



Training of trainers (ToT) on Collaborative Research

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IndiaAlliance

Jointly organised by:

Srimanta Sankaradeva University of Health Sciences, Guwahati, Assam, India

Maternal and perinatal Health Research collaboration India (MaatHRI), University of Oxford, UK

India Alliance (DBT-Wellcome), India

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Report designed by Sarah Chamberlain, NPEU Design team.

Event Summary

'Training of trainers (ToT) on Collaborative Research' was organised in the state of Assam in India to disseminate knowledge and generate awareness about the opportunities available for local clinicians to engage in national and international collaborative research. It began with presentations from esteemed colleagues from India and the UK, with global and local experience, in various fields from scientific government advisors, to experts in funding panels, statisticians and senior epidemiologists. The second half of the day consisted of smaller group work where the participants from each college worked with their facilitator to further develop the ideas they had conceived/ prepared prior to the event to turn them into research proposals. This was an opportunity to apply key principles they had learnt in the morning sessions and adapt their work appropriately. Each of the six medical colleges then had the opportunity to present their proposal to an expert panel, with experience of chairing funding committees in India, who gave constructive feedback.

Aim

The aim of this event was to train a cadre of trainers from all six medical colleges in Assam on the importance and opportunities for collaborative research within India and internationally.

Objectives

- To raise awareness about the existing opportunities for funding, research, collaborations as well as information and guidance on how to create new opportunities.
- To inform clinicians about the processes involved in research, especially those involving national and international collaboration.
- To have an open forum about the existing barriers to high quality research in Assam and how to overcome them.
- To identify the research priorities for Assam and the key research questions.
- To introduce clinicians to opportunities available for training and research capacity building (both national and international).



Photo: Welcome address - Dr Mythili Hazarika



Photo: Inauguration ceremony - All guest speakers



Participants

We had equal representation of participants from early, mid and senior career levels.



62% of the participants were male. We will endeavour for equal representation across genders in future events.



Research background of participants

Research background / interests



Photo: Participants



Photo: Participants

Key messages from the Chief Guest

Professor Mihir K Chaudhuri, FASc, FNA (Former Vice Chancellor, Tezpur University); Adviser, Education [Rank: Minister of State], Government of Assam



Photo: Speaker, Professor Mihir K Chaudhuri

Prof. Chaudhuri is a renowned, award winning inorganic chemist, former Vice Chancellor of Tezpur University and currently, Advisor Education to the Government of Assam. He discussed the strengths and lacunae in research in India, opportunities for bio-medical research, collaborative projects and strategies to build up translational research in Northeast India. His speech conveyed a strong message to inculcate the spirit of research in clinical practice through:

- Active engagement in novel research that will contribute new scientific evidence.
- Inculcating interest in good research among postgraduate students (a responsibility of teachers, advisors and guides).
- Fostering collaborations for inter-disciplinary research.
- Advancing knowledge in research methodology.
- Overall, a proactive and honest approach to science.

Content summary from Speakers' presentations

Salient points were reiterated by the different speakers. This is a thematic summary of all the presentations:

1. Key facts and figures

- There is a gap to fill in India, and more so in Assam, in terms of developing capacity of researchers to undertake meaningful research.
 - In 2014, there were 200 researchers per million in India, compared to, for example, 4091 in the UK.
 - There is more money spent per researcher in India than in the UK. This means that research activities are concentrated in a few individuals and research organisations in India.
 - Established senior scientists in India need to pave way for young and upcoming researchers.
 - There is a need to encourage and promote young female researchers in India to achieve a gender balance in senior scientists/ academic positions.

Country	Number of researchers per million	R&D expenditure as %age of GDP	R&D expenditure per capita	Money spent per researcher \$ 000
India	200	0.87	38.35*	222.04
US	3,867	2.73	1,440.95	344.71**
China	903	2.05	269.19	241.84
UK	4,091	1.7	678.11	159.47
German	y 4,078	2.87	1,317.81	300.83
Japan	5,153	3.58	1,309.36	243.04
France	3,868	2.26	904.9	215.43
Italy	1,736	1.29	458.23	228.35

How India Stacks Up

Figures are for 2014 unless specified; * 2011, **2012 Source: Unesco Science Report & the Dept of Science & Tech

(Source: Presentation slide - Prof. Anurag Agrawal; Original source: http://uis.unesco.org/sites/default/ files/documents/unesco-science-report-towards-2030-part1.pdf)

- Hospital is a laboratory for great ideas for research topics that are relevant to the local population, and clinicians have this unique advantage.
- To reconceptualise the meaning of 'impact', to move beyond impact factor of papers and mere publishing to delivering impact on improving patient management, health and wellbeing of population, health services planning and delivery, locally and globally.
- Several clinicians in Assam do not feel that they have the adequate skills to undertake research. Thus, there is a need to identify and address structural barriers to research in addition to encouraging continuing medical education (CME) on an individual level.

2. What is collaborative research?

A continuum of scientific research

What is a Scientific Research Team?think of it as a continuum.....

Low	Level of Interaction and Int	egration High
Investigator- initiated research Investigator works on a scientific problem – largely on his or her own.	 Research Collaboration Group works on a scientific problem, each bringing some expertise to the problem. Each member works on a separate part, which are integrated at the end. The interaction of the lead investigators varies from limited to frequent with regard to data sharing or brainstorming. 	 Integrated Research Team Team works on a research problem with each member bringing specific expertise to the table. There are regular meetings and discussions of the team's overall goals, objectives of the individual on the team, data sharing, and ne steps. One person takes the lead while other members have key leadersh roles in achieving the goal.

(Source: Presentation slide - Prof. Anurag Agrawal; Original source: Bennet et al JIM, 2012)



Photo: Speaker, Professor Anurag Agrawal, Director, Institute of Genomics and Integrative Biology (IGIB), Council of Scientific and Industrial Research, India (CSIR)

Equitable partnerships

- It is important to create a shared vision with shared responsibility to co-create knowledge.
- Equitable sharing of intellectual property, recognition and credit is the basis for sustainable partnership.
- To be aware of and actively reject the concept of 'Parachute research', where researchers fly in to find answers to questions that do not have any relevance to the population on which the research is being conducted.
- It is essential to recognise the power of bidirectional capacity building where collaborators and partners can learn from each other to multiply their strengths.



Photo: Speaker, Dr Manisha Nair, Senior Epidemiologist, MRC Fellow and Chief Investigator MaatHRI, National Perinatal Epidemiology Unit, Nuffield Department of Population Health, University of Oxford

3. Research funding

Funds are available locally, but not being used. The Indian Council of Medical Research (ICMR) provides funds annually for research and researchers in Assam, but a majority of these are unspent and returned to the government. Dr Mahanta, Chair ICMC, pointed out that in addition to a lack of awareness among clinicians about available funding opportunities, there is also a dearth of high quality research proposals driven by scientific merit.



Photo: Speaker, Dr Jagadish Mahanta, Distinguished Scientist Chair, Indian Institute of Medical Research (ICMR)

Many fellowships and grants are available nationally through India-Alliance. Relevant examples provided by Wellcome Trust/DBT India Alliance Grants' Lead (details are available on the website):

- India Alliance fellowships (early career, intermediate and senior fellowships) for basic biomedical research, clinical research and public health research.
- Candidates with PhD, MD, MS, DM, MPH or equivalent degrees are eligible for applying to these fellowships.
- New funding schemes for research grants Team Science Grants, Clinical/Public Health Research Centres, Clinical Research Training Programme.
- Training workshops organised by India Alliance Research Methodology, Developing Indian Physician Scientists, Research Leadership, India Research Management Initiative, Open Research, Science Communication, Public Engagement.



Photo: Speaker, Dr Dipanwita Sengupta, Wellcome Trust/DBT India Alliance Grants' Lead

For India-UK research collaboration, it is important to be compliant with the UK goverment's overseas development assistance (ODA) criteria for research funding.

These are -

- Is the research addressing the <u>economic development and welfare of the country</u> in question?
- · Is there a development need that my project or activity is addressing?
- Is this credible or is there evidence of the need?
- · How would this project or activity be **applied in the country**?
- What would the impact of my project or activity be, and who would benefit?
- How does my project or activity contribute to sustainable development?
- · Would this lead to a reduction in poverty in a developing country?
- What would success for this activity look like?
- How would success or <u>impact be measured</u>?

Easier to secure funding, but difficult to stay funded. It is the quality and impact of research that ensures continuity of funding for an individual or a research organisation. To contribute meaningfully to science and society, it is important to focus on staying funded.



Photo: Speaker, Dr Rintu Kutum, Senior Research Fellow at CSIR-Institute of Genomics & Integrative Biology



Photo: Speaker, Mr. Prateek Deka, Senior manager, Amity University, Education Group

Outcomes

Outcomes that were achieved by the event (see participant feedback and survey results below for details)

- Generated awareness and knowledge about the opportunities available for national and international collaborative research.
- Created awareness about opportunities available for training and capacity building of clinicians from all career stages.
- Developed a cadre of trainers in all six medical colleges in Assam to disseminate information/ knowledge from the event to all faculty in their respective institutions.
- Identified the barriers to undertaking scientific research by clinicians in Assam and solutions proposed by the participants.
- Generated a list of priority research topics for the state of Assam and identified areas for research capacity building within the state.
- Identified training needs to improve research skills among clinicians in Assam.

Following the event:

- A multidisciplinary research team from the medical colleges in Assam collaborated with an Indian national research institute at Bengaluru and three UK Universities to submit an application in January 2020 to the UK's National Institute for Health Research's (NIHR) programme on Research and Innovation for Global health Transformation (RIGHT).
- Trained faculty from all medical colleges are being regularly encouraged to submit applications for fellowships and grant funding.
- Srimanta Sankaradeva University of Health Sciences, Assam announced annual 'Research paper awards' to encourage faculty in all six medical colleges to engage in high quality research.

Participant feedback from the pre and post event surveys

Response rate: 97.47% for both surveys

Research interest of participants ranged from medium to high and improved further after attending the event.



Research interest: low (score 0-4), medium (score 5-7), high (score 8-10)

Less than a third of the participants (30.5%) had any research experience but 98.3% of attendees left wanting to be involved with collaborative research.

"Feeling encouraged to carry on further and do research."

(Participant from GMCH)

"Will try to develop a passion for research." (Participant from AMCH)

98% of the participants felt that their expectations from the event were met either completely or somewhat.



Assam's research priority topics as recommended by attending participants (healthcare professionals)



64% (38/59) agreed completely that they had a better understanding of how collaborative research projects are developed and executed, with the rest of the group agreeing somewhat.



"Such type of informative and interactive ToT programme should be organised regularly" (Participant from TMC)

Barriers, as identified by participants, in undertaking scientific research as clinicians



Solutions proposed by the participants to mitigating the barriers

Infrastructure including appropriate laboratories / equipment

CME events/ training opportunities like this ToT

Balancing

Funding / financial assistance

Capacity Building / gathering interest among junior clinicians including teaching in undergraduate medical

curriculum

Collaboration and Communication among departments and institutions

CME - Continuing Medical Education

"Inter-institutional and inter-discipline approach both of institutional level and government level [to mitigate the barriers]"

(Participant from SMCH)

"Minimise administration of official formalities so doctors have more time for research" (Participant from SMCH)

"Find agencies who could look after logistics and accounts so clinicians have time to focus on science and service"

(Participant from AMCH)

Training of clinicians on biostatistics and research methodology was a key recommendation from the participants



(Participant from SMCH)

Training needs identified by the participants

List of research proposals developed and discussed by the Medical Colleges

- 1. Toxoplasmosis as a cause of seizure in women of reproductive age Assam Medical College and Hospital (AMCH)
- 2. Prevalence of non-communicable diseases and its risk factors in tribal and general population of Baksa district, Assam Fakhruddin Ali Ahmed Medical College (FAAMCH)
- 3. Emergency medicine and mental health in suicide (EMeMeHS): a cross-sectional observational study Gauhati Medical College and Hospital (GMCH)
- 4. Pre-morula stem cell therapy for non-communicable degenerative conditions, which do not have any definitive treatment at present Jorhat Medical College and Hospital (JMCH)
- 5. Adverse drug reaction monitoring in relation to anti-epileptic drug Silchar Medical College and Hospital (SMCH)
- 6. Chromosomal abnormalities in couples with bad obstetric history: A case-control hospital-based study in Assam Tezpur Medical College (TMC)

Next steps

- The faculty trained in the ToT are expected to conduct workshops in their respective institutions to further disseminate information/ knowledge about the opportunities available for collaborative research, and training and capacity building.
- Multidisciplinary research teams should be formed to further develop the proposals discussed during the event and other identified priority topics to apply for funding to national and international funding bodies.

Expected outcomes in the longer term

- PhD, post-doctoral, intermediate and senior Fellows funded by India Alliance and other national and international partners.
- Establishment of an internationally competitive research unit within Srimanta Sankaradeva University of Health Sciences with trained expert faculty from its affiliated institutions.
- Funded research projects will generate evidence on areas that are a priority to the state of Assam for improving health and wellbeing of the population.

Organising committee members

Patron

1. Prof. Dipika Deka, Vice Chancellor, SSUHS, Assam

Organising Chairpersons

- 1. Dr. Saswati Sanyal Choudhury, GMCH, Assam
- 2. Dr. Manisha Nair, University of Oxford, UK

Organising Secretary

1. Dr. Mythili Hazarika, GMCH, Assam

Treasurer

1. Rupanjali Deka, Project manager, MaatHRI, SSUHS

Executive members

- 1. Prof. Gopal Das, IIT, Guwahati, Assam
- 2. Dr. Kishore Kumar Das, GMCH and Guwahati University, Assam
- 3. Dr. Mansi Mandal, SSUHS, Assam
- 4. Dr. Swapna D Kakoty, FAAMCH, Assam
- 5. Dr. Mintu Moni Saikia, GMCH, Assam
- 6. Dr. Chimajita Sarma, AMCH, Assam
- 7. Dr. Farzana Zahir, AMCH, Assam
- 8. Dr. Gitanjali Deka, TMCH, Assam
- 9. Dr. Pranabika Mahanta, JMCH, Assam
- 10. Dr. Pran Pratim Saikia, GMCH, Assam
- 11. Dr. Sanchita B Sarma, GMCH, Assam

Others photographs from the event























Pre-Event



Date - 02/12/2019

THE SENTINEL, DATE-03.12.2019, PG NO-06 **Training of trainers** GUWAHATI, Dee 2: Uni-versity of Oxford-MaaH Il Project and Srimant Sankardeva University of Health Sciences, the oint Korth East India and Ibide Alliance (DBT – Well-come) is organizing an event Training Of Trainers (TOT) in Guwaha in concember 6. Totimis to create are search platform of academi-ics from India and United

Date - 03/12/2019



Date - 05/12/2019

Date - 04/12/2019

Post-Event





Date - 07/12/2019



Date - 07/12/2019



Post-Event



Date - 08/12/2019



Date - 09/12/2019

List of abbreviations

AMCH	Assam Medical College and Hospital
CD	Communicable Diseases
CME	Continuing Medical Education
CSIR	Council of Scientific and Industrial Research, India
DBT	Department of Biotechnology
FAAMCH	Fakhruddin Ali Ahmed Medical College and Hospital
GMCH	Gauhati Medical College and Hospital
ICMR	Indian Council of Medical Research
IGIB	Institute of Genomics and Integrative Biology
JMCH	Jorhat Medical College and Hospital
MaatHRI	Maternal and perinatal Health Research collaboration, India
МСН	Maternal and Child Health
MRC	Medical Research Council, UK
NCD	Non-communicable Diseases
ODA	Overseas Development Assistance programme
SMCH	Silchar Medical College and Hospital
SSUHS	Srimanta Sankaradeva University of Health Sciences
ТМСН	Tezpur Medical College and Hospital
ТоТ	Training of trainers

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IndiaAlliance