



स्वास्थ्य अनुसंधान विभाग  
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स्वास्थ्य एवं परिवार कल्याण मंत्रालय  
Ministry of Health and Family Welfare



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INDIAN COUNCIL OF  
MEDICAL RESEARCH

NIRT  
NATIONAL INSTITUTE FOR  
RESEARCH IN TUBERCULOSIS

# SYSTEMATIC REVIEWS AND NETWORKING SUPPORT IN HEALTH – SARANSH 2.0

## METHODS AND EVIDENCE SYNTHESIS FOR TEST ACCURACY STUDIES : META PROGRAM

### Scientific Advisor

Dr.Srinath Satyanarayana  
DIRECTOR, ICMR- NIRT

### Course Director

Dr Leeberk Raja I,  
Scientist – E, ICMR- NIRT

### Co-director

Dr Jefferson Daniel J,  
Associate Prof., CMC,Vellore

Organized by:  
Technical Resource Centre,  
ICMR-NIRT, Chennai

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## META PROGRAM OVERVIEW

The META program (Methods and Evidence Synthesis for Test Accuracy Studies) is a mentored, hands-on training program designed to build practical proficiency in Diagnostic Test Accuracy (DTA) systematic reviews. Anchored in methodological precision, the program guides participants through every step—from formulating the review question to registering a protocol in PROSPERO, performing meta-analyses, and publication of the review.

### DATES

- Pre workshop virtual sessions: 1<sup>st</sup> September to 20<sup>th</sup> November 2025.
- In-person contact Sessions: 24<sup>th</sup> to 28<sup>th</sup> November 2025
- Post- workshop virtual sessions: 1<sup>st</sup> December 2025 to 31<sup>st</sup> March 2026.

### KEY FEATURES

- **Accuracy, transparency, and reproducibility**
- **Structured guidance on protocol development**
- **Direct mentorship and feedback**
- **Completion of manuscripts tailored for submission to peer-reviewed journal**

✦ Participants will work in teams to develop, register, and complete a protocol and to prepare and publish their manuscript by April 2026. The participants will be guided by two mentors who are DTA experts and Cochrane authors.

# META PROGRAM STRUCTURE

## META Level 1: Protocol Development Workshop

### Pre-Workshop Phase (Begins 10 Weeks Prior to Contact Sessions)

Modules 1–4 delivered through online learning on foundational concepts and preparatory tasks and completion of the protocol for PROSPERO.

- ★ Note: All online sessions will be scheduled from 8:00 PM to 9:30 PM, post regular working hours.

### In-Person Workshop

A 5-day contact session dedicated to registration of the protocol, hands-on development of QUADAS-2 tools, data extraction forms, and basic principles of meta-analysis and GRADE methodology.

## EXPECTED OUTCOMES

- ★ Demonstrate a foundational understanding of Diagnostic Test Accuracy (DTA) methodology and successfully complete the registration of a systematic review protocol in systematic review registries like PROSPERO\*.
- ★ Apply hands-on skills in:
  - Screening and selecting relevant articles
  - Development of QUADAS-2 tools specific to the review question
  - Development of data extraction form
  - Performing data extraction
  - Assessing methodological quality using QUADAS-2
  - Constructing forest plots using the Review Manager (RM) Web platform

\*Post-workshop support will be available for protocol publication for the participants

## META PROGRAM STRUCTURE

### META Level 2: Manuscript Completion Workshop

#### ➤ **Duration:**

12-week virtual engagement

#### ➤ **Format:**

Weekly mentorship meetings focused on the completion of the review, methodological clarity, preparation of the manuscript.

### EXPECTED OUTCOMES

Submission of a finalized manuscript to a peer-reviewed scientific journal

### META PROGRAM OUTCOME

- ✦ Participants will complete the systematic review in accordance with the registered protocol by March 2026.
- ✦ Subsequently, the finalized manuscript will be submitted to a peer-reviewed journal by the end of April 2026.

## ELIGIBILITY CRITERIA

1. Hold one of the following degrees: MBBS, BDS, MD/MS/MPH, or a PhD in Medicine or allied disciplines.
2. Have authored at least one systematic review publication in a PubMed-indexed journal as a first or corresponding author, or have co-authored a minimum of three systematic review publications in a PubMed-indexed journal
3. Participants may be working as faculty or researchers in government or private organizations across India
4. Should be willing to commit the time to attend all virtual and contact sessions and complete the systematic review of the registered protocol

Preference will be accorded to applicants who

- ★ Have published articles on Diagnostic Test Accuracy (DTA) reviews
- ★ Have completed structured training in DTA systematic review methodology (certificate required)
- ★ Additional preference for familiarity with Cochrane review methodology, demonstrated through previous publications

## APPLICATION PROCESS

### Step 1: Call for Applications

#### ★ Timeline Overview:

Applications Open	July 29 <sup>th</sup>
Submission Deadline	August 10 <sup>th</sup>
Announcement of results	August 20 <sup>th</sup>
Final confirmation by selected candidates	August 27 <sup>th</sup>
Acceptance and confirmation of participants	September 5 <sup>th</sup>

★ **NOTE: IF travel or accommodation arrangements are not confirmed by the 5<sup>th</sup> of September opportunity will be offered to waitlisted candidates**

### APPLICATION FORM

Kindly use the following link or scan the QR code to access the application form:

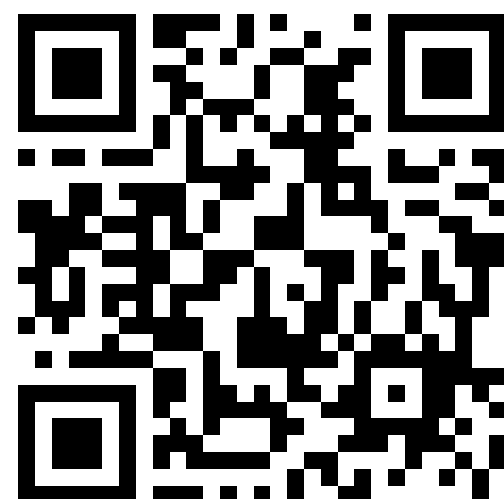
<https://forms.gle/5M43mFZX9rxPaedU7>

**For any queries kindly get in touch with us**

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TRC, ICMR-NIRT

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# APPLICATION PROCESS

## Step 2: Application requirements

The application will consist of :

- Application Form – Basic details and educational qualifications
- Review Question – Structured using the prescribed format
- PIRT Statement – Population, Index Test, Reference Test, Target Condition
- Systematic Review Experience – A brief description (max 50 words) of prior training and experience (Please ensure that the relevant certificates are attached in the designated sections of the application form.)
- Publication Summary – List of systematic review publications, clearly indicating first or corresponding author status (Please do not include non-systematic review publications).

## Step 3: Selection Process

1. Initial Scoring
2. Applications will be evaluated based on predefined criteria with a maximum score of 100.
3. The number of participants will be limited to 30, with representation ensured from all regions across the country.
4. Waitlist Management: Selected candidates are granted two weeks to confirm participation.
5. Applicants on the waitlist will be invited if confirmations are not received.

## GENERAL INSTRUCTIONS

### Attendance requirements

Participants must attend all pre- and post-workshop sessions. Attendance will be formally recorded.

- ★ Note: Registration for the contact session will be cancelled if a participant misses two or more pre-workshop sessions.

### Workshop Fee & Meals

- No registration fee will be charged for the workshop.
- Lunch and refreshments will be provided during contact sessions.
- Breakfast and dinner must be arranged and paid for by participants individually.

### Accommodation and Travel Arrangements

- Free accommodation will be provided by ICMR-NIRT on a twin-sharing basis at designated ICMR guest houses.
- Those opting for alternative accommodation arrangements must bear the associated expenses.
- **TA/DA will not be provided by ICMR-NIRT.**
- ICMR-NIRT will not bear travel costs.

### Certificate Eligibility

- ★ Attendance on all 5 days of the contact workshop is mandatory to receive the official Course Completion Certificate



## FACULTY

Dr. Leeberk Raja is a Community Health Physician and Principal Investigator of the TRC at ICMR-NIRT. He led key DTA reviews on molecular diagnostics that informed WHO's TB guidelines. A Cochrane author, peer reviewer, and trainer, he also leads the multi-centric INSHORT trial on TB meningitis



Dr. Jefferson Daniel, M.D. is a Cochrane author and recipient of the DBT Wellcome Early Career Fellowship and ATS MECOR India Scholarship (2024), he has contributed to national and international clinical guidelines, on pleural effusion, COVID-19, and WHO's TB recommendations. He also serves as Centre Coordinator for the WAO Centre of Excellence. He is currently pursuing his PhD at the University of Melbourne, Australia



Dr. Mukesh Kumar is a clinician with 13 years of experience, trained at Government Medical College, Vellore. He has been involved in molecular epidemiology research at ICMR since 2014, and is PI for the Global Funds-supported DLSS-TB study. A member of Cochrane's Infectious Diseases Group and Trainers Network, he has contributed to WHO TB diagnostic guidelines and authored four DTA reviews.



Dr. S. Vignes Anand, Scientist 'C' (Medical) at ICMR-NIRT, is involved in diagnostic and interventional research, including SRMAs and RCTs. He has contributed to Cochrane reviews adopted in WHO guidelines and regularly trains students and professionals in evidence synthesis and research methodology. A recipient of the Young DAVian Award (2024), he has published in The Lancet and other peer-reviewed journals.



Dr. Adhin Bhaskar is a Biostatistician at ICMR-NIRT, Chennai, with a Ph.D. from NIMHANS. He specializes in clinical trials, predictive modeling, longitudinal data analysis and meta-analysis. He has published over 35 research papers including several Cochrane DTA reviews. He contributed to the WHO TB diagnostic guidelines and received the Smt. Surajkali Jain Award in 2024.



## PRE-WORKSHOP ONLINE SESSIONS

### Pre-workshop sessions

Date: 15.09.25-20.11.25

Mode: Virtual sessions

Time: 8:00 PM-9:30 PM

Date	Module	Objectives	Resource person	Reading material
15.09.25	Introduction to systematic reviews of diagnostic test accuracy	1.To understand the role of test accuracy 2. To be familiar with the different study designs used to evaluate test accuracy 3. Be able to define the components of a DTA review question	Dr Leeberk Raja I	Cochrane hand book of DTA - Chapters 1 & 2
22.09.25	Understanding study designs in DTA studies	1.Understand the basic language used in DTAs Population, Index test, reference standard and target condition 2.Understand various types of study designs 3.Identifying and describing a study design	Dr Jefferson Daniel	Cochrane hand book of DTA- Chapter 3
29.09.25	Review Question & PIRT	1.Understanding the components of Review question 2.Ability to write clear review question	Dr. Mukesh Kumar	Cochrane hand book of DTA - Chapter 5
<b>Formation of groups</b>				
05.10.25	<b>Submission of review questions by the participants by 05/10/25</b>			

## PRE-WORKSHOP ONLINE SESSIONS

Date	Module	Objectives	Resource person
06.10.25 -12.10.25	Individual group Exercises with mentors	To provide guidance on creating review question	Team mentor/co-mentor
13.10.25	Presentation of Review questions (Group 1 & 2)	<ul style="list-style-type: none"> <li>- Refining review question</li> <li>- Framing final review question</li> </ul>	Team mentor/co-mentor
16.10.25	Presentation of Review questions (Group 3,4 & 5)	Refining review question - Framing final review question	Team mentor/co-mentor
20.10.25	Components of the protocol	Understanding sections of the protocol - Eligibility criteria - PROSPERO frame work	Dr Leeberk Raja I
21.10.25- 20.11.25	Individual group exercises and meeting with mentors & preparation of protocol	Mentors will conduct weekly meetings and review each components of the protocol (Motivated teams can start writing the first draft of the protocol for a journal)	Team mentor/co-mentor

## IN-PERSON WORKSHOP SCHEDULE

### In-Person Workshop on Review & Meta-analysis on Diagnostic Test Accuracy studies

Dates: 24<sup>th</sup> Nov 2025 to 28<sup>th</sup> Nov 2025

Time: 9:00 AM to 06:00 PM

Venue: SPT Hall, ICMR-NIRT, Chennai.

#### DAY 1- 24.11.2025

TIME	TOPICS	RESOURCE PERSON
08:00-08:30	Breakfast	
09:00-09:30	Welcome address	Dr Srinath Satyanarayana, Director, ICMR- NIRT
09:30-09:45	Self-introduction of participants	
09:45-10.15	Evidence synthesis in Health Research for Guideline development	Dr. Rajiv Bahl, Director General, ICMR-NIRT/DHR
10:15-10:45	Objectives of the workshop & Structure of DTA reviews (RECAP)	Dr Leeberk Raja I
10:45-11:00	Coffee Break	
11:00-12:00	Protocol presentation: Group 1 (30 mins presentation + 30 mins discussion)	All faculty (Moderator : Dr Jefferson)
12:00-13:00	Protocol presentation: Group 2 (30 mins presentation + 30 mins discussion)	All faculty (Moderator : Dr Vignes)
13:00-14:00	Lunch	
14:00-15:00	Protocol presentation: Group 3 (30 mins presentation + 30 mins discussion)	All faculty (Moderator : Dr Leeberk)
15:00-15:15	Coffee Break	
15:15-16:15	Protocol presentation: Group 4 (30 mins presentation + 30 mins discussion)	All faculty (Moderator : Dr Mukesh)
16:15-17:15	Protocol presentation: Group 5 (30 mins presentation + 30 mins discussion)	All faculty (Moderator : Dr Jefferson)
Assignment – Registration of the protocol in PROSPERO		

# IN-PERSON WORKSHOP SCHEDULE

## DAY 2 - 25.11.2025

TIME	TOPICS	RESOURCE PERSON
08:00-08:30	Breakfast	
09:00-10:00	Risk of Bias in DTA studies : QUADAS -2 & QUADAS - C	Dr Leeberk Raja I
10:00-11:100	Mentored Small Group – Hands on exercise on QUADAS -2 & QUADAS-C	All faculty
11:00 -11:15	Coffee Break	
11:15-11:45	Creating a QUADAS tool : Patient Selection domain	Dr Jefferson Daniel
11:45-12:45	Mentored Small Group : Write QUADAS -2 guidelines for patient selection	All faculty
12:45-13:45	Lunch	
13:45-14:30	Creating a QUADAS tool : Index test & Reference standard domain	Dr Jefferson Daniel
14:30-15:30	Mentored Small Group : Write QUADAS -2 guidelines for index test and reference standard domain	All faculty
15:30 -15:45	Coffee break	
15:45- 16: 15	Creating a QUADAS tool : Patient flow domain	Dr Jefferson Daniel
16:30-16:45	Mentored Small Group : Write QUADAS -2 guidelines for patient flow domain	All faculty
16:45-17:30	Presentation of Group 1: QUADAS – 2 tool ( 20 mins for each presentation & Discussion)	All faculty (Moderator : Dr Jefferson)
NETWORKING DINNER		

# IN-PERSON WORKSHOP SCHEDULE

DAY 3 - 26.11.2025

DAY 2 – 26.11.2025

TIME	TOPICS	RESOURCE PERSON
08:00–08:30	Breakfast	
09:00–09:45	Presentation of Group 2: QUADAS – 2 tool ( 20 mins for each presentation & Discussion)	All faculty (Moderator : Dr Leeberk)
09:45–10:30	Presentation of Group 3: QUADAS – 2 tool ( 20 mins for each presentation & Discussion)	All faculty (Moderator : Dr Vignes)
10:30–10:45	Coffee Break	
10:45–11:30	Presentation of Group 4: QUADAS – 2 tool ( 20 mins for each presentation & Discussion)	All faculty (Moderator : Dr Mukesh)
11:30–12:15	Presentation of Group 5: QUADAS – 2 tool (20 mins for each presentation & Discussion)	All faculty (Moderator : Dr Leeberk)
12:15 –13:15	Data extraction in DTA reviews	Dr Vignes Anand
13:15–14:15	Lunch	
14:15 –15:15	Mentored Small Group : Creating DEF for specific review question : Study Characteristics	All faculty
15:15 –15:30	Coffee break	
15:30– 16:30	Mentored Small Group : Creating DEF for specific review question : 2x2 tables	All faculty
16:30–17:30	Debriefing in DEF/ QUADAS & Discussion	
ASSIGNMENT – Completion of QUADAS & DEF for one study specific to Team’s PIRT		



# IN-PERSON WORKSHOP SCHEDULE

**DAY 4- 27.11.2025**

TIME	TOPICS	RESOURCE PERSON
08:00-08:30	Breakfast	
09:00-10:00	Search Strategy for DTA reviews	Dr Mukesh Kumar
10.00-11.00	Developing search strings, de-duplication & article extraction	Dr Mukesh Kumar
11:00 -11:15	Coffee Break	
11.15 - 12.15	Hands-on exercise in search strategy	Dr Mukesh Kumar
12:15-13: 00	Titles and abstract screening in Rayyan	Dr Vignes Anand
13:00-14:00	Lunch	
14:00-14:45	Full text screening : Best practices	Dr Sharon Suresh
14:45 : 15:45	Small group presentation – QUADAS exercise for one article from the specific PIRT	All faculty
15:45 -16:00	Coffee Break	
16:00- 17:00	Small group presentation – DEF exercise for one article from the specific PIRT	All faculty
END OF THE DAY		

# IN-PERSON WORKSHOP SCHEDULE

**DAY 5- 28.11.2025**

TIME	TOPICS	RESOURCE PERSON
08:00–08:30	Breakfast	
09:00–10.00	Principles of meta-analysis in DTA reviews	Dr Adhin Bhaskar
10.00–11:00	Demonstration of meta-analysis using R	Dr Adhin Bhaskar
11:00 –11:15	Coffee Break	
11:15–12:15	Introduction to RevMan web for DTA reviews	Dr Leeberk Raja I
12:15–13:00	Hands on exercises on data entry and creating forest plots	
12:30–01:30	Lunch	
13:30–14:30	Assessment of Certainty of Evidence (CoE) – GRADE	Dr Leeberk Raja I
14:30–15:30	Demonstration of GRADE software & entry	
	Group Photo Session	
15:30–16.00	Guidelines for Reporting DTA reviews & writing manuscript (Non- Cochrane)	Dr Leeberk Raja I
16:00–16:30	Way forward and action plan	All resource person
16:30–17:00	Open for Discussion	
17:00–17:30	Valedictory session & Vote of Thanks	