the soon to be introduced National Health Protection Scheme

"The NHM along with National Health protection scheme will be the principle vehicles to move towards UHC... HTA will help us in identifying the package of entitlement within the NHM"

- Mr Manoj Jhalani, Joint Secretary, Ministry of Health and Family Welfare

Dr. Sanjay Mehendale spoke of a novel initiative by the Institute of epidemiology (NIE), an ICMR affiliate, to utilise national epidemiological data sets for evidence synthesis to inform HTA. Mechanisms and platforms to enable evidence to policy translation and develop common platforms involving researchers, policy makers & communities were discussed as part of this program. In order to implement this novel system of data capture and synthesis, ICMR, via the NIE, will establish a new State Health Data resource centre (SHDRC) towards the greater goal of health systems strengthening by improving the quality and quantity of data capture and surveillance systems.

Prof Ramanan Laxminarayan gave an informative presentation regarding economic evaluation for HTA, using examples from the disease control priorities (DCP) project. Prof Ramanan used examples of analysing the cost effectiveness of interventions for health priorities such as road traffic accidents, communicable diseases, and neonatal nutrition to demonstrate the importance of taking both financial and non-financial factors into account when considering the overall 'cost' of any intervention.

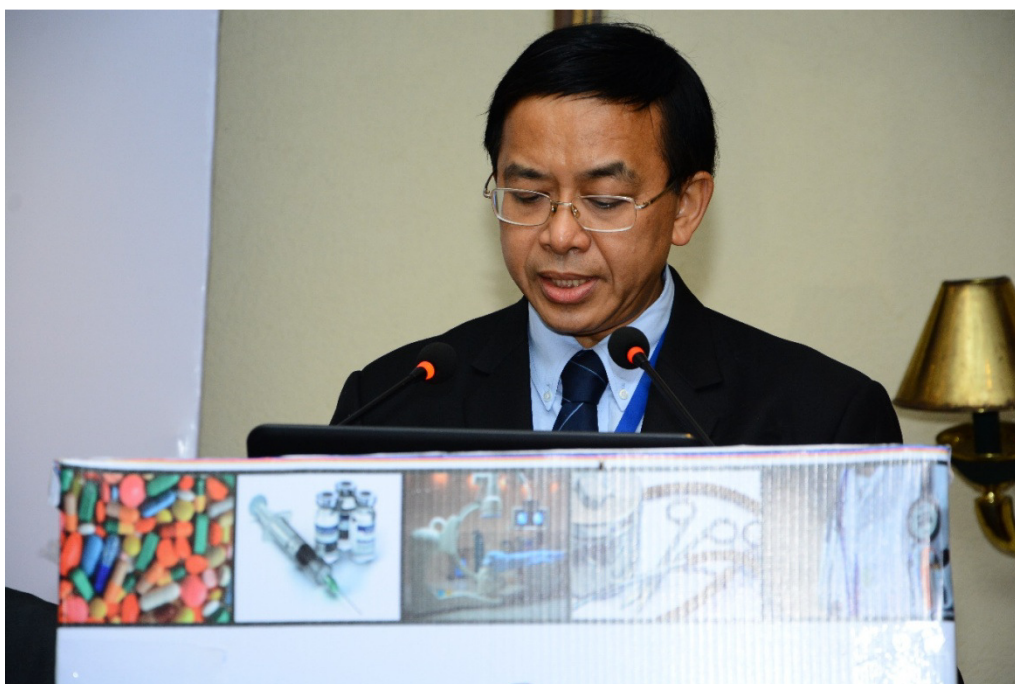
International perspectives on utilising HTA towards the Indian UHC agenda were shared by Dr. Kalipso Chalkidou, founding leader of NICE International and the

International Decision Support Initiative (iDSI) and Dr. Phusit Prakongsai, Director of the bureau of International Health, Ministry of Public Health, Thailand. Dr. Kalipso discussed the importance of improving the quality and availability of healthcare in India as the economy grows in order to find a balance between the needs of the emerging middle-class and ensuring high-quality, affordable care for all of the population.

"Rational priority-setting means having a transparent process for deciding how to spend limited budgets, using the best available, relevant evidence...involving the relevant policymakers, clinicians, academics and civil society in making these difficult decisions"

- Dr. Kalipso Chalkidou, NICE International & founding leader iDSI

Dr. Phusit described Thailand's journey towards UHC and the different public health insurance schemes available to the Thai population, including the introduction of the Universal Coverage Scheme (UCS) in 2002.



Dr. Phusit Prakongsai, Director, Bureau of International Health, Ministry of Public Health, Thailand

Dr. Phusit described the following as the primary contributing factors to success of the Thai model in achieving UHC:

1. Systems design focus on equity and efficiency
2. Supply side capacity to deliver services
3. Strong leadership with sustained commitment
4. Strong institutional capacities

Technical Session 3: Stakeholders' Perspective on HTA

The third technical provided a platform to share the views of those engaged in the process of evidence to policy translation, either as generators of evidence or end users of the evidence produced for formulation of policy decisions.

The session commenced with Ms. Vini Mahajan, Principal Secretary Health, Government of Punjab, sharing views from the State perspective on how HTA can be used as an important tool for allocating resources. She reiterated the importance of HTA by stating that an institutional mechanism to deal with health questions has been long awaited and added that it is important that the structure and governance mechanism of the institute is designed keeping in view the need to build State capacities. The variation in State priorities was highlighted with the need to explore state level partnerships and existing capacities.

"On behalf state health ministers, I would urge to think of state level issues and would be happy to help set up state level bodies to work with a centralised system... we don't have time to waste as we are constantly facing these policy issues with no tools to make evidence informed decisions...This [HTA] is very, very important – let's do it!"

- Ms. Vini Mahajan, Principal Secretary, Health, Government of Punjab

"Punjab would be more than happy to provide a home to MTAB should Dr. Soumya consider it appropriate"

- Ms. Vini Mahajan, Principal Secretary, Health, Government of Punjab

Dr. T Sundararaman, Dean of School of Public, Tata Institute of Social Studies (TISS) spoke on the 'role of HTA in the Indian setting for taking better decisions'. He quoted paragraph 8.10 from the draft National Health Policy which stated 'One important capacity with respect to introduction of new technologies and their uptake into public health programmes is health technology assessment' and highlighted the clear articulation of the relevance of HTA in the 12th 5-year plan by quoting paragraph 20.194 which recommended 'on the lines of the UK's National Institute of Clinical Excellence (NICE), DHR would develop expertise to assess available therapies and technologies for their cost-effectiveness and essentiality, and formulate and update, on a regular basis, the Standard Treatment Guidelines, and suggest inclusion of new drugs and vaccines into the public health system.'

"HTA can help to design programmes that would lead to effective coverage of the maximum persons within the shortest time. The questions are really of HOW to (design issues) rather than WHETHER to".

- Dr. T Sundararaman, Dean of School of Public, Tata Institute of Social Studies

Dr. Prem Nair, Director, Amrita Institute of Medical Sciences spoke on HTA from the perspective of a healthcare organization. He stated that Amrita Institute has been conducting mini HTA, similar to the Danish model, for informing service provision and as a measure for containing cost. This was discussed as advantageous in being able to provide cost effective answers in a short time while meeting faculty requirements. Dr. Nair asserted that the mini HTA tool supported the use of evidence-based practice and was good for both new and old technologies, and shared an example on how surgeons were encouraged to perform antibiotic stewardship by changing current practice of triple antibiotic use for pre-surgical prophylaxis to a single more effective antibiotic. This caused great cost savings without any change in outcomes.

Dr. Sanjiv Kumar, Executive Director, National Health Systems Resource Centre (NHSRC) spoke on NHSRC's HTA program. He stated that NHSRC is a technical support institution created under the National Health Mission (NHM) to provide support to the Ministry of Health & Family Welfare (MoHFW) and the State centres.



Dr. Sanjiv Kumar, Executive Director, NHSRC, Delhi

Dr. Sanjiv shared details about the activities related to HTA being carried out by NHSRC, including the training of professionals on HTA in a fellowship program.

Dr. Françoise Cluzeau, Associate Director NICE International, spoke on the development of Standard Treatment Guidelines in India and the way in which HTA can inform best practice guidelines of care. Dr. Cluzeau shared details on the technical assistance provided by NICE International in India for the development of Quality Standards for maternal care in Kerala and the development of national Standard Treatment Guidelines (STG) by the STG taskforce constituted by the MoHFW in 2014.

Ms. Waranya Rattanaipapong, Researcher HITAP, discussed the scope of HTA beyond medicines and vaccines through sharing experiences from Thailand on how HTA is used to inform policy. She stated that HTA is used in Thailand to examine consequences of health technology and programs to inform policy decisions in many clinical, economic, social and ethical aspects. Ms. Rattanaipapong shared an example of HTA carried out on use of adult diapers, which was not approved for provision in the public system as the budget impact was considered to be too high, though the evaluation of disposable adult diapers was found to be cost effective. Ms. Rattanaipapong emphasized that it is important to contextualize decisions and include concerns beyond cost and health outcomes by taking into account other considerations like health inequalities.

Day 2 and 3 of the Health Technology Assessment (HTA)- Stakeholders' Consultative Workshop

India, home to one fifth of humanity¹ and one of the fastest growing economies in the world², has made efforts to improve healthcare for its citizens through a range of programs. While there has been an improvement in health outcomes over the years, there is substantial variation across states³. Marked by a low level of public investment in health and high out-of- pocket expenditure (OOPE)⁴, several attempts have been made to expand health insurance at the national and state levels. In articulating the role of health research in addressing the challenges facing the health sector in India, the 12th Plan Working Group on Health recommended setting up a body to conduct cost effectiveness studies and in 2013, the Department of Health Research (DHR), Ministry of Health and Family Welfare (MoH&FW), Government of India (GoI)⁵ announced that it would set up the Medical Technology Assessment Board (MTAB) for this purpose.

The Health Intervention and Technology Assessment Program (HITAP) was requested to conduct a Topic Selection Workshop in July 2016 as part of a three-day Stakeholder's Consultative Workshop organized by the National Institute of Health and Care Excellence (NICE) International, DHR and the Indian Council of Medical Research (ICMR). This activity was completed under the International Decision Support Initiative (iDSI) and is the first engagement HITAP has had at a national level in India⁶.

The second and third days of the workshop were devoted to learning about what the topic selection process for HTA entails and how such a process could be applied in the context of India. On the second and third days of the event, a Topic Selection workshop was conducted. With sixty participants and resource persons from institutions in Thailand, the UK and India, the topic selection component of the workshop comprised a mix of a lecture, panel sessions and three group discussions. Further, a paper-based survey on the need, demand and supply for HTA in India was conducted and results were presented on the third day of the workshop.

In this section, the lecture and panel sessions are summarized, followed by an

¹ Public expenditure in health is around 30% of total health expenditure; OOPE is above 60%. Source: World Development Indicators, 2015

² <https://www.weforum.org/agenda/2016/04/worlds-fastest-growing-economies/>

³ National Health Profile 2015. Link: <http://cbhidghs.nic.in/writereaddata/mainlinkFile/NHP-2015.pdf>

⁴ World Development Indicators, 2015, for 8 countries in the South Asian Association for Regional Cooperation (SAARC)

⁵ "Medical Technology Assessment Board to Be Set Up", Press Information Bureau, Link: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=101329>

⁶ HITAP has worked with academic institutions and participated in workshops in the country in the past. See Annex 5

overview of the group work sessions and a note on the survey on the need, demand and supply of HTA.:Lecture and Panel Sessions

The morning session was chaired by Dr. V.M. Katoch who made opening remarks and introduced the first session on the "Importance of Topic Selection", delivered by Dr. Yot Teerawattananon. Starting with questions, Dr. Yot Teerawattananon asked participants how they decided on topics for research to which some replied that funders, decision makers and student interests have determined topics for research. In his lecture, Dr. Yot Teerawattananon stressed on the importance of getting the right research questions for HTA saying that it was the first step in having a good assessment and dissemination strategy. Two factors that impact the use of HTA in policy making are ownership and legitimacy of the policymaker and the context of the research question. There are two ways of thinking of HTA questions: investment in new technologies or scaling up of pilot projects, and disinvestment of ongoing interventions or currently used technologies as well as narrowing a program's reach through targeting programs, for example. In a discussion, it was pointed out that HTA is not aimed at finding the best technologies or interventions but the appropriate one i.e. those that are available, accessible and acceptable.

The panel session, "Topic Selection in Different Settings", was chaired by Dr. R.S. Dhaliwal, who gave opening remarks, and moderated by Prof. Anthony Culyer. Panelists were Ms. Benjarin Santatiwongchai, Ms. Alia Luz and Dr. Jitendra Sharma. Their presentations and ensuing discussions are described below:



Ms. Benjarin Santatiwongchai, Prof. Anthony Culyer , Dr. R.S. Dhaliwal, Ms. Alia Luz

Dr. Jitendra Sharma from the National Health Systems Resource Centre (NHSRC) made a presentation on the HTA situation in India and said that recent efforts have been focused on how to save money by changing practice. There is no formal mechanism for topic selection in the country and currently, topics come from three channels: various government departments including the National Pharmaceutical Pricing Authority (NPPA) and from within the MoH&FW, topics submitted by stakeholders in the National Health Innovations Portal and topics from the HTA Fellowship organized by the division. He argued for using HTA for additional interventions and not basic interventions in India and said that HTA was a tool for achieving Universal Health Coverage (UHC). In the discussion that followed, it was clarified that currently there is no mechanism for horizon scanning in the country. Dr. Jitendra Sharma also explained how the ceiling price is calculated given that there is no explicit threshold value. On the impact of the HTA Fellowship, he said that fellows are often unable to work on HTA after completing the fellowship given their full-time positions.

Ms. Benjarin Santatiwongchai presented on Thailand's experience with topic selection for HTA and its application to the development of the benefit package. She described the evolution of the process at HITAP which began in 2007 by soliciting topics from a range of organizations through an annual topic selection process. This generated demand among policymakers and in 2010, it was linked to the Universal Health Coverage Scheme Benefits' Package (UCBP). Starting in 2012, the annual topic was discontinued and a bi-annual process, linked with stakeholders, including decision makers, was set-up. While the panel can propose topics, the responsibility of prioritizing topics rests with four representatives (health professionals, academics, patient associations and civic groups). Criteria were developed to prioritize topics using a scoring system. HTA recommendations have been presented to the Sub-Committee for Development of the Benefits Package and Service Delivery. One participant asked about the criteria used to which Benjarin responded saying that a multi-criteria decision analysis (MCDA) was applied backed by a literature review and consultation. Another participant asked a question about the criteria on financial cost of the intervention and Benjarin Ms. Santatiwongchai explained that it was the expected economic impact on household expenditure; in the early iteration, the score was binary but was later changed to be a range in order to be less subjective.

The final presentation for the afternoon was made by Ms. Alia Luz on the EuroScan strategy for horizon scanning. EuroScan, Ms. Luz Alia explained, is an international network of agencies sharing information. It has developed a five-stage process to define "early awareness and alert" or EAA systems. The five stages are identifying the customer, determining the time horizon for use of technology, horizon scanning through either proactive or reactive approaches, filtration of relevant technologies and finally, prioritization with or without predefined criteria such as burden of disease. Alia Ms. Luz then gave an example of the Australia and New Zealand Horizon Scanning Network (ANZHSN). The following issues were raised during the discussion: the timeline for horizon scanning can vary depending on the output (brief versus a report) and experience from Thailand suggests that it can take about a

couple of weeks; since horizon scanning relies on the quality of available evidence, it can be challenging to verify the information obtained; if this process is applied to India, it would need to be adapted so as to account for the different perspectives at the national and state levels as well as patients, many of whom are self-paying. Clarification on funding for EuroScan was also made.

The panel session on "What is important after topic selection?" was the last session of the workshop before the closing ceremony. Moderated by Prof. Bruce Campbell, the session provided perspectives on how the topic selection process was linked to the HTA process as a whole. Panelists were Ms. Karlena Luz, Dr. Yot Teerawattananon, Dr. Laura Downey and Dr. Ravinder Singh. Mr. Songyot Pilasant joined the panel to present the preliminary results of the survey on the need, demand and supply of HTA in India, which participants had completed the previous day. The background and results of the survey are provided in Section D of this the next section report. Questions from the floor were taken after all presentations had been made and this order is reflected in the description below:



Prof. Bruce Campbell, Mr. Songyot, Dr. Ravinder Singh, Dr. Laura Downey

Ms. Karlena Luz spoke on the role of communications in the topic selection process focusing on the UCBP in Thailand. The main objective of communications in the context of an HTA body and stakeholders, she said, is to encourage public engagement in the process. Activities include sending letters of invitation for HTA projects to stakeholders, providing information through booklets, electronic media, etc, to target groups, initiating awareness campaigns that increase accountability, using social media and developing tracking systems to identify users and measure impact of HTA. One of the points she noted was that when the process of topic nomination expands to multiple stakeholders, there is a need to adapt ones communication strategy.

Dr. Yot Teerawattananon made a presentation on the implementation of prioritized

research topics. After the topic is prioritized, the next step is to translate the policy question to a research question. This is important as research questions are specific than policy questions and help establish evidence and it is possible that the research question may not be the same as the policy question. Involvement of stakeholders in key. Three factors that affect implementation of HTA topics are funding, research team involvement and timing. Dr. TeerawattananonYot then gave the example of the reflective error eye screening program in schools in Thailand: the original topic nominated by civil society was about including eye glasses for children in the UCBP. Through a process of consultations, a proposal to train teachers to screen children in schools was made and was seen as a viable alternative to having health professionals screen 5 million children. The program was launched earlier this year by the Prime Minister of Thailand.

Dr. Laura Downey then gave the UK perspective, presenting on NICE and its functions in the context of its publicly funded healthcare program, the National Health Service (NHS). She shared the key procedural principles for guidance development and explained technology appraisal as well as the importance of involving stakeholders. Over time, NICE has covered more issues, starting with technologies and moving to clinical guidelines, public health, quality outcomes framework, medical devices among others. Dr. DowneyLaura then expanded on what health economics entails, showing how assessment, using these methodologies, are then used for decision making by the Appraisal Committee. Pointing to the need to prioritize in India, she gave the example of the Delhi government's Swacch Bharat application which was overwhelmed by requests and was unable to keep up.

Dr. Ravinder Singh shared the Indian perspective, and spoke about "Going Beyond Topic Selection". With a focus on mental health, Dr. SinghRavinder provided an overview of what has been done in the past and spoke about the gaps that had been identified. These were around issues of manpower and infrastructure, management of schizophrenia and acute psychosis, relationship between behavioral and social variables, models of community care and research related to alcohol and substance abuse. Dr. SinghRavinder pointed out that India is looking to systematize the HTA process as against the current process which includes several steps. He showed that there are five phases with the research phase incorporating input from patients. Dr. RavinderSingh highlighted the role of stakeholders and the media noting the importance of dissemination and communication strategies. In terms of funding, he said that currently there are a variety of sources for funding including the government, pharmaceutical companies and research organizations, among others.

A rich question and answer session followed ensued and below are a sampletwo examples of the exchangesexchanges: One question was directed to NICE and Prof. Culyer about the relationship between NICE and the Ministry and whether the ministry had ever said no to NICE or whether they have to accept and implement the process. Prof. BruceCampbell harkened back to the example of Relenza where the government stood by NICE's recommendation to not adopt the medication.

Prof. Culyer pointed out that there is a difference in the relationship that NICE and HITAP have with their decision makers and that both systems can work. In the case of Relenza, it would have been hard for the Minister to have overturned the recommendation and so in some ways, it gave it a political advantage. On the role of committees, one questioner asked about how does one address disagreement. Dr. YotTeerawattananon said that through the process of HTA, practitioners learn more about decision makers. He added that one has to dig deeper to understand why there is no consensus, whether it is because of a difference in opinion or whether the evidence generated is not good enough, which means that one had to go back to the drawing table and strengthen the evidence base. Prof. CampbellBruce said that sometimes, if there is no consensus, one can have an informal vote, which need not be an actual vote; he said that in his experience of chairing over 200 committees, they only went for a vote three times. Reaching a consensus, he said, requires skillful leadership. It also means that one must be able to identify in the discussion what people agree upon and to ensure that everybody at the meeting is involved, including those who have not spoken. Prof. Culyer added that it was important to nurture the culture of the committee and that even if one is an expert in one field, one needs to be able to listen and look at other aspects of the issue.

Group Work Activities



Group work (ongoing)

Three group work sessions were held on the following topics: 1) Investment and Disinvestment, following the lecture on the importance of topic selection, 2) Scope of HTA, and 3) Brainstorming Session for Topic Selection Process in India. The group work sessions were designed to be the backbone of the workshop with group work leads developing the materials for participants and facilitators to refer to. Originally,

facilitators had planned a group work session on applying topic selection protocols to three topics in the context in India. However, in response to the discussions in the morning session, it was decided to re-structure the group session in the afternoon to better understand the scope of HTA in the country. Similarly, the third group work was adapted to build on the discussions on the previous day of the workshop.

After the first lecture, six groups were formed by random selection (counting one through six) with adjustments made for diversity in groups. Two facilitators were assigned to each group, one from NICE International and one from HITAP. The groups and associated facilitators stayed the same for all three group work sessions. Groups were given time to discuss internally and then make a presentation to the entire gathering followed by questions and a discussion. The Group Work Lead and Dr. Yot assisted groups, kept the time and led the discussions.

A summary of the group work, their objectives and key questions are provided in Table 1 below:

Table 1: Group Work Summary

#	Group Work	Objective	Key questions raised
1	Investment/ Disinvestment	To brainstorm about health technologies that the government may consider investing in or from which the government would do well to disinvest. To explore the main barriers, criteria, decision-makers and who to communicate with on investment or disinvestment of health technologies.	Which technologies/interventions should receive investment or merit disinvestment? What are the main barriers to investing/disinvesting the technologies/interventions identified? Which criteria could be used for prioritising the investments? Which are the most important criteria? Who should be involved in the decision making process and when should they be involved? Who could be informed about the information regarding the investments/disinvestments?
2	Scope of HTA	To understand the kind of technologies/interventions that HTA can address taking into account the division of responsibilities at the national and state levels for health in India.	What type of technology/intervention should be reviewed as part of HTA? What are the implications of doing this work at the state or national levels?
3	Brainstorming on Role of Stakeholders and Process for HTA in India	To develop a proposal for topic selection process in India particularly in engaging stakeholders and determining the process of selecting topics for HTA.	Working Group 1: Stakeholder involvement <ul style="list-style-type: none"> ○ Who are the relevant stakeholders? ○ How to involve them? ○ How to make each of them active in the process? Working Group 2: Process <ul style="list-style-type: none"> ○ How to involve identified stakeholders in the topic selection process (topic nomination, review of evidence and prioritisation)?

Below are examples of issues raised for selected questions from each group work session during the workshop:

Group Work 1

Table 2: Group Work 1: Selected Points

Examples	Investment	Disinvestment
Topics	<ul style="list-style-type: none"> • Mobile health technologies for MCH by community health workers • Strengthening service delivery at sub-centres for provision of primary care • Home-based water purification system 	<ul style="list-style-type: none"> • Routine mass deworming in schools • Mass screening for diabetes • Nutritional programs
Barriers	<ul style="list-style-type: none"> • Technology • Political will • Basic infrastructure 	<ul style="list-style-type: none"> • Lack of evidence • Regulatory • Vested interests
Criteria	<ul style="list-style-type: none"> • Cost effectiveness • Budget impact • Disease burden 	<ul style="list-style-type: none"> • Impact on poor • Community/beneficiary feedback

Note: There is no one to one correspondence between the examples in different topics

During **Group Work 2**, participants also discussed the implications of doing the work at the national and state levels since health is a state subject. These are summarized below:

Type of technology: Screening could be under the purview of states while vaccination programs could be managed at the national level. Some believed that the types of technologies need not be divided between the state and centre.

- **Factors:** There are various factors that determine whether the centre or state conducts HTA; these include: prevalence, actual access, infrastructure, human resources, and funding
- **Funder:** Whoever funds the program should be responsible for HTA of the program
- **Activities:** At the national level: advice, policy development, piloting interventions in states, funding, monitoring & evaluation (M&E); at the state level: consultations, adaptation and adoption of policy, targeting population, staff training, infrastructure & facilities, implementation, generating data for M&E, informing national policy. Both centre and state ought to provide funding for these interventions.

Group Work 3

Working Group 1: Stakeholder Involvement

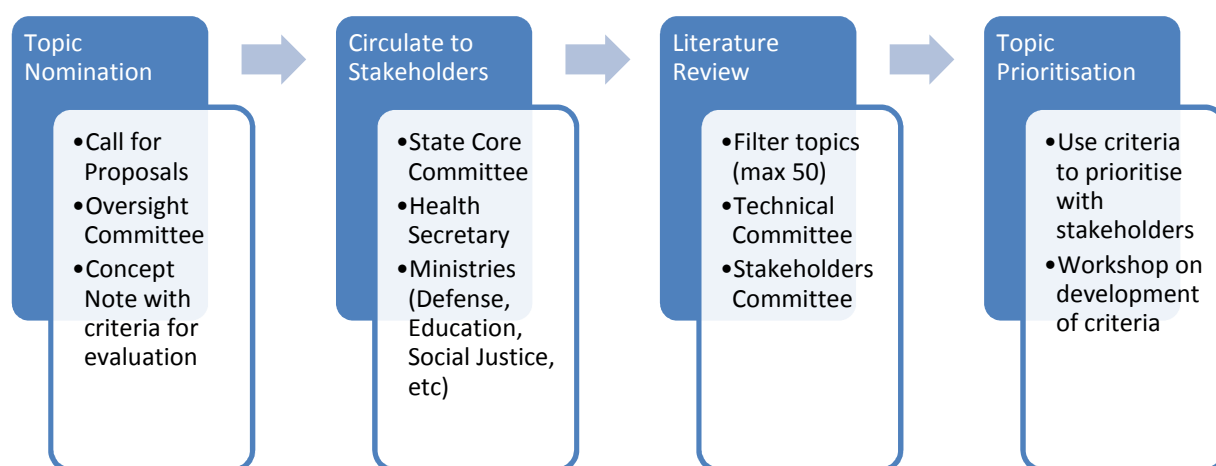
Table 3: Group Work 3 – Working Group 1: Selected Points

Stakeholder	Representatives	Incentives	Barriers
Polycymakers	MoH&FW & State level	Already engaged & motivated so keep in touch share products, keep involved	-
Health professionals	Professional bodies at national and state level	<ul style="list-style-type: none"> • Self-motivated • Professional credit • Social recognition 	<ul style="list-style-type: none"> • Time • Private interests
Patients	<ul style="list-style-type: none"> • Some represented in healthcare payers groups • Hospital based small groups • Identify using survey 	Self-motivated	No clear representative

Note: Selected stakeholders and features taken from one group's work

Working Group 2: Process

Figure 1: Group 2 – Working Group 2: Example



Note: Example of proposed process for Topic Prioritization by one group (adapted for presentation purposes)

The above examples provide a glimpse of the discussions and show that there were a variety of perspectives on topics, stakeholders, criteria and processes. Going forward, these ideas could be refined and built on further.

Survey results: Need, Demand and Supply of HTA in India

Given the emerging HTA landscape in India and in an effort to make discussions relevant to participants, a twenty-four question survey was fielded to understand the need, demand and supply of HTA in the country. This questionnaire was adapted by the HITAP team from the "Situation Analysis of HTA Introduction at National Level" developed by HITAP and NICE International. Hard copies of the survey were distributed as part of the participant pack given at the start of the workshop. Participants were given time to complete the survey during the afternoon on the second day of the workshop and the results were presented to participants by Songyot Pilasant during the panel session on the third day of the workshop. The results of the survey are anonymous.

The response rate for the survey was about 68% with 41 participants having completed the survey. The questionnaire was divided into four parts: Need for HTA in your context, Demand for HTA in your context, Supply for HTA in your context and Role of your organization in HTA. Participants were asked to respond to questions with reference to one context – national, state, municipal or other – given the different levels at which health actors operate in the country.

Results of the survey suggest that about three quarters of the respondents (71%) felt that the government allocated healthcare resources on the basis of expert opinion and In terms of the various aspects of policy for healthcare, respondents rated efficient allocation of healthcare resources (68%). The survey revealed that a large number of the respondents felt that the organizations that demand and supply HTA operate at the national level (45% and 63%, respectively). Examples of HTA topics proposed by respondents are preliminary point of care of breast cancer screening devices, efficacy of diet and exercise on magnitude of diabetes mellitus and other lifestyle diseases and reduction of empirical antibiotic usage.

Newspaper articles

Table 4: Newspaper Articles

Sr. No.	Title	Link
1	"International workshop on Health Technology Assessment (HTA) inaugurated Government is committed to reducing out of pocket expenses on healthcare: Smt Anupriya Patel HTA will lead India to have a robust Universal Health Coverage programme: Shri Faggan Singh Kulaste", Business Standard, Delhi Jul 25, 2016 08:28 AM IST	http://wap.business-standard.com/article/government-press-release/international-workshop-on-health-technology-assessment-hta-inaugurated-government-is-committed-116072500621_1.html
2	"Govt plans board on medical technology to benefit patients", Deccan Herald, New Delhi, July 25, 2016	http://m.deccanherald.com/articles.php?name=http%3A%2F%2Fwww.deccanherald.com%2Fcontent%2F560023%

		2fgovt-plans-board-medical-technology.html
3	"India to establish Medical Technology Assessment Board", Rhythma Kaul, Hindustan Times, Updated: Jul 22, 2016 20:00 IST	http://m.hindustantimes.com/india-news/india-to-establish-medical-technology-assessment-board/story-l89ugBOXCjJBjNmyb68d8H.html

Lessons Learned

An After Action Review (AAR) was held on 9 August, 2016 with HITAP staff involved in the workshop. The agenda included an overview of the workshop outcomes, a discussion on what well went as well as areas for improvement. Table 5 below summarizes these discussion points from the AAR as well as feedback received from the evaluation forms:

Table 5: Lessons Learned

Areas	Lessons
Preparation	<ul style="list-style-type: none"> • Having a variety in types of activities in agenda was good. • Regular meetings of the team and teleconferences with panel chairs was useful. • May want to have one staff go in advance to manage contingency issues. • Consider investing in portable printer, speakers or projector. • May be useful to have a fact sheet on the country. • Travel pack was helpful. Suggestions were made to send the pack a few days in advance and in a format that can be used by everyone (PDF) or saved on cloud. • In terms of coordinating with partners, would be useful to have a formal mechanism of sharing documents (cloud). • Arrange for transportation in advance.
Workshop organisation	<ul style="list-style-type: none"> • Writing out tasks explicitly for each person was helpful for people to know what they were to do • Need to be more realistic about timing so that sessions start on time; Suggestions were made to start later or have some buffer time before session is to actually begin. • For lecture and panel sessions, have time cards for speakers to know time limit • Budget to have internet for HITAP staff • Flexibility in agenda was good but it is important to prepare for the changes. For example, share the new template at least some time in

	<p>advance so that facilitators are clear about their roles.</p> <ul style="list-style-type: none"> For note taking, prepare a template to have summary points of a session. Can also invest in recorders to revisit discussion if needed. This can be helpful when pockets of discussion are missed.
Group Work	<ul style="list-style-type: none"> Group work was valued by participants. Participants were responsive and expressive. Need to ensure ground rules for groups are maintained and discussions remain structured (eg. Taking notes, allowing people to speak, etc). Give rewards to groups so as to make it more fun. Group work leads were able to move around and assist groups as needed. For facilitators, it was good to pair HITAP staff with NICE International staff. HITAP staff can be responsible for note taking. Have an orientation for facilitators in addition to the written notes. Facilitators should also be provided with hard copies of the materials.
Materials	<ul style="list-style-type: none"> Having printed copies was helpful. However, there were not enough copies so may be good to have a stand-by option. Bind materials so that order is maintained and it is easy to find materials. Keep these materials for future reference. In spite of announcement of pack, there was still confusion. Take time to discuss, perhaps in groups. If possible, send materials to participants beforehand
Communications Materials	<ul style="list-style-type: none"> Carry video of "Power of HTA" should there not be internet. Price of Life (PoL) was successful and while many people wanted to play, there was not enough time. May want to have more than one computer to play game. Announcement of the game/booth helped boost interest/participation. May want to develop pamphlets, CDs or a tablet version so that participants have other avenues for raising awareness on priority setting.
Evaluation	<ul style="list-style-type: none"> To increase response rate, may want to tie giving certificates with completion of evaluation forms. For session-wise feedback, it may be worth having participants complete the forms right after the session to ensure recall.

Discussions with Partners & Next Steps

In a post-workshop meeting between DHR/ICMR, NICE International and HITAP, several points were discussed, particularly: staff for MTAB, building technical capacity and developing a structure for HTA in the country. The need to have dedicated staff for MTAB and including health economists in its composition was discussed. Further, the importance of having sustainable funding from the government for these staff was also highlighted. Dr. Laura and Dr. Abha will work closely with DHR/ICMR on the same. In terms of building technical capacity, DHR/ICMR requested sending staff to HITAP to work on topics; the experience with Indonesia was shared. Two topics that could be worked on were diabetes screening and vitamin supplements. Additionally, a more in-depth technical training would be crucial to complement the on-the-job learning. On the structure for HTA, one option discussed was having regional hubs, as has been suggested during the workshop, with national standards.

In the short term, the expected outputs are:

- Given the expanded work program, NICE International, along with HITAP and other iDSI partners, will be submitting a proposal for a supplemental grant to the Gates Foundation for working with DHR/ICMR over the next few years.
- HITAP will lead on writing a paper on the results of the topic selection workshop.

Closing Ceremony

The 3-day 'HTA consultative workshop' was concluded by a closing ceremony presided by Prof Arvind Panagariya, Vice-Chair of the NITI Aayog.

Dr. Soumya Swaminathan, Secretary, Department of Health Research shared the future plans for the institutionalization of HTA in India. Dr. Swaminathan recognized that the workshop has been important to highlight that there are many stakeholders in India working in health economics and research with capacity to contribute to this initiative. She stated the need to democratise the HTA process by involving a network or consortium of stakeholders and including patients and civil society in the process. Dr. Swaminathan highlighted the need for capacity building in areas of identified gaps and appreciated the support provided by iDSI (International Decision Support Initiative).

"We need to establish a Board, which is seen to have integrity, high ethics, is transparent, and not open to accusations. Keeping open channel of communication between MTAB and MoHFW at level of Centre and State important. Next few years very important for this [MTAB]... If Government sees value in this model it will become great. Success depend on all of you, not on us – we will set up processes to take this forward."

- Dr. Soumya Swaminathan, Secretary, Department of Health Research

Dr. V.M. Katoch, former Secretary DHR & former DG ICMR shared his views on the institutionalization of HTA. He stated DHR initiated work on this on the recommendation of the 12th 5-year plan made by the then Planning Commission. Dr. Katoch stated that at that time NICE was found to be an ideal model. He also added that Thailand has developed its learning over 10 years. India now needs to learn from its own experiences and it will take time.

"This HTA fever should not die out and should continue. Compliments to the Government and to Dr. Soumya Swaminathan who has worked hard to get this work rolling".

- Dr. V.M. Katoch, former Secretary DHR & DG ICMR

Three workshop participants were invited to present the stakeholder's perspective. The first participant was Prof. V.R. Muraleedharan from Indian Institute of Technology, Madras.

"The question is-what is the role of MTAB. Will this be advisory or something more than that...will there be legislative support? Whatever MTAB is visualised to be – it will be an evolutionary process.. IIT Madras happy to be part of this".

- Prof. V.R. Muraleedharan, IIT, Madras

Dr. Anindita Bhowmik from the Suvarna Arogya Suraksha Trust, a public health insurance scheme in the State of Karnataka, shared her perspective as a workshop participant. She thanked everyone present for the rich experience and stated

"NICE International and HITAP Thailand have pushed us to think about HTA in a more in depth and detailed manner". Liked the commitment of government and policy makers [towards HTA].

- Dr. Anindita Bhowmik, Suvarna Arogya Suraksha Trust, Karnataka

Dr. Anindita shared that the workshop provided an opportunity to think regarding why HTA should be structured and reiterated that there was no doubt about the need for HTA, but the diversity among Indian States needs to be considered while deciding its structure.

The third participant to share his perspective was Col. V.K. Bhatti, Director Medical Services in the Indian Army. Col Bhatti stated that the workshop had been a very enriching experience. The Army undertakes formal and informal HTA and Officers are trained in HTA in a 4-week course organized by WHO (World health Organization).

"Experience here particularly useful because experts from so many different fields. Have been introduced into formal ways in which to undertake HTA. We have learned about the need to formalize the whole process. This has been set rolling by DHR and ICMR"

- Col. V.K. Bhatti, Director Medical Services, Indian Army

Dr. Yot Teerawattananon, Founding leader HITAP, Thailand provided concluding remarks about the workshop and outlined the importance of priority setting

"Priority setting holds promise that every family member in India can have access to medical intervention when they need it. No reason for people to worry about whether HTA will be useful – everyone has observed that it will be helpful. No need to worry if it is policy relevant – policies in India are about Universal Health Coverage and Sustainable Development Goals. Don't worry where – that is a need at both

central and state level. Don't worry about human resources – HTA is not rocket science. There are capable people here [in India], and international support is available”.

- Dr. Yot Teerawattananon, Founding leader HITAP, Thailand

Prof Antony Culyer, Emeritus professor, York University & Chair iDSI (International Decision Support Initiative), gave concluding remarks on behalf of iDSI.

“HTA is a useful tool in elimination of waste in both public and private sector, inside health sector and beyond. Learned about importance of getting the question right. The scope of HTA is itself a matter of choice”.

- Prof Antony Culyer, Emeritus professor, York University & Chair iDSI

Prof Culyer spoke in detail about the need for identifying the right stakeholders, and having a process on how to involve them and in which stages. Prof Culyer reiterated the need for transparency, inclusion and deliberation in process of conducting and delivering HTA, and in recognizing the role of quantitative and qualitative evidence and skill mixes in order to do competent health technology appraisals.

Prof Panagariya, Vice-Chairman, NITI Aayog and Chief Guest of the closing ceremony addressed the workshop participants to share his views on the subject.

“What we are trying to do by introducing HTA is extremely important. We can spend crores and crores of rupees but unless we have good assessment, will largely go to waste.”

- Prof Arvind Panagariya, Vice-Chairman, NITI Aayog



Shri Arvind Panagariya, Dr. Soumya Swaminathan

Prof Panagariya spoke in detail about the challenges Indian health system is currently facing ranging from quantity and quality of doctors in the country, regulation of medical education, and inadequate public spending on health due to budget limitations. He stated that health expenditure in absolute terms has risen in the past decade, but not as a proportion of GDP spending. Prof Panagariya shared that in the last decade, the Government has been able to introduce insurance schemes, which is a new concept to India. Prof Panagariya stated that a two-pronged strategy is required to strengthen the Indian health system. The public health system needs to be strengthened by the provision of insurance, infrastructure and equipment, training, and health education. The private health sector has problems of asymmetry of information and unqualified providers, which needs to be addressed.

The workshop was concluded by a vote of thanks to all that participated over the 3 days.

Recommendations and Future Plans

- For establishing MTAB, there is a need to strengthen Indian institutions, data collecting mechanisms and research in the country. It is critical that a strong governance mechanism is put in place to ensure the decision making process is independent, transparent, evidence-based, and participatory.
- Going forward, a number of key milestones of success in both the immediate and long term will need to be achieved. These include:
 - Identification of partners & possible areas of collaboration
 - Consultation with other Ministries and stakeholders.
 - Approval of the Expenditure finance committee (EFC) and dedicated budget line for MTAB.
 - Contractual arrangements signed between MTAB and academic partners employed to carry out HTA analyses
 - Dedicated secretarial and technical support staff in DHR and ICMR for MTAB.
 - Capacity building of human resource, which will work in the field of HTA.
 - A pilot HTA project to be undertaken to define the methods, processes, standard operating procedures, and decision-making process.
- Legislation to define the role, responsibilities, jurisdiction, powers and mandate of MTAB.
- Choosing & convening the MTAB board itself and defining its terms of reference.
- Establishing a channel of communication between MTAB and the MoHFW & State departments of health to ensure that the recommendations of MTAB form the basis of real health policies.
- To act as a resource to build capacity in other countries in the regions, similar to how like how HITAP is now supporting India.
- We very much look forward to working with national experts and international partners from International Decision Support Initiative (IDSI) in our journey towards establishing MTAB.
- This initiative will allow an improvement in the methods used to make decisions regarding health for the people of India, and encourage transparency, honesty, and high quality care - all pillars of what defines Universal health coverage and India's plans to achieve this.

Annexure I

सत्यमेव जयते
Ministry of Health and Family Welfare
Department of Health Research

**DHR-ICMR-iDSI Collaborative****Health Technology Assessment (HTA)-
Stakeholders' Consultative Workshop****Monday the July 25, 2016**

Venue: Silver Oak Hall,
India Habitat Centre, New Delhi

AGENDA

<u>Inaugural Session-9:30-10:40</u>		
9:30-9:33	Welcome	Shri Manoj Pant Joint Secretary, DHR
9:33-9:38	Opening Remarks	Dr. Soumya Swaminathan Secretary, DHR and Director General, ICMR
9:38-9:42	Video Clip	Power of HTA
9:42-9:47	Address	Prof Anthony Culyer , Emeritus professor, York University, University of Toronto & Chair iDSI
9:47-9:52	Address	Dr. Phusit Prakongsai , Director, Bureau of International Health, Ministry of Public Health, Thailand
9:52-9:57	Address	Dr. Jagdish Prasad Director General of Health Services
9:57-10:04	Address	Shri BP Sharma Secretary, Department of Health and Family Welfare
10:04-10:14	Address by Guest of Honour	Smt. Anupriya Patel Hon'ble Minister of State for Health & Family Welfare
10:14-10:24	Address by Chief Guest	Sh. Faggan Singh Kulaste Hon'ble Minister of State for Health & Family Welfare
10:24-10:30	Vote of thanks	Dr. Rakesh Kumar Sr.DDG, Indian Council of Medical Research
TEA BREAK (10:30-11:00)		

<u>Technical Session-I - 11:00-13:00</u>	
Health Technology Assessment-Sharing experiences	
Chair: Prof. N. K. Ganguly Co-Chair: Dr. Phusit Prakongsai	
Global experience: Using HTA to inform international priority setting decisions	Prof Anthony Culyer , Emeritus professor, York University, University of Toronto & Chair iDSI (10 min)
HTA to policy in Thailand	Dr. Yot Teerawattananon , Founding leader, HITAP
The role of NICE in UK health service policy decisions	Prof. Bruce Campbell , Former chair NICE Interventional Procedures and Medical Technologies Advisory Committees. Consultant Surgeon
Current Status of HTA in India	Dr. Ashoo Grover , Scientist 'E', ICMR, India
Using HTA for decision-making in South East Asia: Is the environment conducive	Mr. Lluis Vinals-Torres , Regional Advisor, Health Financing – WHO-SEARO
Questions and Answers (30 min)	
LUNCH BREAK(1:00 pm-2:00 pm)	
Technical Session II- 14:00-15:30	
Priority-setting for Universal Health Coverage (UHC): Using evidence to inform decision making	
Chair: Dr. Soumya Swaminathan Co-Chair: Dr. Françoise Cluzeau Moderator: Dr. R K Srivastava	
Evidence based decision making for UHC	Dr. K.S. Reddy , President, PHFI
Universal Health Coverage and National Health Mission	Mr. Manoj Jhalani , Joint Secretary and Mission Director (NHM), Ministry of Health and Family Welfare
Data sets for evidence synthesis to inform HTA	Dr. Sanjay Mehendale , Director, National Institute of Epidemiology, Chennai
Economic Evaluations for HTA	Dr. Ramanan Laxminarayan , PHFI
International Decision Support Initiative: Support for priority setting in India	Dr. Kalipso Chalkidou , Founding Director, NICE International and IDSI
Universal Health Coverage in Thailand: A success story	Dr. Phusit Prakongsai , Director, Bureau of International Health, Ministry of Public Health, Thailand
Questions and Answers (30 min)	
TEA BREAK (15:30-16:00)	

<u>Technical Session-III - 16:00-17:30</u>	
Stakeholders' Perspective on HTA	
Chair: Dr. K.K. Talwar Co-Chair: Prof Anthony Culyer Moderator :Dr. Meenu Singh	
HTA- an important tool for allocating resources- State perspective	Ms. Vini Mahajan , Principal Secretary Health & Family welfare, State of Punjab
Role of HTA in the Indian setting for better decisions	Dr. T. Sundararaman , Dean, School of Health Systems Studies, Tata Institute of Social Sciences
Healthcare Organization Perspective on HTA	Dr. Prem Nair , Director, Amrita Institute of Medical Sciences, Kochi
NHSRC's HTA program	Dr. Sanjiv Kumar , Executive Director, NHSRC, Delhi
Standard treatment guidelines: Linking evidence-based medicine and HTA in India	Dr. Francoise Cluzeau , Associate Director, NICE International
Sharing the evidence: Lessons from HITAP's communication strategies	Ms. Waranya RattanaVIPAPONG , Researcher, HITAP, Thailand
Questions and Answers (30 min)	
- End of Day 1 -	

Topic Selection Workshop (July 26-27, 2016)

Venue: Magnolia Hall,
Indian Habitat Centre, New Delhi

Topic Selection for HTA in India**Objectives:**

- To raise awareness on topic selection on HTA
- To develop a protocol for topic selection for HTA in India

Outputs:

- Workshop Report on Topic Selection including results of evaluation
- A draft protocol on topic selection for India (led by NI)
- Survey results to inform Situation Analysis Report (led by NI)

Schedule:**Master of Ceremonies (MC):**

26 July: Ms. Saudamini Dabak and Ms. Waranya Rattanaivapong

27 July: Ms. Benjarin Santatiwongchai

Topic Selection for HTA - Day 1 of 2 (26th July, 2016)				
Time	Session	Description	Type	Person (s) Responsible
9:00-10:00 (1 hour)	Importance of topic selection in HTA	<ul style="list-style-type: none"> • Introduction • Why do we need to do HTA for topic selection? • Political economy of HTA 	Lecture	Chair: Dr. V.M. Katoch, Former Secretary (DHR) & DG, ICMR Lead: Dr. Yot Teerawattananon
10:00-12:00 (2 hours)	What would you do? – An exercise on Investment/Disinvestment	<ul style="list-style-type: none"> • Groups discuss criteria to be used for selecting topics and stakeholders involved. Instructions will be provided in exercise handout (1 hour) • Groups present on discussion and rationale (1 hour) 	Group Work	Lead: Ms. Alia Luz Support: NI/HITAP Facilitators
Lunch				
13:00-15:00 (2 hours)	Topic Selection process in different settings	<ul style="list-style-type: none"> • Presentations on approach to HTA topic prioritization in different settings: Thailand, EuroScan • Overview of situation in India 	Panel	Chair: Dr. RS Dhaliwal, Head (NCD), ICMR Moderator: Prof. Anthony Culyer Panelists: Ms. Benjarin Santatiwongchai Ms. Alia Luz Dr. Jitender Sharma NHSRC
15:00-17:00 (2 hours)	Group Exercise on applying protocols for topic selection in different countries	<ul style="list-style-type: none"> • Participants will be divided into two groups: Group I = rank topics using qualitative approach; Group II = rank topics using a quantitative approach 	Group Work	Lead: Mr. Songyot Pilasant Support: NI/HITAP Facilitators
17:00-17:30 (1/2 hour)	Introduction to Multi-Criteria Decision Analysis (MCDA)	<ul style="list-style-type: none"> • Introduce key concepts of MCDA • Q&A 	Lecture	Dr. Sitaporn Youngkong

Topic Selection for HTA - Day 2 of 2 (27 th July, 2016)				
8:30-11:30 (3 hours)	Brainstorming session for Topic Selection Process in India	<ul style="list-style-type: none"> • Objective of session is to develop a proposal for topic selection in India • Participants will be divided into two groups (1 hour): <ul style="list-style-type: none"> ○ Group I = identifying stakeholders ○ Group II = determining topic selection criteria 	Group Work	Lead: Dr. Sitaporn Youngkong Support: NI/HITAP Facilitators
11:30-13:00 (1.5 hour)	What is important after topic selection?	<ul style="list-style-type: none"> • Panelists will discuss the following (15 mins each): <ul style="list-style-type: none"> ○ Role of communication ○ Feedback to research community ○ Implementation and Funding ○ Experiences from the UK & India 	Panel	Chair: Dr. Chander Shekhar, Head (ITR & CH), ICMR Lead: Prof. Bruce Campbell Panelists: Ms. Karlana Luz Dr. Yot Teerawattananon Dr. Laura Downey Dr. Ravinder Singh
13:00-13:10	Windup remarks	Dr. Yot Teerawattananon, Founding Leader HITAP		

DHR-ICMR-iDSI Collaborative
**Health Technology Assessment (HTA)-
 Stakeholders' Consultative Workshop**

Wednesday, the July 27, 2016

Venue: Magnolia Hall,
 India Habitat Centre, New Delhi

CLOSING CEREMONY

<u>13:00 –14:00</u>		
13.00– 13.05	Welcome	Shri Manoj Pant , Joint Secretary, DHR
13.05-13.15	Opening Remarks & Future Plans	Dr. Soumya Swaminathan , Secretary, DHR and Director General, ICMR
13.15-13.20	Address	Dr. V.M. Katoch , Former Secy DHR & DG, ICMR
13.20-13.35	Participant's View	3 Participants
13.35-13.40	Address	Prof Anthony Culyer , Emeritus professor, York University, University of Toronto & Chair iDSI
13.40-13.55	Address by Chief Guest	Dr. Arvind Panagariya , Vice-Chairman, NITI Aayog
13.55-14.00	Vote of Thanks	Dr. Ashoo Grover , Scientist, ICMR

Materials:

- Video: "Power of HTA". Link: <https://www.youtube.com/watch?v=QnmnyZ14A4w>,
- "Price of Life": <http://thepriceoflife.net/>

Annexure II**Delegates who participated in Workshop**

Sr. No	Name	Designation/Organisation/Institute
Ministry of Health & Family Welfare (MoHFW)		
1.	Sh. Faggan Singh Kulaste	Hon'ble Minister of State for Health & Family Welfare
2.	Smt. Anupriya Patel	Hon'ble Minister of State for Health & Family Welfare
3.	Shri BP Sharma	Secretary, Health, Ministry of Health & Family Welfare, Nirman Bhavan, Maulana Azad Road, , New Delhi
4.	Dr. Jagdish Prasad	DGHS, Ministry of Health & Family Welfare, Nirman Bhavan, Maulana Azad Road, , New Delhi
5.	Shri Manoj Jhalani	Joint Secretary, Ministry of Health & Family Welfare, Nirman Bhawan, Maulana Azad Road, New Delhi
6.	Dr. R.K. Srivastava	Former DGHS, New Delhi
7.	Shri Vivek Kumar	Jr. Statistical Officer, Ministry of Health & F.W., Nirman Bhawan, New Delhi
8.	Shri Rajeev Kumar	Director-(NCD/ Coord), Ministry of health & Family Welfare, Nirman Bhavan, New Delhi
9.	Ms. Manisha Verma	Director (Media), MOHFW, New Delhi
NITI Aayog		
10.	Dr. Arvind Panagariya	Vice-Chairman, NITI Aayog, New Delhi
11.	Dr. Kheya Melo Furtado	NITI Aayog, New Delhi
Department of Health Research (DHR)		
12.	Dr. Soumya Swaminathan	Secretary, Department of Health Research & Director General, Indian Council of Medical Research
13.	Dr. V.M. Katoch	Former Secretary and DG, ICMR
14.	Shri Manoj Pant	Joint Secretary, Department of Health Research, New Delhi
15.	Shri Vijay K. Gauba	Joint Secretary, Department of Health Research, New Delhi
16.	Smt. Indira Sharma	Deputy Secretary, Department of Health Research, New Delhi
17.	Sh. S. K. Bansal	Consultant, Department of Health Research, New Delhi
18.	Shri S.N. Sharma	Under Secretary, Department of Health Research, New Delhi
19.	Dr. A. K. Bagga	Scientist , Department of Health Research, New Delhi
20.	Dr. V.P. Singh	Scientist , Department of Health Research, New Delhi
Foreign Dianitaries (NICE & HITAP)		
21.	Dr. Phusit Prakongsai	Health Intervention and Technology Assessment Program (HITAP), Thailand
22.	Dr. Yot Teerawattananon	Health Intervention and Technology Assessment

		Program (HITAP), Thailand
23.	Ms. Alia Luz	Health Intervention and Technology Assessment Program (HITAP), Thailand
24.	Ms. Benjarin Santatiwongcha	Health Intervention and Technology Assessment Program (HITAP), Thailand
25.	Ms. Karlana Luz	Health Intervention and Technology Assessment Program (HITAP), Thailand
26.	Dr. Sitaporn Youngkong	Health Intervention and Technology Assessment Program (HITAP), Thailand
27.	Mr. Songyot Pilasant	Health Intervention and Technology Assessment Program (HITAP), Thailand
28.	Ms. Waranya Rattanavipapong	Health Intervention and Technology Assessment Program (HITAP), Thailand
29.	Ms. Saudamini Dabak	Health Intervention and Technology Assessment Program (HITAP)
30.	Prof. Anthony Culyer	Emeritus professor, York University, University of Toronto & Chair iDSI, UK
31.	Prof. Bruce Campbell	NICE International, UK
32.	Dr. Kalipso Chalkidou	Director, NICE International, UK
33.	Dr. Françoise Cluzeau	Associate Director - NICE International, National Institute for Health and Care Excellence, UK
34.	Dr. Laura Downey	Technical analyst- NICE International, National Institute for Health and Care Excellence, UK
35.	Dr. Abha Mehndiratta	India Technical Advisor, NICE International
International Organisations (WHO/World Bank)		
36.	Dr. Lluís Vinals Torres	Health Planning and Financing Regional Adviser, Department of Health System Development; WHO Regional Office for South East Asia (SEARO), WHO (SEARO), New Delhi
37.	Dr. Madhur Gupta	Technical Officer (Pharmaceuticals), World Health Organization, WHO Country Office for India, New Delhi
38.	Dr. Rajesh Narwal	Technical Officer, WHO India, New Delhi
39.	Dr. Somil Nagpal	Senior Health Specialist, Global Practice on Health, Nutrition and Population, The World Bank, 70 Lodi Estate, New Delhi, Delhi
40.	Ms. Sheena Chhabra	Senior Health Specialist, Global Practice on Health, Nutrition and Population, The World Bank, 70 Lodi Estate, New Delhi
Indian Council of Medical Research (ICMR) Hqrs.		
41.	Prof. N.K. Ganguly	Former Director General, ICMR, New Delhi
42.	Dr. Rakesh Kumar	Sr. Deputy Director General (A), Indian Council of Medical Research, New Delhi
43.	Ms. Ritu Dhillon	Sr. Financial Advisor, Indian Council of Medical Research, New Delhi
44.	Dr. Chander Shekhar	Head, Division of ITR & CH, Indian Council of Medical Research, New Delhi
45.	Dr. R.S. Dhaliwal	Head, Division of NCD, Indian Council of Medical Research, New Delhi
46.	Dr. Tanvir Kaur	Scientist, Indian Council of Medical Research
47.	Dr. Meenakshi Sharma	Scientist, Indian Council of Medical Research
48.	Dr. Ashoo Grover	Scientist, Indian Council of Medical Research
49.	Dr. Sadhna Srivastava	Scientist, Indian Council of Medical Research
50.	Dr. Anju Sinha	Scientist, Indian Council of Medical Research
51.	Dr. Ravinder Singh	Scientist, Indian Council of Medical Research
52.	Dr. Deepika Saraf	Scientist, Indian Council of Medical Research

ICMR Institutes		
53.	Prof. Arvind Pandey	Director, National Institute of Medical Statistics (NIMS), New Delhi
54.	Dr. Sanjay Mehendale	Director, National Institute of Epidemiology, Chennai
55.	Dr. Ravi Mehrotra	Director, National Institute of Cancer Prevention and Research (NICPR), Noida
56.	Dr. S.L. Hoti	Director, Regional Medical Research Centre (RMRC), Belgaum
57.	Dr. Anju Bansal	Scientist , National Institute of Pathology, New Delhi
58.	Dr. Santasabuj Das	Scientist , National Institute of Cholera and Enteric Diseases (NICED), Kolkata
59.	Dr. Ganeshkumar	Scientist , National Institute of Epidemiology (NIE), Chennai
60.	Dr. Roopa Hariprasad	Scientist, National Institute of Cancer Prevention and Research (NICPR), Noida
61.	Dr. Poonam Salotra	Scientist, NIOP, New Delhi
States Secretaries/Joint Secy/Mission Directors/Nominees		
62.	Ms. Vini Mahajan	Principal Secretary, Health & F.W., Govt. of Punjab, Chandigarh
63.	Dr. Darez Ahmed	Project Director, NHM, Tamil Nadu
64.	Dr. K.K. Talwar	Advisor to Govt. of Punjab, Chandigarh
65.	Dr. Anindita Bhowmik	Suvarna Arogya Suraksha Trust - Bangalore , TTMC Building, "A" Wing, 4th Floor, K H Road, Bangalore
66.	Dr. Deepinder Singh	Deptt. of Health & F.W., Punjab
67.	Dr. S.S. Agarwal	National President, Indian Medical Association, Jaipur
68.	Dr. Harikumar Nair	Professor, Department of Radio Diagnosis, Government Medical College, Alappuzha
69.	Dr. Muraly. C.P.	Assistant Professor, Department of Pulmonology, Government Medical College, Thrissur
70.	Dr. Anish. T.S.	Asstt. Prof., Deptt. of Community Medicine, Govt. Medical College, Thiruvananthapuram, Kerala
71.	Dr. K.K. Bhutani	Professor, NIPER, Mohali
72.	Deepak Kumar	Drugs Inspector CDSCO, HQ, FDA Bhawan, Koha Road
73.	V. Soopaj	CDSCO, HQ, New Delhi
74.	Dr. B.S. Rawat	DTMT, New Delhi
75.	Rachna Sharma	National Institute of Public Finance and Policy (NIPFP), New Delhi
76.	Smiriti Sharma	National Institute of Public Finance and Policy (NIPFP), New Delhi
77.	Dr. Reba Chhabra	National Institute of Biological (NIB), Noida
Institutes of National Importance (AIIMS/IIT/NIMHANS/PGIMER/CMC etc.)		
78.	Prof. (Dr.) Raj Bahadur	Vice Chancellor, Baba Farid University of Health Sciences, Faridkot, Punjab
79.	Dr. Pratap Tharyan	Professor, South Asian Cochrane Network & Centre, Christian Medical College, Vellore
80.	Dr. Divya Elizabeth Muliyl	Christian Medical College, Vellore
81.	Prof. Muraleedharan V.R.	Professor, Indian Institute of Technology Madras / HEAL, Department of Humanities and Social Sciences, , IIT P.O., Chennai
82.	Prof. Vivekanandan Perumal	IIT (Delhi), Hauz Khas, Delhi
83.	Prof. Amit Mehndiratta,	IIT (Delhi), Hauz Khas, Delhi
84.	Prof. B.N. Gangadhar	Director , National Institute of Mental Health and

		Neuro Sciences Hospital (NIMHANS), Bangalore
85.	Dr. Shankar Prinja	Associate Professor of Health Economics, School of Public Health, Post Graduate Institute of Medical, Education and Research (PGIMER), Chandigarh
86.	Dr. Meenu Singh	Professor of Paediatrics, Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh
87.	Dr. Navneet Dhaliwal	Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh
88.	Dr. N.N. Mathur	Principal, Vardhman Mahavir Medical College, Safdarjung Hospital, New Delhi
89.	Dr. Ashok Deorari	Professor, AIIMS, New Delhi
90.	Dr. Jeeva Sankar	Asstt. Professor, AIIMS, New Delhi
91.	Dr. Anu Thukral	Asstt. Professor, AIIMS, New Delhi
92.	Dr. Varsha Mehra	AIIMS, New Delhi
93.	Dr. Prem Nair	Medical Director, Amrita Institute of Medical Sciences (AIMS), AIMS Ponekkara P.O., Kochi, Kerala
94.	Dr. Sanjeev Singh	Professor, Amrita Institute of Medical Sciences (AIMS), AIMS Ponekkara P.O., Kochi, Kerala
95.	Dr.(Prof.) A. K. Gadpayle	Medical Superintendent & Director, Post Graduate Institute of Medical Education and Research (New Delhi), Dr. Ram Manohar Lohia Medical College, New Delhi
96.	Dr. Veena	RML Hospital, New Delhi
97.	Dr. V. Raman Kutty	Professor, Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical (SCTIMST), Thiruvananthapuram
98.	Dr. T. Sundararaman	Dean, School of Health Systems Studies, TATA Institute of Social Sciences, , V.N. Purav Marg, Deonar, , Mumbai
99.	Prof Kanchan Mukherjee	Professor and Chairperson, Centre for Health Policy, Planning and Management, School of Health Systems Studies, TATA Institute of Social Sciences, V.N. Purav Marg, Deonar, Mumbai
100.	Dr. Sanjiv Kumar	Executive Director, National Health Systems Resource Centre, New Delhi
101.	Dr. Jitender Sharma	NHSRC, New Delhi
102.	Dr. Satish Kumar	National Health Systems Resource Centre, New Delhi
103.	Shri Manoj Kumar Singh	National Health Systems Resource Centre, New Delhi
104.	Ms. Jyoti Jagtap	National Health Systems Resource Centre, New Delhi
105.	Ms. Shikha Yadav	National Health Systems Resource Centre, New Delhi
Armed Forces		
106.	Lt. Gen Velu Nair	(Army), DGAFMS, New Delhi
107.	Maj. Gen. JKS Parihar	Addl. DGAFMS, New Delhi
108.	Lt. Col. Ranjeesh Jha	(Army), New Delhi
109.	Gp. Capt R. Bahadur	DGMS (Army), New Delhi
110.	Col JS Muri	O/o DGMS (Army) Delhi
111.	Col. V.K. Bhatti	Director Medical Services (Health), R.No.1 O/o DGMS Army 'L' Block, New Delhi
112.	Lt. Col. Reema Mukherjee	ADH HQ Delhi Area
113.	Lt. Col. T.K. Gupta	Army, DGMS, New Delhi
DST/DBT/DRDO/JNU		

114.	Dr. Bindu Dey	Secretary, Technology Development Board, New Delhi
115.	Ms. Sonia Gandhi	BIRAC, New Delhi
116.	Dr. Rajib Das Gupta	Prof. Jawahar Lal Nehru University (JNU), New Delhi
NGOs (BMGF/PHFI/Wish etc.)		
117.	Ms. Mallika Ahluwalia	Senior Program Officer, BMGF India Office, Bill & Melinda Gates Foundation, Capital Court Building, 3rd floor, Olof Palme Marg,, Munirka, New Delhi
118.	Prof. K. Srinath Reddy	President, Public Health Foundation of India (PHFI), Gurgaon
119.	Dr. Ramanan Laxminarayana	Vice-President, Public Health Foundation of India (PHFI), Gurgaon
120.	Dr. Kabir Sheikh	Senior Research Scientist and Adjunct Associate Professor, Public Health Foundation of India (PHFI), Gurgaon
121.	Dr. Ajay Vamedar	Public Health Foundation of India (PHFI), Gurgaon
122.	Dr. Sarfraz	P/s , Public Health Foundation of India (PHFI), Gurgaon
123.	Ms. Shilpa Karvande	Sr. Researcher, The Foundation for Medical Research., Dr. Kantilal J. Sheth Memorial Building,, 84-A, R.G. Thadani Marg,, Worli,Mumbai
124.	Ms. Himani Sethi	WISH Foundation
125.	Ms. Krithika Raghavan	WISH Foundation
Private Sector		
126.	Mr. Anirudh Sen	FICCI (Industry), 1, Federation House, Tansen Marg, , New Delhi
127.	Shri Arif Fahim	Chair, AdvaMed India's Health Economics and Reimbursement Sub-Group, at St. Jude Medical, St. Jude Medical, Okhla Industrial Area, Delhi
Others		
128.	Mr. Bharat Asthana	
129.	Dr. Nishant Jaiswal	
130.	Dr. Kiran Kumari	
131.	Navelsanery Parmar	
132.	Dr. Anil Chauhan	
133.	Mr. Sandeep Parchure	
134.	Ashok B. Sharma	
135.	Gargi M.	
136.	Ajay Kumar Gupta	
137.	Mohd. Josh.	
138.	Shyama Nagrajan	
139.	Sudhir Zuishi	
140.	Mr. V.P. Chopra, New Delhi	

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4.	Dr. R.S. Sharma	Head, Division of RBMH, Indian Council of Medical Research, New Delhi
5.	Dr. N.C. Jain	Head, Division of HRD, Indian Council of Medical Research, New Delhi

6.	Dr. A. S. Kundu	Head, Division of SBR, Indian Council of Medical Research, New Delhi
7.	Dr. Bontha V. Babu	Head, Division of HSR, Indian Council of Medical Research, New Delhi
8.	Dr. Harpreet Sandhu	Division of IHD, Indian Council of Medical Research, New Delhi
9.	Dr. D. K. Shukla	Scientist , Indian Council of Medical Research
10.	Dr. Nomita Chandhiok	Scientist , Indian Council of Medical Research, New Delhi
11.	Dr. Anju Sharma	Scientist , Indian Council of Medical Research, New Delhi
12.	Dr. Rajani Kaul	Scientist , Indian Council of Medical Research, New Delhi
13.	Dr. A.K. Mathur	Scientist , Indian Council of Medical Research, New Delhi
14.	Dr. Tripti Khanna	Scientist , Indian Council of Medical Research, New Delhi
15.	Mr. B. S. Dhillon	Scientist , Indian Council of Medical Research, New Delhi
16.	Dr. Reeta Rasaily	Scientist , Indian Council of Medical Research, New Delhi
17.	Dr. Harpreet Kaur	Scientist , Indian Council of Medical Research
18.	Dr. Geeta Jotwani	Scientist , Indian Council of Medical Research, New Delhi
19.	Dr. Shalini Singh	Scientist, Indian Council of Medical Research, New Delhi
20.	Mrs. Sandhya Diwakar	Consultant, Division of HRD, Indian Council of Medical Research, New Delhi
21.	Dr. Nivedita Gupta	Scientist, Indian Council of Medical Research, New Delhi
22.	Dr. Manjula Singh	Scientist , Indian Council of Medical Research, New Delhi
23.	Dr. Neeta Kumar	Scientist , Indian Council of Medical Research, New Delhi
24.	Dr. Geetika Yadav	Scientist , Indian Council of Medical Research, New Delhi

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1.	Smt. Agnes xalxo	Asstt. Director General, Indian Council of Medical Research, New Delhi
2.	Sh. B. P. Singh	Sr. Admn. Officer, Indian Council of Medical Research, New Delhi
3.	Mr. R.K. Sharma	Consultant (F&A), Indian Council of Medical Research, New Delhi
4.	Shri R. K. Tandon	Accounts Officer, Indian Council of Medical Research, New Delhi
5.	Mr. R.K. Nimje	Accounts Officer, Indian Council of Medical Research, New Delhi
6.	Shri P.K. Chawla	Admn. Officer, Indian Council of Medical Research, New Delhi
7.	Mrs. Manjit Kaur	Admn. Officer, Indian Council of Medical Research, New Delhi
8.	Shri Jagan Lal	Admn. Officer, Indian Council of Medical Research, New Delhi
9.	Mr. Sardar Singh	D.D.O., Indian Council of Medical Research, New Delhi

10.	Mrs. Sunita Pahuja	Section Officer, Indian Council of Medical Research, New Delhi
11.	Mr. Harish Kumar	Section Officer, Indian Council of Medical Research, New Delhi
12.	Mr. K.S. Bawa	Section Officer, Indian Council of Medical Research, New Delhi
13.	Mr. T.D. Joshi	Cashier, Indian Council of Medical Research, New Delhi
14.	Sh. Anil Lekhera	Assistant, Indian Council of Medical Research, New Delhi
15.	Mr. Rakesh Dhuliya	Assistant, Indian Council of Medical Research, New Delhi
16.	Ms. Seema Verma	Technical Asstt., Indian Council of Medical Research, New Delhi
17.	Mr. Raju Paunikar	Assistant, Indian Council of Medical Research, New Delhi
18.	Mr. Mahipal Singh	Assistant, Indian Council of Medical Research, New Delhi
19.	Mrs. Savitri Devi	Indian Council of Medical Research, New Delhi
20.	Ms. Apeksha Yadav	Research Assistant, Indian Council of Medical Research, New Delhi
21.	Ms. Apurva	Research Asstt., Indian Council of Medical Research, New Delhi
22.	Ms. Mamta Behl	Project Asstt., Indian Council of Medical Research, New Delhi
23.	Ms. Ankita	Project Asstt., Indian Council of Medical Research, New Delhi
24.	Mr. Mohan Kant	Indian Council of Medical Research, New Delhi
25.	Sh. Anil Kumar	Indian Council of Medical Research, New Delhi
26.	Mr. Deepak Paliwal	Indian Council of Medical Research
27.	Mr. Rohit Puri	Finance Manager, Deptt. of Health Research, New Delhi

Annexure III

Biographic details

Shri J.P. Nadda

Sh. Nadda is Union Cabinet Health Minister, Bharatiya Janata Party (BJP) National General Secretary and a Rajya Sabha MP from Himachal Pradesh. Sh. Jagat Prakash Nadda (JP Nadda) is known as a master strategist in his party. He was also measured as one of the strongest candidates for the post of BJP President. He is considered as a quintessential organisational man and has been instrumental in several major decisions of the party. Born in Patna on 2nd December, 1960, Nadda entered politics in the year 1975 when he joined the then ongoing Sampurna Kranti (total revolution) movement started by Jayaprakash Narayan (JP) against the autocratic rule of the then prime minister Indira Gandhi. Sh. Nadda later joined Akhil Bharatiya Vidyarthi Parishad (ABVP), the youth wing of Bharatiya Janata Party, while he was studying in Patna University and entered student politics. His father NL Nadda was Vice Chancellor of Patna University. On a ticket of the ABVP, he won election as Secretary, Patna university students union in 1977. Simultaneously, he also got actively involved in the day-to-day workings of ABVP and worked on several positions. After graduating from the Patna University, Nadda completed his Bachelor of Laws (LL.B) degree from the Himachal University. Nadda has been a sports enthusiast also and during his school days, he got a chance to represent Bihar in a swimming championship held at Delhi. He has an illustrious career in politics.

Shri Faggan Singh Kulaste

Sh. Faggan Singh Kulaste (born 18 May 1959) is Minister of Health and Family Welfare and a member of the 16th Lok Sabha (2014-2019). He represents the Mandla constituency of Madhya Pradesh and is a member of the Bharatiya Janata Party (BJP) political party. He was minister of state in Vajpayee ministry from 1999. He represented Mandla Lok Sabha seat from 1996 to 2009. After losing in 2009 to Basori Singh Masram of Congress, he was elected to Rajya Sabha. He regained the seat in 2014, defeating his Congress rival Omkar Markam. Shri Faggan Singh Kulaste was born on 18/05/1959 in Barbati, Distt. Mandla (Madhya Pradesh) and has studied M.A., B.Ed., LL.B. He is Agriculturist, Teacher, Political and Social Worker. Earlier, he was elected as Member, Madhya Pradesh Legislative Assembly Member, in 1990-92. He was elected to Eleventh Lok Sabha Lok Sabha Member, Twelfth Lok Sabha (second term), Thirteenth Lok Sabha (third term), Fourteenth Lok Sabha (fourth term). In 2012, he was Member, Committee on Urban Development and currently Minister of State for health and Family Welfare.

Smt. Anupriya Patel

Smt. Anupriya Patel (born April 28, 1981 in Kanpur, Uttar Pradesh) based in the state of Uttar Pradesh. She is currently the Minister of State in the Ministry of Health and Family Welfare, Government of India. She was elected to the Lok Sabha, of the Parliament of India from the constituency of Mirzapur in the 2014 Indian general election. She was previously elected as a Member of the Legislative Assembly for the Rohaniya constituency of the Legislature of Uttar Pradesh in Varanasi, where she had fought a campaign in alliance with the Peace Party of India and Bundelkhand Congress in the Uttar Pradesh legislative assembly election, 2012. Smt. Anupriya Patel is the daughter of Sone Lal Patel, who founded the Apna Dal political party that is based in Uttar Pradesh. She was educated at Lady Shri Ram College for Women, Amity University and Kanpur University. She has a Master's degrees in Psychology and also Masters in Business Administration (MBA), and has taught at Amity. She was general secretary of Apna Dal, twelve days after she had married. Her mother, Krishna Patel, is

President of the party. In the 2014 general election, the party campaigned in alliance with the Bharatiya Janata Party, led by Narendra Modi.

Dr. Soumya Swaminthan

Dr. Soumya Swaminathan, MD, who has taken over as Director General, ICMR & Secretary, Department of Health Research (Ministry of Health & Family Welfare) on 17th August, 2015, brings with her vast experience in health research and research administration. Prior to this assignment, Dr. Swaminathan was Director, National Institute for Research in Tuberculosis (NIRT) in Chennai since 2012. After completing her MBBS from AFMC, Pune and MD in Pediatrics from AIIMS, New Delhi, further training included a Fellowship in Neonatology and Pediatric Pulmonology at the Children's Hospital of Los Angeles, University of Southern California, USA and a Research Fellowship in the Dept. of Pediatric Respiratory Diseases, University of Leicester, UK. She joined the Tuberculosis Research Centre, Chennai in 1992 and has spent the past 23 years in health research. Her research interests include pediatric and adult tuberculosis, epidemiology and pathogenesis, the role of nutrition and HIV-associated TB. She holds many professional memberships such as International Union Against Tuberculosis and Lung Diseases (Chair, HIV Section 2009-11); Member, International Scientific Advisory Expert Group for the All-Party Parliamentary Group on Global Tuberculosis (APPG TB), UK; and Member, Third World Organization of Women Scientists. She also serves as a Member, UNAIDS Expert Panel and Member, Scientific and Technical Advisory Group, WHO Stop TB department. In addition, she serves on many national committees of the health ministry, DBT, DST and national institutes like AIIMS and Indian Institute of Science. She has the distinction of being awarded the President's Gold Medal at the undergraduate level for the best all round outgoing student of the year 1980. Through DHR and the network of ICMR institutes, Dr. Swaminathan looks forward to focusing on key health priorities and generating scientific evidence for achieving public health impact. Further, she will work towards expanding the scope and quality of biomedical research being conducted in our medical colleges.

Shri Manoj Pant

A post graduate in Physics from Indian Institute of Technology Roorkee (India), Mr Pant started his professional career as a faculty member in The Doon School Dehradun in 1980. He joined Indian Forest Service in 1986 and served in different wings of Forest Department and other departments in the State of Jammu & Kashmir till 2010. He joined the Ministry of Health and Family Welfare, Govt. of India in 2010 and dealt with Public Health matters, Public Health Institutions, Emergency Medical Relief, Government Vaccine Manufacturing Units, Public Sector Undertakings of the Ministry and Vigilance matters. He is presently posted as Joint Secretary to Government of India in the Department of Health Research, Ministry of Health and Family welfare. In his present assignment, he is monitoring implementation of various health research schemes of Government of India across the country. The schemes include strengthening of health research infrastructure in Medical Colleges, establishment of Health Research Stations in collaboration with state Governments and providing financial assistance to projects in the field of Health and Bio-medical Research.

Dr. Jagdish Prasad

He has been a Junior Resident Surgery at AIIMS, New Delhi from January 1978 to December 1980; Registrar, AIIMS, New Delhi from April 1981 to December 1982; Lecturer/Registrar (CTVS) at King Edward Memorial Hospital & Seth G.S. Medical College, Bombay; Lecturer Cardio – Thoracic & Vascular: IGIMS, Patna from July to Sept 1985; Specialist Grade II and Head of CTVS Department at Safdarjung Hospital New Delhi from October 1985 to September 1988; Specialist Grade I and Head of CTVS Department at Safdarjung Hospital, New Delhi from September 1988 to November 1992; Consultant & Head of Cardiac Surgery at Safdarjung Hospital, New Delhi from September 1992 to June 2007; Additional Director General of Health Services, Govt. of India & Professor and Chief of Cardiac Surgery from Oct 2004 till 13 July 2011; Special Director General of Health Services Govt. of India, M/o Health & Family Welfare from 14 July 2011 till 30 November 2011; Director General of Health, Services Govt. of India,

M/o Health & F.W. & Professor of cardiac surgery, VMMC, Safdarjung Hospital, New Delhi since 01/12/2011. Dr. Prasad is Director General of Health Services, Govt of India, Ministry of Health & Family Welfare from 1st December, 2011. In the year 1998, Dr. Prasad was awarded "PADMA SHREE" by Government of India.

Shri BP Sharma

Mr Bhanu Pratap Sharma is a Senior IAS officer, who was appointed as Health Secretary in the Ministry of Health and Family Welfare in February, 2015. Mr Sharma, a 1981 batch IAS officer of Bihar cadre, was earlier establishment officer and special secretary in the Department of Personnel and Training (DoPT). He has achieved many milestones in his career as successful bureaucrat. He has driven the Immunization campaign very successfully. He has been instrumental in many national programmes and developed policies for the betterment of Indian populations.

Dr. Phusit Prakongsai

Dr. Phusit Prakongsai earned his PhD in Public Health and Policy from the London School of Hygiene and Tropical Medicine (LSHTM), United Kingdom in 2008, Medical Doctor Degree from Mahidol University in 1988, and a Certificate in Preventive Medicine from the Thai Medical Council in 1993. He has 10 years of field experience in public health and health service management in three district hospitals located in rural areas of Thailand from 1988 to 1998. Dr. Phusit served as the principal investigator and co-investigator of several research projects related to health systems and policy, health insurance and financing, universal health coverage, and global health development at the International Health Policy Program (IHPP), Bureau of Policy and Strategy, Ministry of Public Health (MOPH) of Thailand from 1999 to present. He received the WHO long-term fellowship for pursuing his PhD study in London in 2002. He was appointed to be the director of International Health Policy Program (IHPP), MOPH, from October 2010 to December 2014. Subsequently he was appointed to be the Director of Bureau of International Health (BIH), MOPH, in October 2014, and has since served in the International Health Cooperation of Thai MOPH.

Prof. N. K. Ganguly

Nirmal Kumar Ganguly, M.D was formerly a Distinguished Biotechnology Research Professor, Department of Biotechnology, Government of India. He was formerly President of the Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), as well as that of the Asian Institute of Public Health, Bhubaneswar, Odisha. He is the former Director General, Indian Council of Medical Research (ICMR), New Delhi; former Director, PGIMER (Chandigarh); and former Director, National Institute of Biologicals (Noida). Prof. Ganguly has published more than 775 research papers and has supervised 130 Ph.D theses as Supervisor/Co-Supervisor. Prof. Ganguly is Fellow of many national and International academies. He is also advisor to Regional Director SEARO and is a member of Regional Task Force on Diseases Targeted for Elimination. In 2016 he has selected by Regional Director SEARO as Member Advisory Board of WHO South-East Asia Journal of Public Health (SEAJPH). He has received 118 Awards, including 7 International and 111 National Awards. He has been honoured with the prestigious Padma Bhushan Award by Her Excellency, the President of India on 26th January, 2008.

Prof Anthony Culyer

Tony Culyer is emeritus professor of economics at York (England); Senior Fellow at the Institute of Health Policy, Management and Evaluation at the University of Toronto; Adjunct Scientist, Institute for Work and Health, Toronto; and Distinguished Visiting Scholar, University of the Witwatersrand, South Africa. He was the founding Organiser of the UK Health Economists' Study Group – a model much copied around the world. For 33 years he was the founding co-editor, with Joe Newhouse, of *Journal of Health Economics*. He was founding Vice Chair of

the National Institute for Health and Care Excellence (NICE) until 2003 and still chairs NICE International's Advisory Group. He is Editor-in-Chief of the on-line *Encyclopaedia of Health Economics*. He has been a visiting professor in universities in Australia, Canada, Germany, New Zealand and South Africa. For many years he was chair of the Department of Economics & Related Studies at York (England). He helped to found the Citizens' Council and the Occupational Cancer Research Centre based in Toronto. He has published widely, mostly in health economics. In 2015 he was Hall Laureate in Canada, a recipient of the William B Graham Prize (The Baxter International Foundation) for health services research and of ISPOR's Avedis Donabedian Outcomes Research Lifetime Achievement Award. His (with Thai colleagues) most recent (2016) book is a history of HITAP: the "Thai NICE".

Dr. Yot Terrawattananon

Yot Teerawattananon is a founding leader of the Health Intervention and Technology Assessment Program (HITAP), which is a semi-autonomous research institute of Thailand's Ministry of Public Health. The works of HITAP have been used to inform policy decisions regarding the adoption of medicines, medical devices, health promotion and disease prevention programmes under the Universal Health Coverage Scheme and the national pharmaceutical reimbursement list, the National List of Essential Medicines. Dr Yot has gone on to provide technical advice to many national and international agencies such as: the Gates Foundation, WHO, World Bank, Asian Development Bank and the Centre for Global Development (CGD), giving him a broad knowledge of key issues in global health. He is also one of the founders of HTAsiaLink, a regional networks comprising of governmental health technology assessment agencies in South Korea, Japan, China, Taiwan, Malaysia, Singapore, Philippines, Vietnam, Bhutan and Thailand.

Prof Bruce Campbell

Bruce Campbell is Honorary Professor at the University of Exeter Medical School and Vascular Consultant at the Royal Devon and Exeter Hospital. He is a Non-Executive Director of the Medicines and Healthcare products Regulatory Agency (MHRA). In the area of HTA, he was a member, then Chair (1996-2000) of the Development and Evaluation Committee for the South of England – one of four regional UK organisations set up to address the challenge of assessing healthcare interventions, from which NICE took over in 2000. He then joined the Technology Appraisals Committee of NICE in 2001. He led development of the NICE Interventional Procedures Programme, and chaired the NICE Advisory Committee on interventional procedures 2002-15, producing over 500 guidances for the UK National Health Services (NHS). He became the inaugural Chair of the NICE Medical Technologies Advisory Committee in 2009, identifying and assessing new medical devices and diagnostics for use in the NHS: he retired from that, too, at the end of 2015. He chaired the Therapeutic Procedures Panel of the UK Health Technology Assessment Programme from 2000-8, prioritising all non-pharmacological interventions for research funding. He is a member of the group which devised and publishes on the IDEAL system for evaluation of new procedures, which is now being adapted for devices, in liaison with the FDA. He has published extensively on surgical subjects, clinical services and aspects of health technology assessment. He has been awarded the Royal College's Hallet Prize and its Kinmonth Medal. He was given a Lifetime Achievement Award by the Vascular Society of Great Britain and Ireland in 2014.

Dr. Ashoo Grover

Dr. Grover is MBBS-1995 (MD University, Rohtak), M.D. 2000 (PGIMER, Chandigarh); International Fellow at Nabaska Medical University, USA (2010-11); other specialized trainings at NICE, London, UK; HITAP, Bangkok, Thailand. Dr. Ashoo Joined Indian Council of Medical Research (ICMR) as Senior Research Officer in 2005 in Division of Non-Communicable Diseases and looking after the area of Oral Health, Neurological Sciences and Cardiovascular Diseases, Special programme for Medical Colleges for Research Methodology Courses, Establishment of Multidisciplinary Research Units in Govt. medical colleges, Model rural Health Research Units in 15 States in India, mechanisms for Health

Technology Assessment at DHR, MOHFW. Dr. Ashoo is currently working as Scientist 'E' (Medical) at ICMR. She started looking after the Department of Health Research activities since 2008. She has contributed about 50 research papers in Indian , other foreign journals, prepared 12 reports of various conferences/workshop.

Dr. Lluís Vinals-Torres

Lluís Vinals Torres has extensive experience at different levels of health systems, including facility, district, provincial and national, in both low and middle income countries, having worked also in post conflict environments. He also has wide experience with different aid actors, including multilateral institutions (EU, UNDP, UNICEF, WHO and IOM), bilateral (NORAD, FINNIDA, Irish Aid), Government agencies (MoH Mozambique, MoF Mozambique, MoH Angola, DoH Philippines), social health insurance institutions (Philhealth), and academic institutions (UAN and DAP). Mr Vinals Torres specialities include the following: Planning at policy level, Social Health Insurance reforms, health financing analytical tools, public finance management reforms and donor coordination and institutional capacity building.

Dr. Françoise Cluzeau

Françoise Cluzeau has strategic oversight of the International Decision Support Initiative (iDSI) programme. She leads on several projects related to clinical guidelines, and quality standards worldwide, including in India, Vietnam, Ghana, Thailand, Ghana and Sri Lanka. She has worked with the Ministry of Health in Turkey, Georgia, Brazil, China, Kenya and Tunisia in the context of their Quality Improvement Programme. She joined NICE in 2002 as the technical Adviser responsible for developing the NICE Guidelines' methods. She led the international AGREE collaboration of 19 countries that originally developed the AGREE Instrument. A psychology graduate by training, she holds a masters' degree in medical demography from the London School of Hygiene and Tropical Medicine and a doctorate in Health Services Research from the University of London. She holds a visiting Senior Lecturer at King's College London.

Dr. R K Srivastava

Dr. R K Srivastava MBBS - (1967); MS (Ortho – 1975); DNB - PMR is an eminent expert in Orthopedics and Rehabilitation in India. During his career span of 44 years he has occupied different positions of eminence like Specialist in Safdarjung Hospital, Delhi; Professor in VMMC, Delhi; Medical Superintendent- Safdarjung Hospital; Director General Health Services in Ministry of Health & Family Welfare, Gol; Chairman- Board of Governor in Medical Council of India. During his long career he was instrumental in advising Ministry of Health & Family Welfare, Gol on various issues pertaining to National Health Policy, plans, programs and other related items. He interacted with Global fund, World Bank, Bill & Melinda Gates foundation, DFID and USAID etc for mobilizing technical as well as financial support for the priority areas of public health in India. He had to interact regularly with secretaries, ministers, parliamentary committees, planning commission, foreign delegation, etc for planning and organization of responsible health care services and related R&D. During his tenure he handled difficult public health situations like, Avian influenza, H1N1 pandemic and various outbreaks of communicable diseases.

Dr. KS Reddy

Prof. K. Srinath Reddy is President, Public Health Foundation of India (PHFI) and formerly headed the Department of Cardiology at All India Institute of Medical Sciences. He served as the First Bernard Lown Visiting Professor of Cardiovascular Health at the Harvard School of Public Health (2009-13). He is presently an Adjunct Professor at Harvard and Emory & Honorary Professor of Medicine at the University of Sydney. He has served on many WHO expert panels & has been the President of the World Heart Federation (2013-14). He recently chaired the High Level Expert Group on Universal Health Coverage, for the Planning

Commission of India. He has published more than 400 scientific papers. His several honours include WHO Director General's Award and Luther Terry Medal of American Cancer Society for Outstanding contributions to global tobacco control and the Queen Elizabeth medal for health promotion.

Mr Manoj Jhalani

Mr Jhalani holds an MBA in Public Service from the University of Birmingham, U.K. with distinction, and a B. Tech. in Electrical Engineering from I.I.T., Kanpur. He is an MP cadre IAS officer of 1987 batch. He has had an extremely rich and wide experience in leading, coordinating, and monitoring the design and implementation of policies and programmes of social and economic development at national, state, district and sub-district level. He is presently handling the desk of Joint Secretary (Policy) in the MOHFW and oversees the implementation of Ministry's flagship programme of National Health Mission (NHM) and is the nodal officer for UHC in the Ministry.

Dr. Ravinder Singh

Dr. Ravinder Singh, a medical graduate (M.B.B.S., M.C.H., M.C.A., Ph.D.) has been trained in public health and medical research. Currently, I am working as Scientist, Division of Non-Communicable Diseases, Indian Council of Medical Research, New Delhi. I am also a Visiting Faculty with Khon Kaen University, Khon Kaen, Thailand; World Without Anger, Kathmandu, Nepal. I am Chairperson, Ethics Committee, Sudha Rastogi Dental College, Faridabad (Haryana). I was awarded my masters' and doctorate degree by Jawaharlal Nehru University, New Delhi. I am also working on establishment of Medical Technology Assessment Board under Department of Health Research, Ministry of Health and Family Welfare, Government of India. I have presented papers in major conference across India. I have published papers in high impacted journals and published reports on mental health profile in India, drug abuse and HIV/AIDS. I have trained top and middle level managers in stress management. I have also trained teaching faculty and post-graduate students in research methodology. I have organised national and international conference and workshops. I have guided several M.B.A. and Ph.D. students.

Dr. Sanjiv Kumar

Dr. Sanjiv Kumar did his MBBS and MD from AIIMS, DNB in MCH and MBA in Strategic Management. He has 40 years of experience in public health across 29 countries. He worked in UNICEF for 22 years as health specialist in India and as Chief of Child Survival & Development and Senior Advisor in Iraq, Kenya, Uganda and Somalia and Regional Advisor for 22 countries in Central Asia, Central and Eastern Europe and Baltic States. His work covered strategic program reviews, planning, implementation, monitoring and evaluation, strategic planning and managing of health programs. He currently heads National Health Systems Resource Centre that provides technical support to Ministry of Health and Family Welfare and 36 state and UTs governments in India. He has published about 100 papers in scientific and popular magazines and chapters in books.

Dr. Jitender Sharma

Dr. Jitendar Kumar Sharma is at National Health Systems Resource Center, the technical support institution under Ministry of Health & Family Welfare, Government of India. He is program director for Health Technology Assessment (HTA) fellowships in India. He has been an adviser at Health Technology Innovation Centre, IIT Madras and serves as faculty for National Accreditation Board for Hospitals (NABH) in India for Medical Devices. He has contributed through several research papers, six books on health technologies & assessments, six compendiums on technical specifications for medical technologies and has been contributor to the WHO report on access to healthcare technologies. He is life member of Academy of Hospital Administration, and Biomedical Maintenance Society of India.

Dr. Kalipso Chalkidou

Kalipso Chalkidou is the founding director of NICE's international programme, helping governments build technical and institutional capacity for using evidence to inform health policy. She is interested in how local information, local expertise and local institutions can drive scientific and legitimate healthcare resource allocation decisions. She has been involved in the Chinese rural health reform and also in national health reform projects in Colombia, Turkey and the Middle East, working with the World Bank, PAHO, DFID and the Inter-American Development Bank as well as national governments. She holds a doctorate on the molecular biology of prostate cancer from the University of Newcastle (UK), an MD (Hons) from the University of Athens and is a visiting Professor at King's College London, a senior advisor on international policy at the Center for Medical Technology Policy (USA) and visiting faculty at the Johns Hopkins Berman Institute for Bioethics. Between 2007 and 2008, she spent a year at the Johns Hopkins School of Public Health, as a Harkness fellow in Health Policy and Practice, studying how comparative effectiveness research can inform policy and US government drug pricing policies.

Dr. K K Talwar

Outstanding figure in the medical profession in the country. Former Professor and Head, Cardiology, AIIMS. Former Director and Professor & Head, Cardiology, PGIMER. Former President, National Academy of Medical Sciences. Former Chairman, BOG, MCI. Currently, Chairman Cardiology, Max Healthcare Institute, Saket, New Delhi and Hon. Advisor to the Government of Punjab on Health and Medical Education. He has significantly contributed to growth of Cardiology in the country particularly in the field of Heart Failure including Transplantation, Device implantation and Radiofrequency therapy in Arrhythmias. His contribution has been listed in Limca Book of Records. He has published more than 220 research papers and 236 abstracts in both national and international journals of repute and has contributed 18 chapters in various national and international books.

Dr. T Sundararaman

Dr. T. Sundararaman, is currently Professor and Dean of the School of Health Systems Studies in Tata Institute of Social Sciences. An MD in Internal Medicine from Madras University he spent the first 22 years of his professional life as a member of the faculty and Professor of Department of Internal Medicine, JIPMER. He then moved to working with public health systems - for first 5 years as head of the State Health Resource Center Chhattisgarh from 2002 to 2007 where he pioneered the Mitamin programmes and state health sector reforms and then as executive director of National Health Systems Resource Center, from 2007 to 2014 where he developed and led an institution providing technical support to the many initiatives undertaken under the National Rural Health Mission.

Ms. Vini Mahajan

Ms. Vini Mahajan is serving as Principal Secretary Health and Family Welfare, Government of Punjab since April 2012. She concurrently served as Principal Secretary Department of Medical Education and Research, Punjab from December, 2012 to August, 2014 and Principal Secretary Department of Finance from May, 2014 to June, 2015. As Principal Secretary, Ms. Mahajan has been the Chief Executive of the Department for the last over four years. This period has seen major policy initiatives, especially towards Universal Health Care through measures such as free essential drugs and consumables and lab tests in all Punjab Govt. hospitals. The CM's Cancer Relief Fund Scheme was strengthened and made cashless for all patients. The Punjab State Cancer & Drug Addiction Treatment Infrastructure Fund Act, 2013 was enacted. She was a member of the national delegation to the regional (Asia Pacific) and global UN Conference on Population & Development.

Dr. Prem Nair

Dr. Prem Kumar Vasudevan Nair currently serves as the Medical Director at Amrita Institute of Medical Sciences at Kochi campus of Amrita University. He is a skilled clinician par excellence and also serves as a Professor at the Department of Gastroenterology at the School of Medicine, Kochi. He has pursued a Doctor of Medicine (D. M.) and has completed his Fellowship of American College of Physicians (F. A. C. P.) in Hepatology from the School of Medicine at University of Southern California in June 1986. Dr. Prem Nair also holds the office of the President of Association of Healthcare Providers (India).

Dr. Ramanan Laxminarayan

Prof. Ramanan Laxminarayan is Vice-President for Research and Policy at the Public Health Foundation of India. He is an economist and epidemiologist by training. His research work deals with the integration of epidemiological models of infectious diseases and drug resistance into the economic analysis of public health problems. He has worked extensively with the World Health Organization (WHO), World Bank and other international organisations. Prof Laxminarayan is an editor of the Disease Control Priorities for Developing Countries, 3rd edition. In 2003-04, he served on the Institute of Medicine Committee on the Economics of Anti-malarial Drugs and subsequently helped create the Affordable Medicines Facility for malaria, a novel financing mechanism for antimalarials. He has co-authored and edited five books and published over eighty peer-reviewed journal articles.

Ms. Waranya Rattanavipapong

Waranya Rattanavipapong joined Health Intervention and Technology Assessment Program (HITAP) in February 2010. She was graduated with Bachelor's Degree in Pharmacy, major in Social and Administrative Pharmacy & Clinical Pharmacy from Srinakharinwirot University in 2008. In 2013, she was awarded the Capacity Building of Researchers in Health Policy and System Research Scholarship, International Health Policy Program Foundation to pursue a Master's degree in Health Economics and Decision Modelling from the University of Sheffield and graduated in 2014. She is interested in conducting economic evaluation of health interventions and programs, particularly pharmaco-economic research. During the past five years, she has been involved in several research projects to support national and international policy making.



Group Photo