



**icmr NIRT**  
National Institute for Research in Tuberculosis  
Department of Health Research, Government of India



**icmr NIE**  
National Institute of Epidemiology  
Department of Health Research, Government of India

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Azadi Ka  
Amrit Mahotsav



# Dissemination Workshop

**Health Technology Assessment Studies in India**

**18<sup>th</sup> March 2022  
Chennai**

## **Organized by**

**National Health Mission, Tamil Nadu**

**ICMR-National Institute for Research in Tuberculosis, ICMR- National Institute of Epidemiology**

**Department of Health Research, Government of India**



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# Executive Summary

The Regional Resource Centre for Health Technology Assessment in India (HTAIIn), ICMR-NIRT in collaboration with ICMR-NIE, National Health Mission, Department of Health and family Welfare, Government of Tamil Nadu and Department of Health Research, Government of India organized the “Dissemination workshop on HTA studies in India” in Tamil Nadu on 18<sup>th</sup> March 2022. The purpose of this workshop was to disseminate various HTA studies so that this can help the Government in decision-making. The participants included the Directors, Additional Directors, Joint Directors, Assistant Programme Officers, Programme Managers, Consultants of NHM, DPH, TNHSRP, DMRHS, ICMR-NIRT, ICMR-NIE, DME and medical students and teaching staffs from Christian Medical College Vellore, Meenakshi Medical College Hospital, Madras Medical College, Kilpauk Medical College, Ramachandra Medical College, Saveetha Medical College, SRM Medical College and Hospital, Stanley Medical College. The workshop was inaugurated by Dr. Darez Ahamed, IAS, Mission Director, NHM, Tamil Nadu and all the guests were welcomed by Dr. Padmapriyadarsini, Director, ICMR-NIRT, Chennai. Resource presenters from ICMR-NIRT, ICMR-NIE, ICMR-NIV, PGIMER, IDSI, IIPHG, JIPMER, DHR, ICMR-NIRRH, SCTIMST and NHM TN disseminated their studies which were conducted in their respective Hubs.



## Acknowledgement

We thank Dr. Darez Ahamed, IAS, Mission Director, National Health Mission, Government of Tamil Nadu for inaugurating the workshop. We thank Dr. Padmapriyadarsini, Director, ICMR-NIRT, Chennai for providing opening remarks for the workshop. We thank Dr. Kavitha Rajsekhar, Scientist-E, HTAIn for giving the knowledge on HTA Policy Briefs in India. We deeply thank Mrs. Alagumeena. R, State Program Manager, National Urban Health Mission for her presence in the workshop. We acknowledge Thiru. S. Kandasamy, State Programme Manager, NHM, Tamil Nadu for his support organizing this workshop. We acknowledge Dr. Jerard M Selvam, Additional Director, NHM, Tamil Nadu, Dr. M Muniyandi, Scientist-D, ICMR-NIRT, Chennai, Dr. Bhavani Shankara Bagepally, Scientist-E, ICMR-NIE, Chennai, Dr. Beena Nitin Joshi, Scientist-F, ICMR-NIRRH, Mumbai, Dr. Gaurav Jyani, School of Public Health, PGIMER, Chandigarh, Dr. Malkeet Singh, Consultant, Center for Global Development Europe (CGDE), International Decision Support Initiative (iDSI), Dr. Sitanshu Sekhar Kar, Professor of Preventive and Social Medicine, JIPMER, Pondicherry, Dr. Biju Soman, Achutha Menon Centre for Health Science Studies, SCTIMST Trivandrum, Kerala, Dr. Somen Saha, Indian Institute of Public Health, Gandhinagar, Gujarat, Dr. Yogesh K Gurav, Scientist-E, ICMR-NIV, Pune, Ms. Kirti Tyagi, Technical Expert, PGIMER, Chandigarh, Punjab, Dr. N Karikalan, ICMR-NIRT, Chennai and Mr. Richard Samuel, NHM, Tamil Nadu for their presentation. We appreciate all state health officials from NHM, TNHSRP, DMRHS, DME, for their active participation. We also acknowledge all the medical students and staff from Christian Medical College Vellore, Meenakshi Medical College Hospital, Madras Medical College, Kilpauk Medical College, Ramachandra Medical College, Saveetha Medical College, SRM Medical College and Hospital, Stanley Medical College for their active participation for making this workshop a grand success.



## Proceeding of the Dissemination Workshop on HTA studies in India



**18<sup>th</sup> March 2022**

**National Health Mission  
Auditorium**

Ground Floor, DMS Annex Building, DMS  
Campus, 359 Anna Salai, Teynampet,  
Chennai 600 006



## Proceeding of the Dissemination Workshop on HTA studies in India

Dissemination Workshop on HTA studies in India was organized by National Health Mission, Tamil Nadu in collaboration with ICMR-National Institute for Research in Tuberculosis, Chennai, and the Department of Health Research, Ministry of Health and Family Welfare, Government of India on the 18<sup>th</sup> of March 2022 in Auditorium in National Health mission Building.



# Agenda

## Dissemination Workshop on Health Technology Assessment in India

Venue: Auditorium, Ground Floor, DMS Annex Building, DMS Campus, 359 Anna Salai Teynampet, Chennai  
600 006

18<sup>th</sup> March 2021 - 09:30 AM - 05:00 PM

INAUGURAL SESSION		
Timings	Topics	Speaker
09:30-10:00	Registration	
10:00-10:10	Welcome & Opening Remarks	Dr. Padmapriyadarsini, Director, ICMR-NIRT, Chennai
10:10-10:20	Inaugural address	Dr. Darez Ahamed, IAS, Mission Director, NHM, Tamil Nadu
10:20-10:30	Special Address	Tmt. Dr.Uma, IAS, Project Director, TNHSRP, Chennai
10:30-10:40	HTA Policy Briefs in India	Dr. Kavitha Rajshekar, Scientist-E, Department of Health Research, MoHFW, New Delhi
10:40-11:00	HTA on population based screening for hypertension and diabetes in Tamil Nadu	Dr. Jerard M Selvam, Additional Director, NHM, Tamil Nadu
11:00-11:20	Tea Break	

SESSION I		
Timings	Topics	Speaker
11:20-11:45	HTA studies from ICMR-NIE	Dr. Bhavani Shankara Bagepally, Scientist-E, ICMR-NIE, Chennai
11:45-12:10	HTA studies from PGIMER, Chandigarh	Dr. Gaurav Jyani, PGIMER, Chandigarh, Punjab
12:10-12:35	HTA on reproductive health issues	Dr. Beena Nitin Joshi, Scientist-F, ICMR-NIRRH, Mumbai
12:35-1:00	Adaptive HTA for Priority setting in India	Dr. Malkeet Singh, Consultant - Center for Global Development Europe (CGDE), International Decision Support Initiative (iDSI), New Delhi
01:00-02:00	Lunch Break	

<b>SESSION II</b>		
<b>Timings</b>	<b>Topics</b>	<b>Speaker</b>
02:00-02:25	HTA studies from JIPMER, Pondicherry	Dr Sitanshu Sekhar Kar, Professor of Preventive & Social Medicine, JIPMER, Pondicherry
02:25-02:50	Evaluation of pulse oximetry as a tool to prevent childhood pneumonia related morbidity and mortality	Dr. Biju Soman, Achutha Menon Centre for Health Science Studies, SCTIMST Trivandrum, Kerala
02:50-03:15	HTA studies from IIPH, Gandhinagar	Dr. Somen Saha, Indian Institute of Public Health, Gandhinagar, Gujarat
03:15-03:30	Tea Break	

<b>SESSION III</b>		
<b>Timings</b>	<b>Topics</b>	<b>Speaker</b>
03:30-03:50	HTA studies from ICMR-NIV, Pune	Dr. Yogesh K Gurav, Scientist-E, ICMR-NIV, Pune
03:50-4:10	Rapid HTA for incorporating TrueNat as a diagnostic tool for Tuberculosis	Ms. Kirti Tyagi, Technical Expert, PGIMER, Chandigarh, Punjab
04:10-4:30	Economic evaluation of implementing a decentralized hepatitis B and C virus diagnostic intervention	Dr. N Karikalan, ICMR-NIRT, Chennai
04:30-04:50	Economic evaluation of implementing a decentralized dengue screening intervention under the National Vector Borne Disease Control Programme	Richard Samuel, NHM, Tamil Nadu
04:50-04:55	Concluding Remarks	Dr. Jerard M Selvam, Additional Director, NHM, Tamil Nadu
04:55-05:00	Vote of Thanks	Thiru. S. Kandasamy, State Programme Manager, NHM, Tamil Nadu

Organized by  
National Health Mission, Tamil Nadu in collaboration with ICMR-National Institute for Research in Tuberculosis, Chennai and Department of Health Research, Ministry of Health and Family Welfare,  
Government of India



# Registration



# Welcome



**Dr. Padmapriyadarsini C**  
Director, ICMR-NIRT

"I am glad to jointly hold this workshop with NHM, Tamil Nadu, ICMR-NIRT, DHR and Government of India. DHR has formed many HTA hubs all over India and these hubs works with local government and new intervention, which are cost effective to the state are framed. ICMR-NIRT and ICMR-NIE are the two hubs in Tamil Nadu which works with NHM once the priority is set by the state. The main goal of this is to disseminate various HTA studies so that this can help the government in making decision".

## Speakers

**DISSEMINATION WORKSHOP ON HEALTH TECHNOLOGY ASSESSMENT IN INDIA**

**TOPICS & SPEAKER**

Welcome & Opening Remarks  
**Dr. Padmapriyadarsini**,  
Director, ICMR-NIRT, Chennai

Inaugural address  
**Dr. Darez Ahamed, I.A.S.,**  
Mission Director,  
National Health Mission, TN.

Special Address  
**Tmt. Dr. S. Uma, IAS.,**  
Project Director, TNHSRP, Chennai.

HTA Policy Briefs in India  
**Dr. Kavitha Rajshekar,**  
Scientist-E, Department of  
Health Research, MoHFW, New Delhi.

HTA on population base screening for  
hypertension and diabetes in Tamil Nadu  
**Dr. Jerard M Selvam,**  
Additional Director, NHM,  
Tamil Nadu.

**SESSION I**

HTA studies from ICMR-NIE  
**Dr. Bhavani Shankara Bagepally,**  
Scientist-E, ICMR-NIE, Chennai.

HTA studies from PGIMER, Chandigarh  
**Dr. Gourav Jyani,**  
PGIMER, Chandigarh, Punjab.

HTA on reproductive health issues  
**Dr. Beena Nitin Joshi,**  
Scientist-F, ICMR-NIRRH, Mumbai.

Adaptive HTA for Priority setting in India  
**Dr. Malkheet Singh,**  
Consultant - Center for Global  
Development Europe (CGDE),  
International Decision Support Initiative (IDSI),  
New Delhi.

**SESSION II**

HTA studies from JIPMER, Pondicherry  
**Dr. Sitanshu Sekhar Kor,**  
Professor of Preventive & Social Medicine,  
JIPMER, Pondicherry

Evaluation of pulse oximetry as a tool to prevent  
childhood pneumonia related morbidity and  
mortality  
**Dr. Biju Soman,**  
Achuutha Menon Centre for Health Science  
Studies, SCTIMST Trivandrum, Kerala.

HTA studies from IIPH, Gandhinagar  
**Dr. Somen Saha,**  
Indian Institute of Public Health,  
Gandhinagar, Gujarat.

**SESSION III**

HTA studies from ICMR-NIV, Pune  
**Dr. Yogesh K Gurav,**  
Scientist-E, ICMR-NIV, Pune.

HTA studies on hepatitis B and C screening in  
Tamil Nadu  
**Dr. N Karikalan,**  
Scientist-C, ICMR-NIRT, Chennai.

HTA studies on dengue screening in Tamil Nadu  
**Dr. Richard Samuel,**  
Consultant, NHM, Tamil Nadu.

Concluding Remarks  
**Dr. Jerard M Selvam,**  
Additional Director, NHM, Tamil Nadu.

Vote of Thanks  
**Thiru. S.Kandasamy,**  
State Programme Manager,  
NHM, Tamil Nadu.

Date: 18<sup>th</sup> March 2022 | Time: 09:00 AM - 5:00 PM  
Venue: Auditorium Hall, Ground Floor, NHM, Teyyanpet, Chennai - 600 006.  
Organized by: NHM, TN in collaboration with ICMR-NIRT & Dept of Health Research, Government of India.

# Inauguration



## Inaugural Address



**Dr. Darez Ahamed, I.A.S, Mission Director, National Health mission-Tamil Nadu**

Dr. Darez Ahamed inaugurated the workshop. He stated the importance of HTA in the health system. Further he mentioned that HTA should have positional significance in decision making in financing and health system which can be achieved by framing roadmap or guidelines. In context with the scenario of Tamil Nadu health system, ICMR-NIRT and DHR should conduct HTA by setting priority.

## HTA Policy Briefs in India

“Based on the HTA studies conducted in various HTA hubs, policy brief of the studies are developed and published. Then these recommendations are given by the policy makers to the government to implement it in the health system”



**Dr. Kavitha Rajshekar  
Scientist-E, Department of  
Health Research, MoHFW,  
New Delhi**

# HTA on population based screening for hypertension & diabetes in Tamil Nadu



**Dr. Jerard M Selvam,  
Additional Director, NHM,  
Tamil Nadu**

The aim of this study is to find out cost-effectiveness of screening Diabetes and hypertension through Population Based Screening.

"Our findings indicate that with current patterns of health care use, Population Based Screening (PBS) of Diabetes (DM) and hypertension (HTN) is not cost-effective. However, increasing the share of use for the treatment of DM & HTN at HWCs is a potential strategy to make PBS cost-effective. PBS combined with greater use of HWCs for treatment could also reduce out-of-pocket expenditure & improves financial risk protection. Linking the screening & treatment of DM or HTN with comprehensive primary health care at HWCs, is likely to improve the equity of service use & consequently health outcomes"

## HTA studies from ICMR-NIE



Dr. Bhavani Shankara  
Bagepally, Scientist-E, ICMR-  
NIE, Chennai

Clinical effectiveness and Cost-effectiveness of cholecystectomy compared with conservative management in people presenting with uncomplicated symptomatic gallstones (biliary pain) or cholecystitis in India.

Systematic Review and meta-analyses

1. Clinical effectiveness of cholecystectomy versus conservative management/ delayed cholecystectomy for gallstone disease.
2. Health-related quality of life for gallstone disease
3. Cost-utility studies in gallstone disease.

### Policy Implications

- Cholecystectomy (open or laparoscopic) is cost-effective than conservative management for symptomatic uncomplicated gallstone disease (biliary colic) and acute cholecystitis.
- Early cholecystectomy is cost-effective than conservative management for symptomatic uncomplicated gallstone disease.
- Early cholecystectomy is cost-effective for acute cholecystitis than conservative management / delayed cholecystectomy. However, it may require a clinical decision regarding the timing of surgery, whether early or delayed surgery with initial symptomatic management followed by cholecystectomy (6-12 weeks later), considering the possible intraoperative complications in early surgery.

## HTA studies from PGIMER, Chandigarh

### HTA studies accomplished

- HTA for Safety Engineered Syringes (SES) for therapeutic care in India
- HTA for Cervical Cancer Screening Strategies in India
- HTA for screening of Hypertension and Type-2 Diabetes
- Development of Health Technology Assessment Checklist for Quality Assurance (HTA-QA) for India
- Development of health-related quality of life (EQ-5D-5L) value set for India (DEVINE study)
- Development of Budget Impact Analysis guidelines for India



Dr. Gaurav Jyani, PGIMER, Chandigarh

## HTA on reproductive health issues



Dr. Beena Nitin Joshi, Scientist- F, ICMR-NIRRH, Mumbai

Studies conducted by NIRRH, Mumbai:

- HTA on long acting reversible Contraceptives:

Adding Nexplanon to the current scenario is cost effective- 16475 INR/QALY

- HTA on ESM UBT in management of PPH

ESM UBT was cost effective however only 68% stimulation were cost effective so the model is robust, still it needs more evidences.

## Adaptive HTA for Priority setting in India

- Not all HTAs need a 'traditional' approach, aHTA is one tool in the toolbox
- aHTA aids in providing cost-effectiveness evidence where previously it was not used
- aHTA can help filter out extremely expensive, extremely cost-saving, or highly cost-effective interventions
- aHTA can also identify interventions that are marginally cost-effective or where further research is needed to inform STGs or HBPs
- aHTA can become a useful tool to accelerate the process of adoption of evidence based decision making in the country.



**Dr. Malkeet Singh**  
Consultant- Center for Global  
Development Europe (CGDE),  
International Decision Support  
Initiative (iDSI), New Delhi

## HTA studies from JIPMER, Pondicherry



**Dr Sitanshu Sekhar Kar,**  
Professor of Preventive & Social  
Medicine, JIPMER, Pondicherry

**Cost effectiveness of population-based screening for Chronic Kidney Disease among adults aged 40 years and above with Type 2 Diabetes Mellitus in Kerala and Puducherry**

Early detection of CKD in the population could reduce the incidence of ESRD cases over time. Annual population based CKD screening could reduce the expenditure incurred under the Pradhan Mantri National Dialysis Programme.



## Rapid HTA of TrueNat as a diagnostic tool for Tuberculosis under NTEP in India



Dr. Kirti Tyagi, Technical Expert, PGIMER, Chandigarh

- TrueNat is more sensitive compared to Standard of care (*Gene Xpert*).
- Cost per test for both is also comparable but *Gene Xpert* is cheaper
- TrueNat is more cost-effective and feasible option for peripheral healthcare facilities.
- *Gene Xpert* is almost equally (in term of sensitivity as well as cost) and cost effective as compared to other diagnostic tools like smear Microscopy and can be used at District Level and above due to its ease of use and less chances of erroneous result.

# HTA studies

## AMCHSS, SCTIMST Trivandrum



Dr. Biju Soman, Professor,  
Achutha Menon Centre for Health  
Science Studies, SCTIMST,  
Trivandrum, Kerala

Evaluation of pulse oximetry as a tool to prevent childhood pneumonia related morbidity and mortality

Policy impact of the study

- Based on the study outcomes, it was recommended that Pulse oximeters be adopted as a prognostic tool in primary health care.
- As part of the efforts to contain COVID pandemic, pulse oximeters were made available universally in health facilities across the country

Detection of Diabetic Retinopathy from Colour Fundus Photographs to Prevent Blindness in India

Policy Impact of the study

- At the time of the study, tele-screening for DR was a pilot program limited to 15 FHCs in Thiruvananthapuram district.
- The program has now been upscale to all 170 FHCs in Kerala State.

# Health Technology Assessment Regional Resource Centre – IIPHG

HTA of TeCHO+ Programme in Gujarat

HTA of a Tuberculosis Monitoring Encouragement Adherence Drive (TMEAD) in Nasik & Wardha District of Maharashtra.

HTA of project Lifeline - A portable ECG facility at PHC level in Ahmedabad district of Gujarat.

HTA on Intravenous Iron-Sucrose (IVIS) intervention to Treat Anemia in pregnant women



Dr. Somen Saha, Professor, Indian Institute of Public Health, Gandhinagar, Gujarat

## HTA studies at ICMR-NIV Pune



Dr. Yogesh K Gurav, Scientist-E, ICMR-NIV, Pune

### Projects funded by the HTAIn/DHR

- The cost effectiveness of Syphilis & HIV combined point of care (POC) testing among pregnant woman in Maharashtra
- The cost-effectiveness of rubella vaccination among women in Maharashtra

### Projects funded by ICMR-National Institute of Virology (NIV), Pune

- Cost-analysis of diagnostic tests for COVID-19 at National Reference Laboratory in India.
- Cost of illness analysis of COVID-19 cases in Maharashtra, India

## HTA for screening of Hepatitis B & C at PHC in Tamil Nadu



Dr. N Karikalan, Scientist- C,  
ICMR-NIRT, Chennai

To find out cost-effectiveness of screening of HBV & HCV infection at  
primary healthcare facilities

- Screening HCV at PHC facilities level in India is cost saving strategy.
- Intervention is cost saving for any risk population.
- Relative risk of hepatocellular carcinoma is most influencing factor for ICER value followed by sensitivity of ELISA, cost of rapid test & transition probability of compensated cirrhosis to decompensated cirrhosis. It is preventing more number of liver disorder cases.
- This will require additional budget for the Government of Tamil Nadu around Rs 132 crores for implementing screening and early treatment for HBV and HCV and Rs 292 crores for screening and vaccinating HBV.

# HTA for implementation of cell counters for diagnosing suspected dengue cases at PHC settings in Tamil Nadu (2019)



Dr. Richard Samuel, Consultant,  
NHM, Tamil Nadu

Screening dengue at primary healthcare facilities level in Tamil Nadu is  
cost saving strategy

- PSA showed 84% of the iteration values to be cost-effective.
- 0.8 probability of being economically dominant strategy as compared to current strategy.
- Quality of life is most influencing factor for ICER value.
- There is positive association of population coverage with cost saving & health benefits.
- The cost decreases & effect increases over a period of five years from implementation.
- This will require additional budget for the Government of Tamil Nadu around Rs 574093041 for implementing dengue screening at PHC level using Hematology Analyzers.

## Concluding Remarks & way forward



**Dr. Jerard Selvam, Additional  
Director, NHM, Tamil Nadu**

This is the First National Dissemination for HTA conducted in Tamil Nadu. We have showcased evidence on the cost-effectiveness of Communicable and Non-communicable Diseases from Six States. All this evidence have policy relevance for the State of Tamil Nadu. Based on the presented topics, various Departments and Programmes are encouraged to undertake similar HTA studies. We can take forward this evidence to make policy decisions or we can do further analysis in the context of Tamil Nadu. All participants are requested to send feedback and new topics, in alignment with the Government of Tamil Nadu's priorities. Students can network with HTA Hubs NIRT & NIE to take up HTA project work as part of their course. For NHM-TN, the immediate priorities are, for setting a spoke in office of NHM and the formation of a core group. To draft the HTA Framework for the Government of Tamil Nadu. HTA Hubs can support students as a capacity-building.

1. ICMR-NIRT, Chetpet, Chennai - [mmuniyandi@yahoo.com](mailto:mmuniyandi@yahoo.com),
2. JIPMER, Pondicherry - [drsitanshukar@gmail.com](mailto:drsitanshukar@gmail.com)
3. ICMR-NIE, Ayappakkam, Chennai - [bshankara@gmail.com](mailto:bshankara@gmail.com)

**This is the beginning, we will conduct more workshops as per requirement.**