



DEPARTMENT OF HEALTH RESEARCH
Ministry of Health & Family Welfare
Government of India
New Delhi
www.dhr.gov.in

© Department of Health Research

Contents

Chapter 1	Introduction	1
Chapter 2	Administration and Finance	13
Chapter 3	The Assisted Reproductive Technology (Regulation) Act, 2021 and The Surrogacy (Regulation) Act, 2021	17
Chapter 4	Swachhata Action Plan (SAP) (2023-24)	21
Chapter 5	Establishment of Network of Viral Research and Diagnostic Laboratories for Managing Epidemics and Natural Calamities	31
Chapter 6	Establishment Of Multi Disciplinary Research Units (MRUs) In Government Medical Colleges/ Research Institutes	55
Chapter 7	Establishment Of Model Rural Health Research Units (MRHRUs)	77
Chapter 8	Grant-in-aid Scheme for Inter-sectoral Convergence & Coordination for Promotion and Guidance on Health Research	93
Chapter 9	Human Resource Development for Health Research	97
Chapter 10	Health Technology Assessment in India (HTAIIn)	103
Chapter 11	Development of Tools/ Support to Prevent Outbreaks & Epidemics	123
Chapter 12	Implementation of Schemes in North Eastern Region	125
Chapter 13	Centre For Evidence For Guidelines	129
Chapter 14	National Ethics Committee Registry for Biomedical and Health Research (NECRBHR)	133
Chapter 15	Indian Council of Medical Research	135
Annexure I	Budget Estimate (BE)/Revised Estimate (RE)/Expenditure for 2022-23 and 2023-24 and Budget Estimate (BE) for 2024-25 in respect of Demand no. 47- Department of Health Research	148

Chapter 1**Introduction**

- 1.1 Department of Health Research (DHR) was created as a separate Department within the Ministry of Health & Family Welfare by an amendment to the Government of India (Allocation of Business) Rules, 1961 on 17.09.2007. The Department became functional from November 2008 with the appointment of first Secretary of the Department. The aim of the DHR is to bring modern health technologies to the people through research and innovations related to diagnosis, treatment methods and vaccines for preventions; to translate them into products and processes and, in synergy with concerned organizations, introduce these innovations into public health system.
- 1.2 Mandate of DHR is:
- (i) Promotion and co-ordination of basic, applied and clinical research including clinical trials and operational research in areas related to medical, health, biomedical and medical profession and education through development of infrastructure, manpower and skills in cutting edge areas and management of related information thereto.
 - (ii) Promote and provide guidance on research governance issues, including ethical issues in medical and health research.
 - (iii) Inter-sectoral coordination and promotion of public - private – partnership in medical, biomedical and health research related areas.
 - (iv) Advanced training in research areas concerning medicine and health, including grant of fellowships for such training in India and abroad.
 - (v) International co-operation in medical and health research, including work related to international conferences in related areas in India and abroad.
 - (vi) Technical support for dealing with epidemics and natural calamities.
 - (vii) Investigation of outbreaks due to new and exotic agents and development of tools for prevention.
 - (viii) Matters relating to scientific societies and associations, charitable and religious endowments in medicine and health research areas.
 - (ix) Coordination between organizations and institutes under the Central and State Government in areas related to the subjects entrusted to the Department and for the promotion of special studies in medicine and health.
 - (x) Administering and monitoring of Indian Council of Medical Research (ICMR).
- 1.3 With a view to fulfilling its mandate, DHR has rolled out the following Schemes:
- (I) Setting-up of Nation-Wide Network of Laboratories for Managing Epidemics and National Calamities.

(ii) Development of Infrastructure for Promotion of Health Research

- (a) Establishment of Multi-Disciplinary Research Units (MRUs) in Govt. Medical Colleges/ Research Institutes.
- (b) Establishment of Model Rural Health Research Units (MRHRUs) in States.

(iii) Human Resource and Capacity Development

- (a) Human Resource Development (HRD) for Health Research.
- (b) Grants in Aid scheme (GIA) for inter-sectoral convergence & Co-ordination for Promotion and Guidance on Health Research.
- (c) Health Technology Assessment in India (HTAIn).
- (d) International Cooperation

(iv) Development of Tools/support to prevent outbreaks & epidemics.**(v) Prime Minister's Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) – Bio Security Preparedness and strengthening Pandemic Research and Multi Sector and National Institutions and Platform for One Health**

- (a) PM-ABHIM – Bio Security Preparedness and strengthening Pandemic Research and Multi Sector
- (b) Programme for strengthening Research & Development towards integrated disease control and pandemic preparedness for the National One Health Mission.

- 1.4 During the year under review, the Department has made significant progress in implementation of aforesaid schemes. 161 Viral Research & Diagnostic Laboratories (VRDLs), 115 Multi-Disciplinary Research Units (MRUs) and 34 MRHRUs were sanctioned up to 2023-24 (up to 31st March, 2024).
- 1.5 VRDL, MRU and MRHRU schemes are helping in building up a strong and effective ecosystem for carrying out health research in the country and for introduction of new technologies, new methods of treatment and products/processes into the public health system.
- 1.6 During the year, Centre for Evidence for Guidelines was established in the DHR for coordinating the formulation of Evidence Based Guidelines.
- 1.7 A total number of 230 fellowships were supported under HRD Scheme during the year 2023-24 including 47 new fellowships for the year 2023-24.
- 1.8 A total number of 514 research projects were approved and funded under the GIA Scheme since its launch in 2013-14 up to 2022-23. During the year **2023-24** a total number of **153** New research projects in the different research areas under Grant in Aid scheme are being funded.
- 1.9 In 2023-24 (till 31.03. 2024), MRUs undertook 528 and MRHRUs 66 research projects.

The Assisted Reproductive Technology (Regulation) Act, 2021 and the Surrogacy (Regulation) Act, 2021:

- 1.10 The field of Assisted Reproductive Technology (ART) has witnessed tremendous growth in recent

years, with an increasing number of couples seeking these services to fulfill their biological parenthood aspirations. However, lack of comprehensive regulatory framework led to concerns about unethical practices, exploitation of poor vulnerable woman, potential health risks and parentage issues. A need was, therefore, felt to bring forth legislation in the sector to curb the commercialization and commodification of these technologies and promote safe and ethical practices of ART & Surrogacy in the country.

- 1.11 The Assisted Reproductive Technology (Regulation) Act, 2021, and The Surrogacy (Regulation) Act, 2021, were enacted by the Parliament which have come into force with effect from 25.01.2022. The Rules and Regulations for the both the Acts have been notified. The National ART & Surrogacy Board which is the central Supervisory Board has been constituted and the National Registry is also operational. All States have constituted their respective State ART & Surrogacy Board (except 2 states) and Appropriate Authority has also been constituted by all the States (except 1 state). The UT Board and UT Appropriate Authority have been constituted in all UTs by the Central Government.
- 1.12 Both these Acts aim to establish a regulatory framework ensuring ethical practices and safeguarding the rights of all stakeholders involved. The Surrogacy (Regulation) Act, 2021, is a unique amalgamation of social, ethical, moral, legal and scientific issues. It seeks to regulate surrogacy procedure in such a way as to stop exploitation of poor vulnerable women: to ensure protection of rights of the child born out of surrogacy and to facilitate only needy infertile couple and widowed and divorced women to have child to complete their family. The Act prohibits commercial surrogacy and allows only altruistic surrogacy.

Swachhata Action Plan Activities & Special Campaign for disposing pending matters

- 1.13 Swachhata Action Plan, an inter-ministerial approach coordinated by Department of Drinking Water and Sanitation, M/o Jal Shakti was formulated and complied with, to mainstream Swachhata within the existing programmes and schemes of the Department.
- 1.14 A Special Campaign for disposing pending matters, coordinated by Department of Administrative Reforms and Public Grievances from 2nd October to 31st October, 2023 was carried out in DHR, which is being continued for the present. During this campaign an overall effort was made by the Department to dispose of pending matters like VIP References, Parliamentary Assurances, Inter-Ministerial Consultations, Public Grievances and Appeals, State Government References etc. in time bound manner. This was further converted into a weekly phenomenon. Also the SCDPM Portal of DARPG was regularly updated in this regard.

Health Technology Assessment in India (HTAIIn)

- 1.15 Health Technology Assessment in India (HTAIIn) is a sub-scheme under the umbrella scheme Human Resource and Capacity Building in the 15th Financial Commission approved for year 2021-22 to 2025-26 under the Department of Health Research (DHR), Ministry of Health & Family Welfare (MoHFW), Government of India to facilitate the process of transparent and evidence-informed decision making in the field of healthcare. HTAIIn is entrusted with the responsibility to analyze health

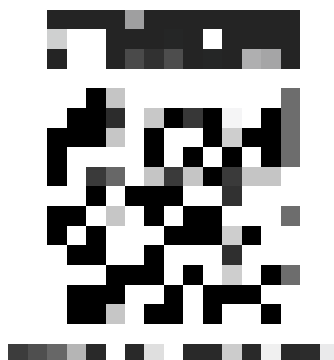
technologies viz. medicines, devices and health programmes for its cost-effectiveness, clinical-effectiveness and equity issues by means of Health Technology Assessment (HTA), and in turn help in decision making for an efficient use of the limited health budget and provide people access to the quality health care reducing their out of pocket expenditures (OOPs) on health. Established in 2017, HTAI has extended support to various verticals (e.g. Maternal Health, Child Health, TB division, State Health Departments, Ayushman Bharat Program, National Program for Blindness and NCD division etc.) of the health ministry at the center and also at state level, in evidence-based decision making. Health Technology Assessment Board has been proposed to institutionalize the structure and function of Health Technology Assessment body in India.

National Ethics Committee Registry for Biomedical and Health Research (NECRBHR)

- 1.16 DHR is the designated authority to register Ethics committees for Biomedical and Health Research under the ambit of the New Drugs and Clinical Trials Rules 2019, Drugs and Cosmetic Act 1940. Until date, around 1766 EC registration applications have been received and more than 1363 provisional certificates and around 412 final certificates have been issued to Ethics committees. Continuous efforts have been made to improve the portal to ensure users' friendliness of the portal. In addition, ICMR-DHR outreach attempts to reach various ethics committees are going on which also includes training sections and communications with various stakeholders.

Preparation of Standard Treatment Workflows (STWs):

- 1.17 Indian Council of Medical Research (ICMR), Department of Health Research (DHR) initiated a mission project of developing Standard Treatment Workflow (STWs). ICMR is continuously expanding Standard Treatment Workflows in collaboration with the NHA and the WHO country office. The ICMR, and DHR receive the topics for developing STW from NHA and experts all over the country. In the year 2018, volume-1 of STWs for 53 conditions in 9 specialties was developed, in year 2022 STW volume-2 special edition for the Tuberculosis in 3 clinical specialties comprising 18 conditions and volume-3 in 11 clinical specialties comprising 51 conditions was developed. So far, ICMR has released 125 Standard Treatment Workflows in 23 specialties. These workflows comprise symptoms, signs, diagnostics, treatment, etc. for concerned diseases. These are available on the ICMR website (<https://icmr.gov.in>), mobile apps on Android at Google Play store and iOS platform at Apple store, hardbound copies, posters and scannable QR Codes as given below:



Conditions	STW	Conditions	STW
Cardiology	6	Dermatology	14
ENT	7	Endocrinology	6
Nephrology	4	Gastroenterology	4
Neurology	6	General Surgery	5
OBG	6	Neonatology	10
Paediatric	7	Oncology	3
Psychiatry	8	Ophthalmology	3
Pulmonology	4	Orthopaedics	2
Urology	5	Paediatric Surgery	5
Extra Pulmonary Adult TB	10	Infertility	1
Paediatric Pulmonary TB	5	Genetic Disorders	1
Invx. & Rx TB	3	Total	125

- 1.18 For its wider dissemination and implementation, collaborative efforts have been initiated by the National Health Authority to convene the regular meetings with state health authorities and tertiary care hospitals, wherein the session on STW are conducted regularly. Besides this, NHA is also using the STW as the clinical guidance document to prepare their reimbursement package under the Ayushman Bharat Scheme.
- 1.19 A Memorandum of Understanding (MoU) has been signed with the National Institute of Health and Family Welfare (NIHFW) to strengthen healthcare through the development and implementation of Standard Treatment Workflows (STWs) and other academic and research collaborations. This partnership underscores their commitment to enhancing healthcare standards and fostering innovative research for better health outcomes nationwide.
- 1.20 Apart from this, we will collaboratively approach the NHSRC to reach physicians in both public and private systems, and the NMC to engage with medical colleges, faculty, and postgraduate students. Additionally, we will work with national associations such as IMA, IAPSM, IPHA, and other specialty associations to ensure comprehensive outreach and collaboration.
- 1.21 Further, the development of STWs Volume-4 in 5 clinical specialties comprising 32 conditions is in progress along with a revamped mobile application.

Conditions for Volume 4	STWs
Orthopaedics	11
Neurosurgery	3
Interventional Radiology	7
CTVS	5
Pediatric Cardiology	6
Total	32

National List of Essential Medicine (NLEM)

- 1.22 The Potential National List of Essential Medical Devices was discussed with Secretary, Health in presence of Dr. Rajiv Bahl, Secretary DHR and DG, ICMR, Dr. Rajesh S Gokhale, Secretary, Department of Biotechnology, Dr. Arunish Chawla, Secretary, Department of Pharmaceuticals, Ministry Of Chemicals And Fertilizers and representative of DGHS, Ministry of Health and Family". The members discussed that the aim behind formulating essential medicine list (EML) is to ensure that these medicines are available in adequate amounts, in appropriate dosage forms and strengths with assured quality at all times in a health care facility (Primary, Secondary and Tertiary care centre). However, price regulation was not a primary purpose of the same. The potential medical device list may not be paired with pricing. However, the further guidance on the matter is awaited from MoHFW.

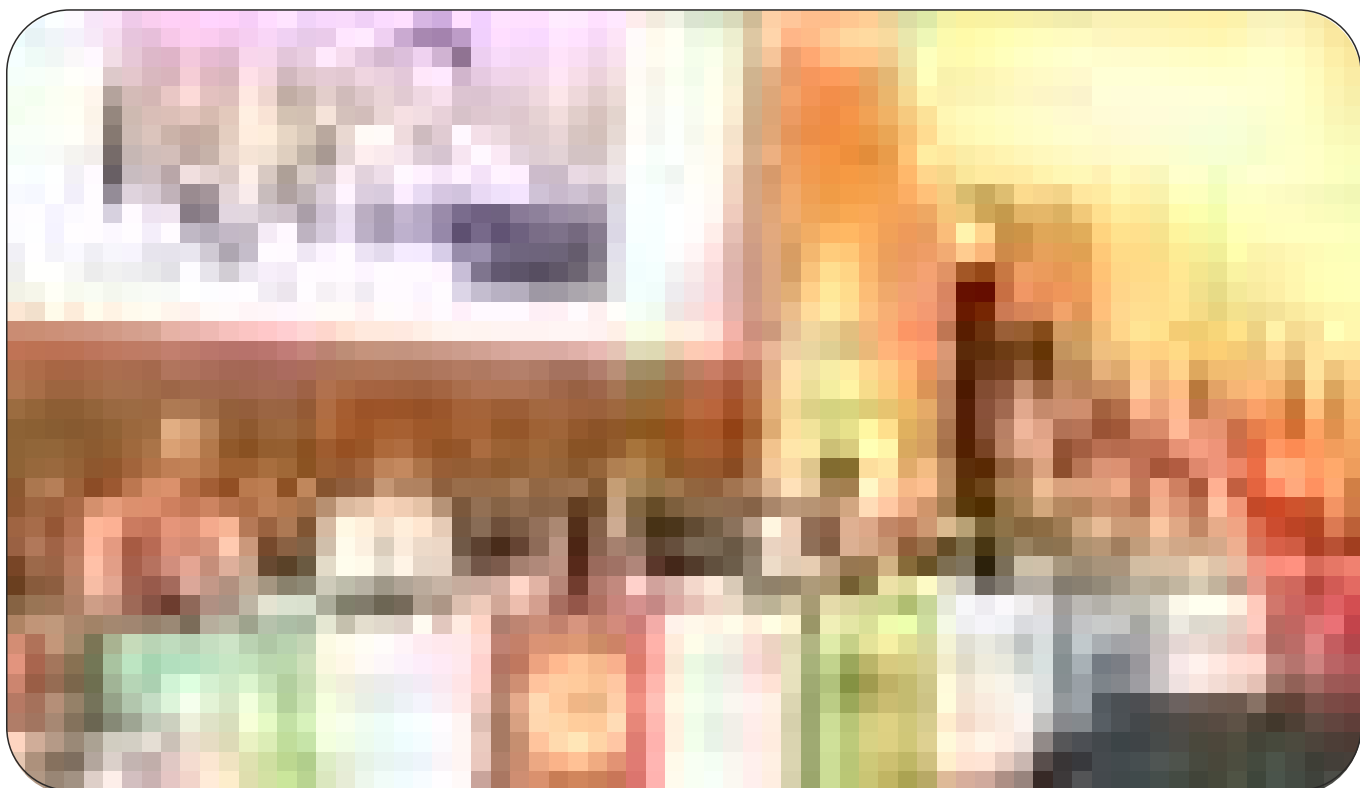
DHR-ICMR has been committed towards TB elimination.

- 1.23 ICMR initiated India TB Research Consortium (ITRC), a flagship programme of ICMR and DHR to tackle TB in a mission mode to enable the national Programme to achieve the target of 'End TB 2025'. The significant achievements are as below:

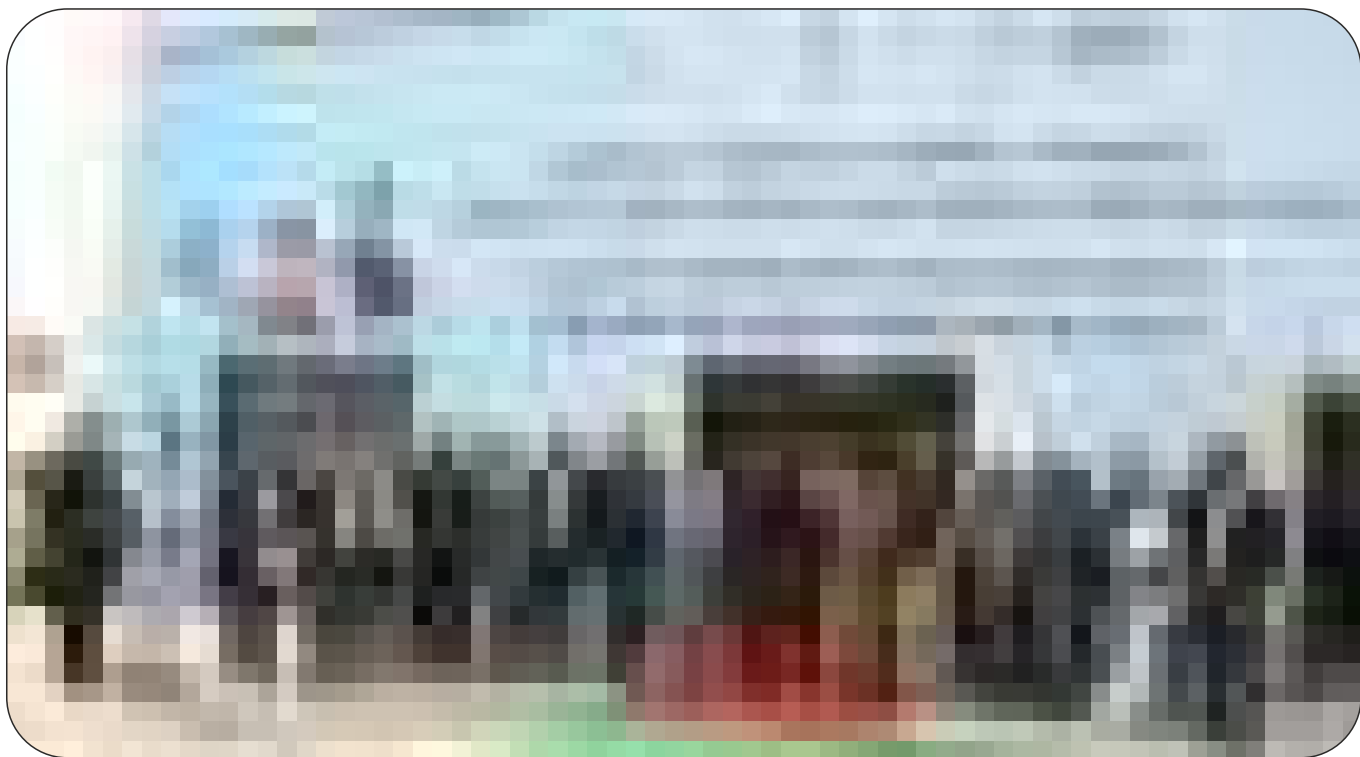
- **Diagnostics:** Two new cost effective Make in India tests developed and recommended for use under NTEP:
 - **TrueNat (M.TB & Rif.)** validated for detection of TB/MDR-TB paediatric TB and Extrapulmonary TB (in addition to pulmonary TB) and is currently used under NTEP.
 - **PathDetect M.TB Rif. & INH** validated for detection of TB/MDR-TB (detects resistance to Rifampicin & INH both)
 - Three **new kits** validated and recommended for use under NTEP i.e
 - a) TB Detect for improved smear microscopy to strengthen microscopic detection at periphery
 - b) Sputum transportation kit for bio-safe sputum transportation of sputum at room temperature
 - c) DNA extraction kit for extracting DNA from the transport kit for Line probe assay DST.

- **C-Tb (New Skin test for Latent TB):** ICMR validated more specific new skin test C-Tb for detection of latent TB in adult population more than 18 yrs under the NTEP.
 - **C-Tb** was also validated for children less than 18 yrs of age and has been found safe and effective in detecting latent TB in children < 18 yrs of age.
- **Standard Treatment workflow for Tuberculosis:** Standard Treatment workflow (Book, Posters & mobile App) for paediatric **pulmonary TB and Extra-pulmonary TB** were developed for use at all levels of health care to facilitate management of paediatric and Extrapulmonary TB under NTEP.
- **Quality Management System:** An evidence based Quality Management Plan with well-defined modules and processes to improve quality of TB diagnosis at Govt and private Laboratories under programme has been developed and referred to NTEP.
- **AI tool for detection of abnormal X-rays** from normal X-rays for screening of TB has been developed jointly by ICMR and IPR, DAE. The tool has sensitivity and specificity of more than 90% and is ready for deployment under nTEP
- **Therapeutics**
 1. **For Drug sensitive TB:** ICMR recommended use of high dose rifampicin (25mg/kg BW) for Drug sensitive TB in the current standard treatment used under NTEP for better treatment outcome.
 2. **For XDR-TB:** All oral 6-9 months 4 drugs short regimen with i.e Bedaquiline, Delamanid, Clofazimine and Linezolid found effective for treatment of XDR-TB. Recommended to NTEP
 3. **For DS-TB:** A clinical trial to evaluate safety and efficacy of piperine 225mg with standard anti TB treatment in newly diagnosed sputum positive drug sensitive pulmonary TB adult patients revealed that there was early culture conversion at 2nd and 3rd week with addition of piperine. The data on AE was comparable between control and intervention arms.
 4. **For DS-TB:** a 4 month clofazimine containing regime (clofazimine in place of ethambutol in DS-TB) was evaluated for DS-TB and the results showed that the shorter 4 mth clofazimine containing regimen is safe. The regimen also led to early culture conversion and can be used for treatment of DS-TB patients under NTEP. The ICMR expert committee has recommended that the regimen can be used under NTEP in operational research mode.
- **Vaccines:** A Phase III regulatory clinical trial for evaluating the safety and efficacy of two TB vaccines: VPM1002 and MIP (indigenous vaccine), as against Placebo is ongoing at 8 main sites with 10 sub-sites was initiated in Mid 2019. The trial completed enrolment of 12717 participants in December 2020 & follow-up has been completed. The FU of the participant suspected to have TB in last FU is being completed along with data cleaning.

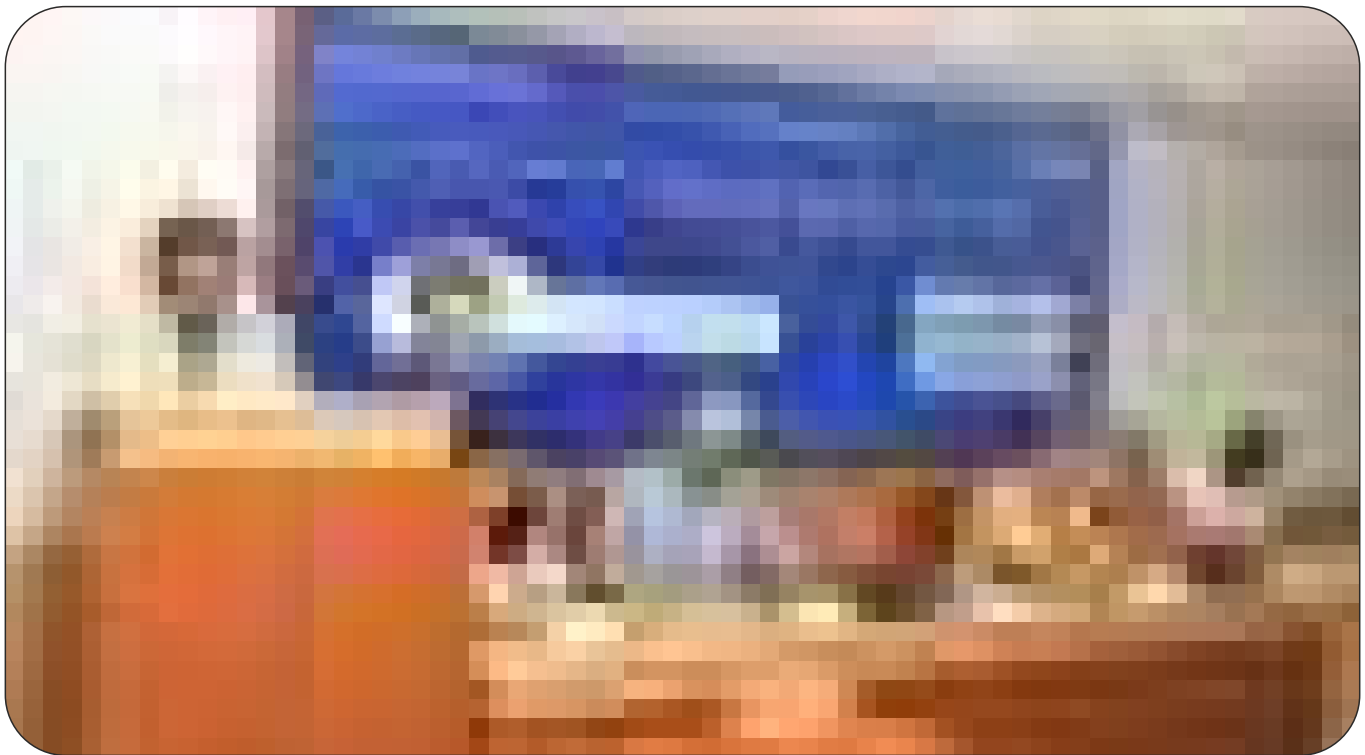
- **Implementation Research:** Two evidence based active/intensified case finding strategies for improving TB case detection under NTEP recommended:
- ☑ **In severely malnourished children admitted to Nutritional Rehabilitation Centers (NRC)** through proper training and use of new molecular tests.
- ☑ **In High-risk groups in secondary care hospitals:** Routine screening for symptoms (cough/fever, hemoptysis, weight loss, night sweats) & Chest X-testing for high risk groups visiting health care facilities for any reason i.e all patients aged 60 years or more, diabetics, HIV +ve, admitted patients in medical wards. One spot sputum in case of symptomatics and X-ray positives has been found to be equally effective as 2 spot and one overnight sputum sample.
- ☑ A large RCT in a community with high prevalence of undernutrition has demonstrated that nutritional support for 6 months to the contacts reduced TB incidence by 39%. and nutritional support given to patients with pulmonary tuberculosis of which the majority were underweight can potentially reduce mortality by more than one-third.
- ☑ **Screening of TB & LTBI in rickshaw drivers & construction workers;**
Prevalence of LTBI - 14-31% across the five sites in Delhi ; 07 of 4000 participants had TB In construction workers in Bangalore: 35/4037 were TST positives.
- ☑ **TB preventive therapy (TPT) study was completed across 9 sites in India.** Results in retrospective data showed 35% TPT coverage at Pan India level, Tailored interventions were introduced and the prospective data showed that The TPT coverage spiked upto 98%.
- ☑ **Ready to Use Therapeutic Food** was given as adjunct to standard DOTS therapy among adult malnourished PTB pts in Ballabgarh. IT was found to have high acceptability and negligible S/E; EDNS (Energy Dense nutritional supplement): for was given to study effect on cure rate. The results indicated Mean weight gain: 1.9 ± 3.3 Kg in intervention arm as compared to control in 2 months. ($p=0.040$) 6 months FU showed increase of 4.6 ± 4.1 Kg in intervention arm as compared to weight at enrolment. ($p=0.021$)
- ☑ **Active case finding was done in school children with support of RBSK collaboration**
>65000 students were screened through RBSK members and identified 2280 per lac presumptive TB cases of which 467 were tested and 11 cases were found positive. RBSK is a cost effective and viable model of intersectoral collaboration for TB screening.
- ☑ **Active case finding was initiated in villages with trained NYKS Youths at 6 site.**
>70000 population screened; > 400 tested positive and are on ATT and indicated that NYKS is a viable cost effective model of intersectoral collaboration for ACF in TB.
- ☑ A demonstration project on reduction of TB in saharia dominated district was undertaken. The use of new technologies like molecular test and hand held x-ray at door step and active case finding in villages and tele-OPD resulted in average % reduction in new TB cases (after 12 months intervention) by 49-95% in different blocks.



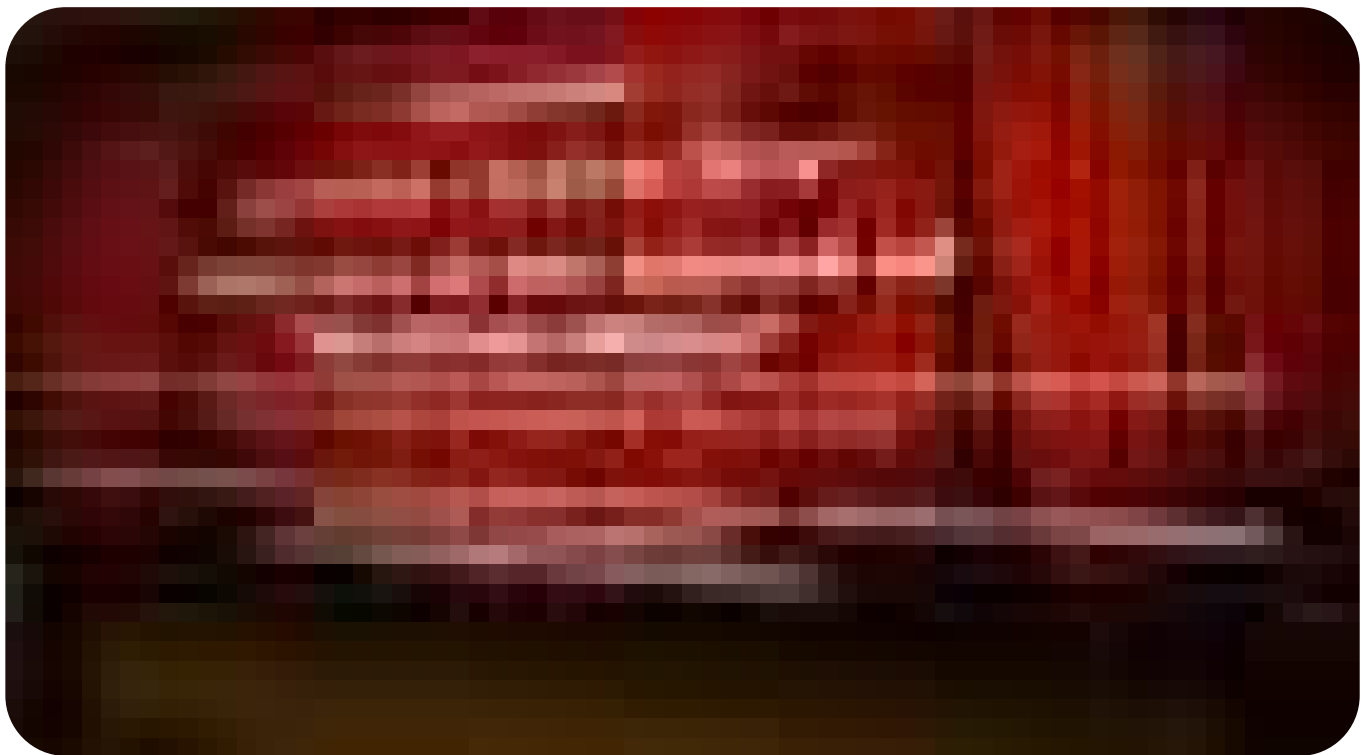
2nd G20 Health Working Group meeting held at Goa



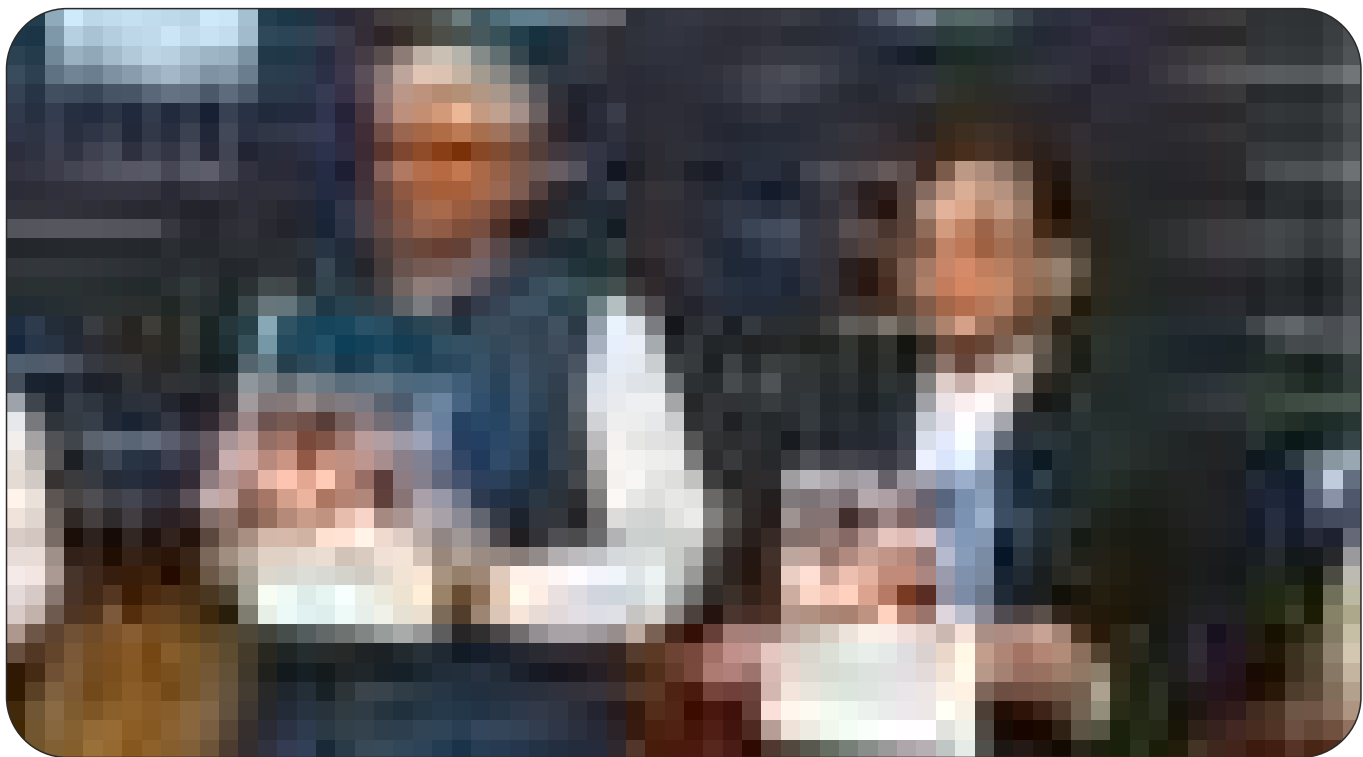
Inauguration and foundation stone laying of new facilities at ICMR-NIMR, ICMR-NARI & ICMR-NITM



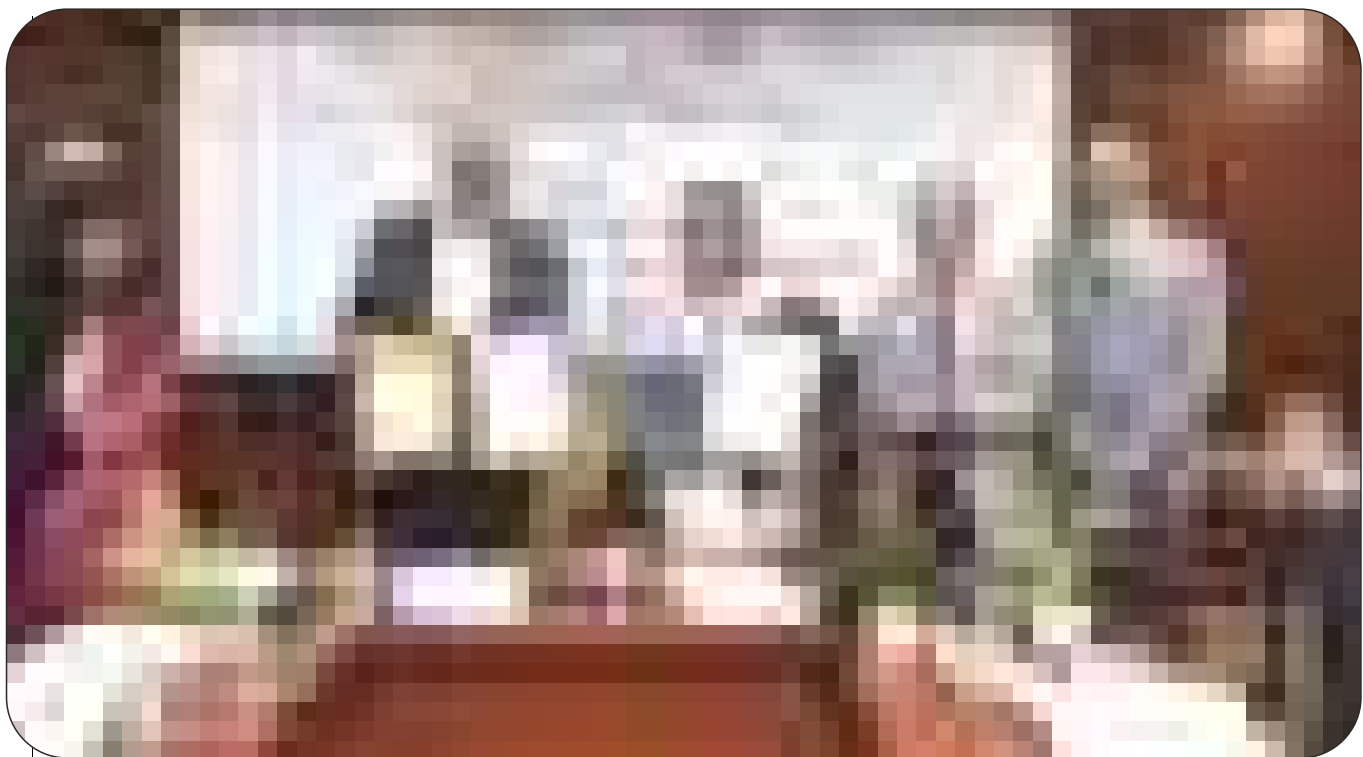
Launch of Innovative TB Health Technologies sharing Platform



Launch of MedTech Mitra, an initiative to handhold the innovators to develop indigenous technologies



Release Event of National List of Essential Assistive Products (NLEAP)



Signing of MoA with AcSIR regarding formation of Faculty of Medical Research at ICMR

Taking healthcare delivery to remote and hard to reach areas using Drones



Chapter 2

Administration and Finance

- 2.1 The Department of Health Research is operating many schemes to fulfill its mandate besides administering Indian Council of Medical Research (ICMR), an autonomous organisation of the Department. Presently, DHR has a total of 62 sanctioned posts in different grades with incumbency position as under:

(as on 31.03.2024)

S.No.	Name of the post	Total sanctioned strength	Incumbency position	Vacancy position
1.	Secretary DHR	1	1	0
2.	Joint Secretary	2	2	0
3.	Director/Deputy Secretary	4	3	1
4.	Principal Staff Officer	0	1*	0
5.	Sr. Principal Private Secretary	0	1*	0
6.	Scientist F	2	0	2
7.	Scientist E	4	0	4
8.	Scientist D	7	1	6
9.	Scientist C	7	2	5
10.	Under Secretary	5**	3	2
11.	Principal Private Secretary	0	3*	0
12.	Assistant Director	1	0	1
13.	Section Officer	7**	3	4
14.	Scientist B	2	0	2
15.	Private Secretary	2	0	2
16.	Assistant Section Officer	14**	9	5
17.	Junior Translation Officer	1	1	0
18.	Personal Assistant	2	1	1
19.	Typist (Hindi)	1	0	1
		62	31(5*)	36

* 05 incumbents of the Central Secretariat Stenographer service have been posted beyond the sanctioned strength for these posts.

** 01 post of Under Secretary, 01 post of Section Officer and 03 posts of Asst Section Officer have been sanctioned by Ministry of Finance and are under process of encadrement in the Central Secretariat Service (CSS).

- 2.2 The posts of Scientists in DHR are to be filled up on Deputation including short term contract (ISTC). Applications were called for these posts and one Scientist D and 02 Scientist C have joined Department of Health Research in March 2024. The posts of Scientists in DHR have been filled up for the first time since the creation of these posts.
- 2.3 **Creation of separate Cadre of the Department of Health Research:** The Department of Health Research was created in the year 2007 under the Ministry of Health & Family Welfare (MoHFW). Since, its creation in 2007, the Department has grown manifold in terms of duties and responsibilities and also manpower. With a view to ensure efficiency, better management of records, manpower etc., a proposal was initiated for creating a separate cadre for DHR. The proposal is at the final stages of the approval. This step is expected to enhance the efficiency of the Department.
- 2.4 **Improving the efficiency in decision making through Delegation of Financial Powers:** With a view to increase efficiency and reduce channels of clearance, order of delegation of financial power of HoD have been streamlined. Further, orders for delegation of financial powers in respect of Director/ DS (Admn) and Head of Office were issued for the first time.
- 2.5 **Capacity Building Initiatives:** The “Mission Karmayogi” has been launched by the Government to promote role based capacity building with the goal of offering a wide range of learning resources on the iGOT Karmayogi platform. All the officials/employees (including contractual) of the Department of Health Research have already been registered on the portal. In compliance with DoPT instructions, all DHR officials/ employees are being continuously encouraged to use the portal for capacity building and also to complete 6 mandatory online courses on the iGOT platform.
- 2.6 **Cyber Security of Departmental portals/ websites:** With a view to ensure security audit of applications, websites, portals of the Department, the services of 'IT Security auditing organisations' were engaged, which are on the panel of Indian Computer Emergency Response Team (CERT-In), under the Ministry of Electronics & Information Technology. The vulnerabilities in the websites of the Department were identified and the Security gaps were addressed.
- 2.7 **On boarding of DHR on the PM Gati Shakti NMP portal:** PM GatiShakti National Master Plan portal is a web-based, customized GIS platform to bring various Central Ministries and States/ UTs together for integrated planning and coordination of Government projects. Initially, the portal involved only the infrastructure Ministries of GOI and subsequently, the Social Sector Ministries, including DHR have also been onboarded onto the PM GatiShakti NMP platform. Since the onboarding of DHR on the portal, data layers of the Lands and buildings of ICMR and its institutes,

Multi disciplinary research units, Model rural health research units, Viral Research diagnostic labs and HTAIn Resource Centres/ DIAMONds Centres have been uploaded on the portal.

- 2.8 **Complaints Committee for prevention of Sexual harassment of Women at work place:** Department has setup a Complaint Redressal Mechanism to look into the matters/ cases of sexual harassment of female employees of the Department as per the extant instructions of Government of India.
- 2.9 **Grievance Redressal Mechanism:** The Department has a robust Grievance Redressal Mechanism in place. The grievances received on the CPGRAMS portal were resolved in a satisfactory and timely manner.
- 2.10 **E-Governance Initiatives:** The Department has taken the following E Governance measures:
- I. eHRMS 2.0 (Electronic Human Resource Management System) has been implemented in the Department which has made the HR management processes more efficient.
 - II. As per the General Financial Rules, The Department of Health Research uses the GeM portal for procurement of Goods and Services in a transparent, efficient and cost effective manner.
 - III. VPN facility has been provided to the officers to facilitate faster disposal of work.

FINANCE:

- 2.11 Allocations and Expenditure from 2015-16 to 2019-20, 2020-21 (14th Finance Commission period) and from 2021-22 beginning with the 15th Finance Commission period, are as follows:

(Rs. in Crores)

Year	BE	RE	Actual Expenditure
Total (14 th Finance Commission period)	7,362.97	7,793.43	7,709.95
2020-21	2,100.00	4,062.30	3,124.59
2021-22	2,663.00	3,080.00	2,690.60
2022-23	3,200.65	2,775.00	2,432.11
2023-24	2,980.00	2,892.83	2867.91 (provisional)
2024-25	3,301.73	-	-

A statement indicating the scheme-wise BE/RE/actual expenditure for 2022-23 and BE/RE/ expenditure (provisional) for 2023-24 and BE 2024-25 in respect of Demand No.47-Department of Health Research is given at **Annexure-I**.

Audit Observations:

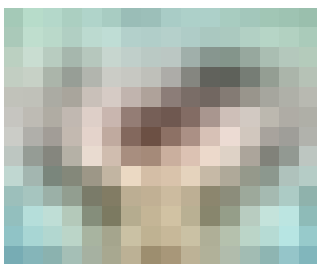
- 2.12 There was no PAC Para pertaining to the Department of Health Research (DHR) during the year 2023-24.
- 2.13 There were 11 CAG Paras pertaining to the Department of Health Research (DHR) during the year 2023-24.

Chapter 3

**The Assisted Reproductive Technology (Regulation) Act, 2021
and The Surrogacy (Regulation) Act, 2021**

3.1 The Assisted Reproductive Technology (Regulation) Act, 2021 and The Surrogacy (Regulation) Act, 2021 came into force w.e.f. 25th January 2022.

3.2 Objectives of The Assisted Reproductive Technology (Regulation) Act, 2021 and The Surrogacy (Regulation) Act, 2021



(i) The ART Act, 2021 aims to regulate and supervise the assisted reproductive technology clinics and the assisted reproductive technology banks, prevention of misuse, safe and ethical practice of assisted reproductive technology services to commissioning couple/single women for addressing the issues of reproductive health where assisted reproductive technology is required for

becoming a parent or for freezing gametes, embryos, embryonic tissues for further use due to infertility, disease or social or medical concerns and for regulation and supervision of research and development and for matters connected therewith.



(ii) The Surrogacy Act, 2021 is an Act to constitute National Assisted Reproductive Technology and Surrogacy Board, State Assisted Reproductive Technology and Surrogacy Boards and appointment of appropriate authorities for regulation of the practice and process of surrogacy and for matters connected therewith or incidental thereto. The Act aims to provide safe and ethical practice of

Surrogacy services for providing bliss of child to needy intending couple/intending women (divorcee or widow) and at the same time ensuring safety of donor & surrogate mother and also future/rights of the child born through surrogacy.

3.3 The National Registry for the purposes of both the Acts has been constituted and made operational with effect from 22.04.2022 under DHR. An application form has been devised on the National Registry portal and all clinics / banks can access the portal and use the application form for applying for registration under the Acts to the concerned State/UT Authorities. The downloaded filled in PDF form, duly signed along with registration fee, is required to be submitted to the State/UT Health Deptt. for the purpose of registration. The access of the National Registry Portal for viewing has also been given to all the States/UTs. .



3.4 The National Assisted Reproductive Technology and Surrogacy Board (National Board) was constituted on 4th May 2022. The Chairperson of the National Board is Hon'ble Minister of Health and Family Welfare. The Board discharges various important functions namely:-

- (a) to advise the Central Government on policy matters relating to surrogacy.
- (b) to review and monitor the implementation of the Act, and the rules and regulations made there under and recommend to the Central Government, changes therein.
- (c) to lay down the code of conduct to be observed by persons working at surrogacy clinics.
- (d) to set the minimum standards of physical infrastructure, laboratory and diagnostic equipment and expert manpower to be employed by the surrogacy clinics.
- (e) to oversee the performance of various bodies constituted under the Act and take appropriate steps to ensure their effective performance.
- (f) to supervise the functioning of State Assisted Reproductive Technology and Surrogacy Boards; and
- (g) such other functions as may be prescribed.

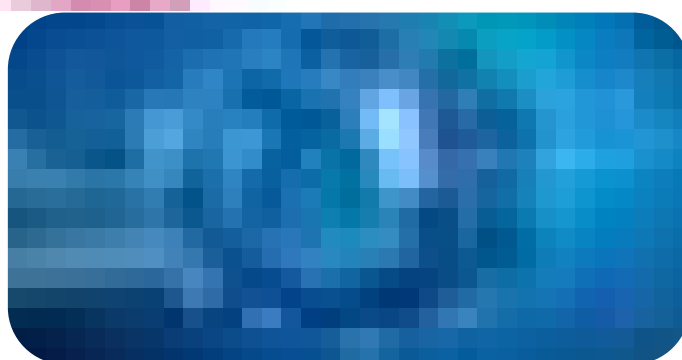
3.5 The UTs Appropriate Authority and Board with or without legislature have been constituted by the Central Government on 4th May, 2022. All the States have constituted their respective State Boards (except 2 States) and State Appropriate Authorities (except 1 State). The appropriate authority discharges the following functions, namely:—

- (a) to grant, suspend or cancel registration of a surrogacy clinic.

- (b) to enforce the standards to be fulfilled by the surrogacy clinics.
 - (c) to investigate complaints of breach of the provisions of this Act, rules and regulations made there under and take legal action as per provision of this Act.
 - (d) to take appropriate legal action against the use of surrogacy by any person at any place other than prescribed, suo moto or brought to its notice, and also to initiate independent investigations in such matter.
 - (e) to supervise the implementation of the provisions of this Act and rules and regulations made there under.
 - (f) to recommend to the Board and State Boards about the modifications required in the rules and regulations in accordance with changes in technology or social conditions.
 - (g) to take action after investigation of complaints received by it against the surrogacy clinics.
 - (h) to consider and grant or reject any application under clause (vi) of section 3 and sub-clauses (a) to (c) of clause (iii) of section 4 within a period of ninety days as per the Act.
- 3.6 The Assisted Reproductive Technology (Regulation) Rules, 2022 and Surrogacy (Regulation) Rules, 2022 have been notified on 7th June 2022 and 21st June 2022 respectively.
- 3.7 The National Assisted Reproductive Technology and Surrogacy Board (Appointment of Expert Members by Nominating) Rules, 2022 were notified on 16th June, 2022.
- 3.8 The State Assisted Reproductive Technology and Surrogacy Board (Appointment of Expert Members) Rules, 2022 were notified on 17th June, 2022.
- 3.9 The Assisted Reproductive Technology Regulations, 2023 and the Surrogacy Regulations, 2023 have been notified on 5th April, 2023.
- 3.10 Use of Donor of Gametes for availing Surrogacy in India- Notification dated 14.3.23 regarding prohibition of use of donor gamete was substituted vide Notification dated 21.2.2024, Surrogacy (Regulation) Amendment Rules, 2024 thereby permitting the use of donor gametes for availing Surrogacy in India when the intending couple suffers from medical indication subject to the condition that the child to be born through surrogacy must have at least one gamete from the intending couple.
- 3.11 A total of 570 No objection certificates have been issued by DHR seeking permission of the National Board for transfer of own gametes and embryos for personal use within or outside India.

- 3.12 A total of 8029 forms have been downloaded from the National Registry's portal and used by DHR for applying for registration to the State/UT Appropriate Authority (ART Clinics- 5557, ART Banks- 1470 & Surrogacy Clinics- 1002).

The National ART & Surrogacy Portal



Chapter 4**Swacchta Action Plan (SAP) (2023-24)**

- 4.1 Cleanliness is given adequate attention in the day-to-day activities of the Department and is ensured through strict supervision and monitoring. However, special focus was laid during the Special Campaign 3.0 to spread the message to all the field units with various outreach activities.

Swacchta Action Plan (SAP) (2023-24)

- 4.2 SAP is an inter-ministerial approach coordinated by Department of Drinking Water and Sanitation, M/o Jal Shakti to mainstream Swachhata within the existing programmes and schemes of Ministries and the Departments. The various important components included in SAP for DHR are as under:-
- i. Swachhata Pledge
 - ii. Replacing damaged and dirty dustbins with the new ones.
 - iii. Renovating all the washrooms of the DHR.
 - iv. Disposing e-waste and other scrap material in ecofriendly method.
 - v. Organizing a cleanliness session for all the employees of DHR.
 - vi. Refurbishing Swachhata Wall of DHR.
 - vii. Organizing Swachhata Slogan Competition in DHR.
 - viii. Organizing Clean Desk Competition in DHR.
 - ix. Digitization of remaining non-digitized records and weeding out physical records.
 - x. Placing more plants with pots in DHR.

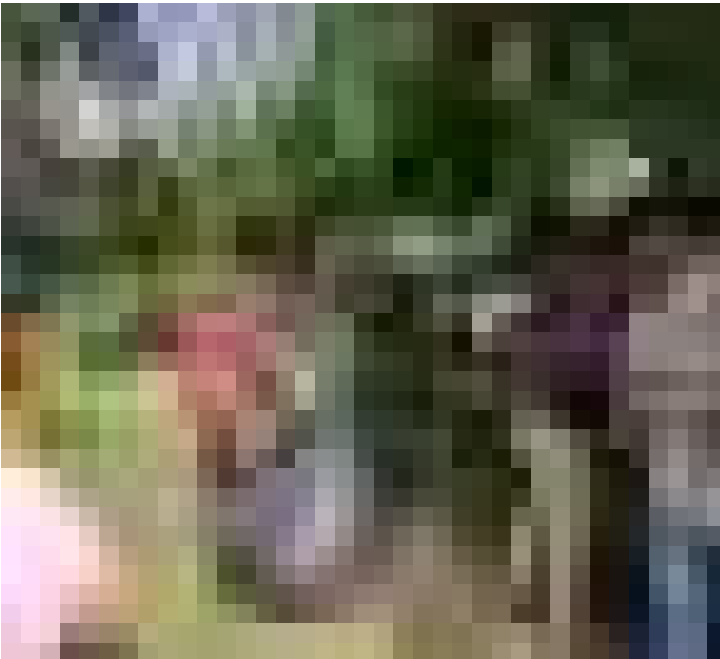
Swacchta Pakhwada (1st to 15th April, 2023)

- 4.3 Department of Health Research also observed Swacchta Pakhwada from 1st to 15th April, 2023 with following Action Plan:-
1. Taking Swachhata Pledge by every official in DHR including disposal of e-waste.
 2. Refurbishing of Swachhata Wall in DHR
 3. Swachha Desk Drive for the all the officials
 4. Swachhata Slogan Competition
 5. Repairing of floors in DHR.
 6. Installation of Sanitizer Dispenser Machine in DHR.
 7. Whitewash of walls of corridor area in DHR.

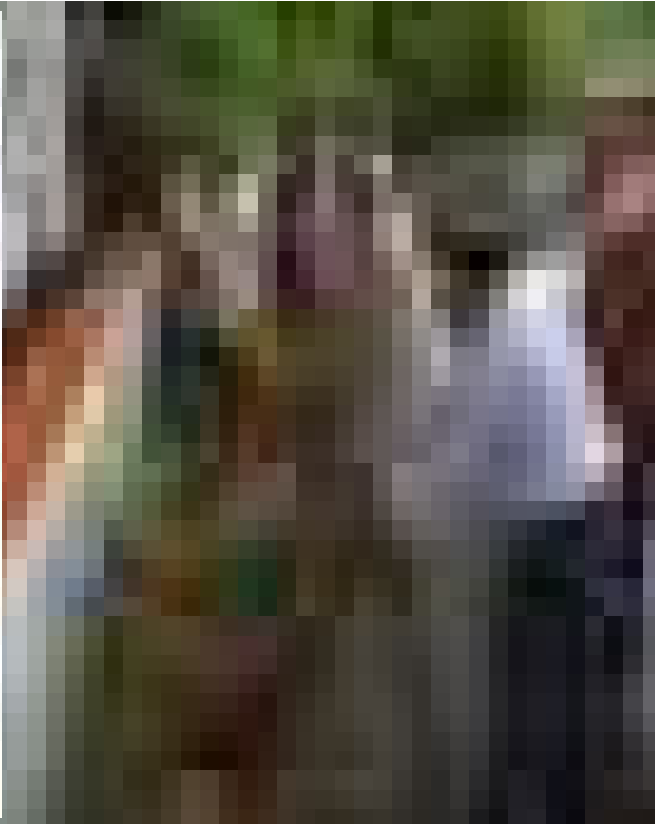
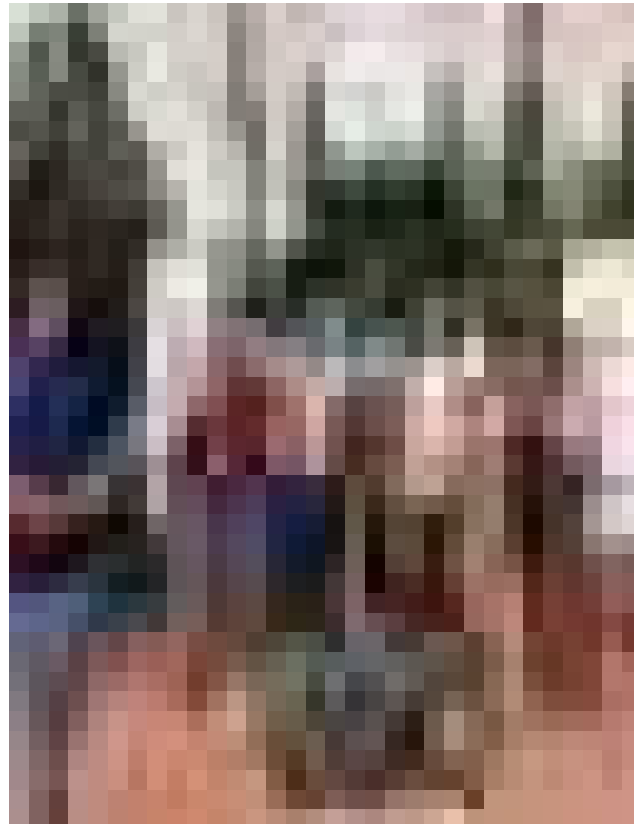
Special Campaign 3.0

- 4.4 Special campaign for Disposal of Pending matters' (SCDPM 3.0) under the aegis of Department of Administrative Reforms & Public Grievances (DARPG) was implemented in DHR from 2nd to 31st October, 2023. This Campaign was preceded by preparatory phase from 15th to 30th September, 2023. The Department sensitized the officers, mobilized the ground functionaries, identified pendency in various categories (such as MP references, Parliament Assurances, Public Grievances, PMO references), identified the Campaign sites, identified scraps and redundant materials. The identified pendencies were disposed of accordingly.
- 4.5 The outdoor cleanliness drive under the aforesaid campaign has been successfully conducted in 28 Field units/Establishments of DHR. The active participation of DHR and its field units was also depicted through various tweets and retweets from the twitter handle of DHR. Digitization of all physical files in DHR is a regular phenomenon aiming paperless office.
- 4.6 Swachhata hi Seva' campaign was organised in the department from 15th September to 2nd October 2023 and Swachhata Divas was celebrated on 1st October, 2023. Several Cleanliness drives were conducted in the department and ICMR and its Institutes, VRDL Units and in MRHRU/MRU units across India. Activities executed on 01.10.2023 were photographed and uploaded on the 'Swachhata hi Seva' portal administered by Department of Drinking Water & Sanitation along with MoHUA.
- 4.7 As per the Government of India initiative, a special campaign for Swachhata Pakhwada was organized at ICMR and its institutes. ICMR and all its 27 Institutes/Centres/Field Stations organized special events during the campaign, including both indoor and outdoor activities. These activities included tree plantation programs, awareness programs in schools, colleges and model colony clinics, provision of cleaning materials to school and college officials, felicitation of housekeeping staff, cleaning of public spaces, and cleaning of campus areas. ICMR and its institute actively participated in *Shramdaan* and *Swachhata Pledge*. Various types of activities such as distribution of sanitary napkins, dustbins, sanitizers were also taken. *Safaikarmacharis* were also felicitated at the occasion. During the Special Campaign 3.0, ICMR and its Institutes/Centres freed approximately 7,000 square feet of space across all 27 Institutes/Centres. Five ICMR institutes—ICMR-BMHRC, Bhopal; ICMR-NIRRH, Mumbai; ICMR-NIV, Pune; ICMR-VCRC, Puducherry; and ICMR-NIRT, Chennai - were selected for the Swachhata Pakhwada Award for the year 2023. The photographs of Swachhata drives are in the following pages.

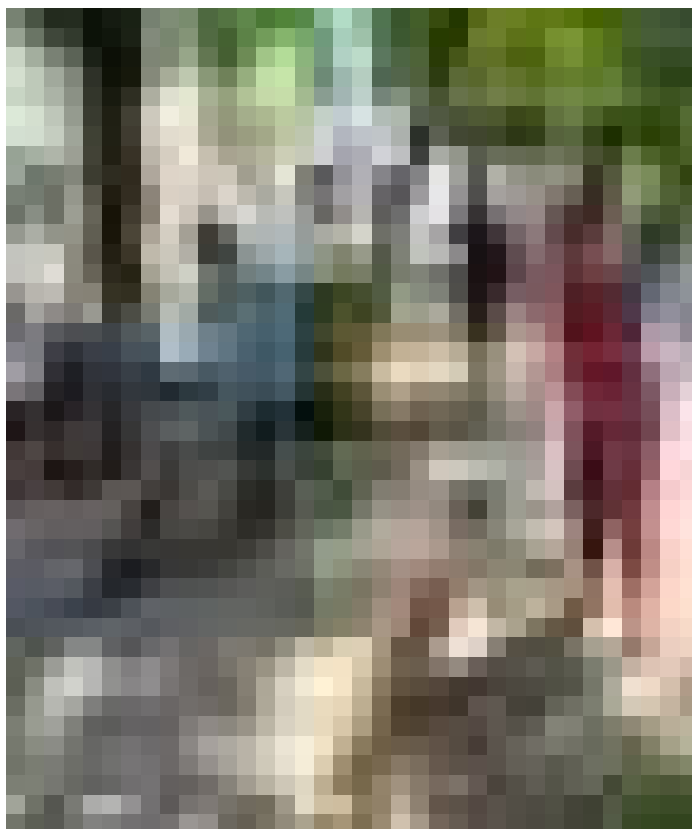
1. Department of Health Research, New Delhi



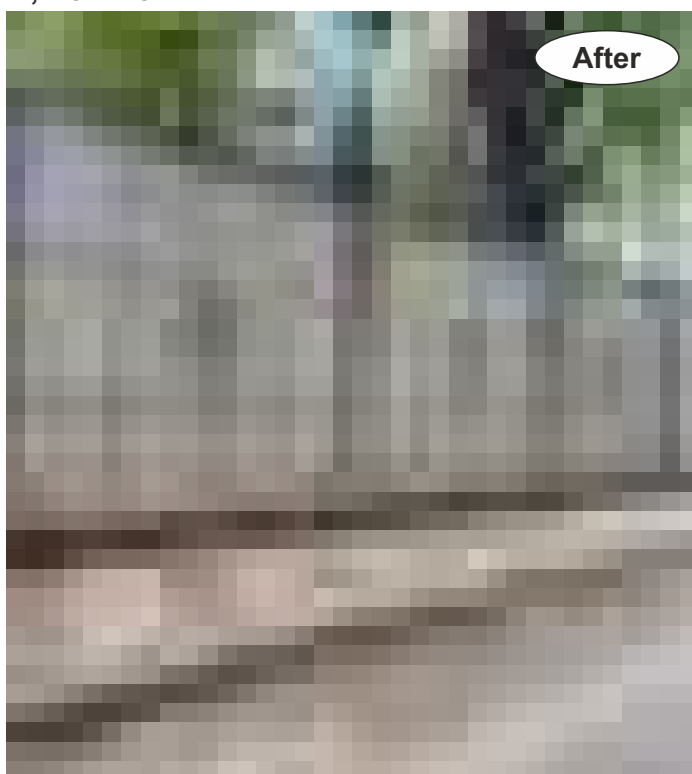
2. ICMR Headquarters, New Delhi



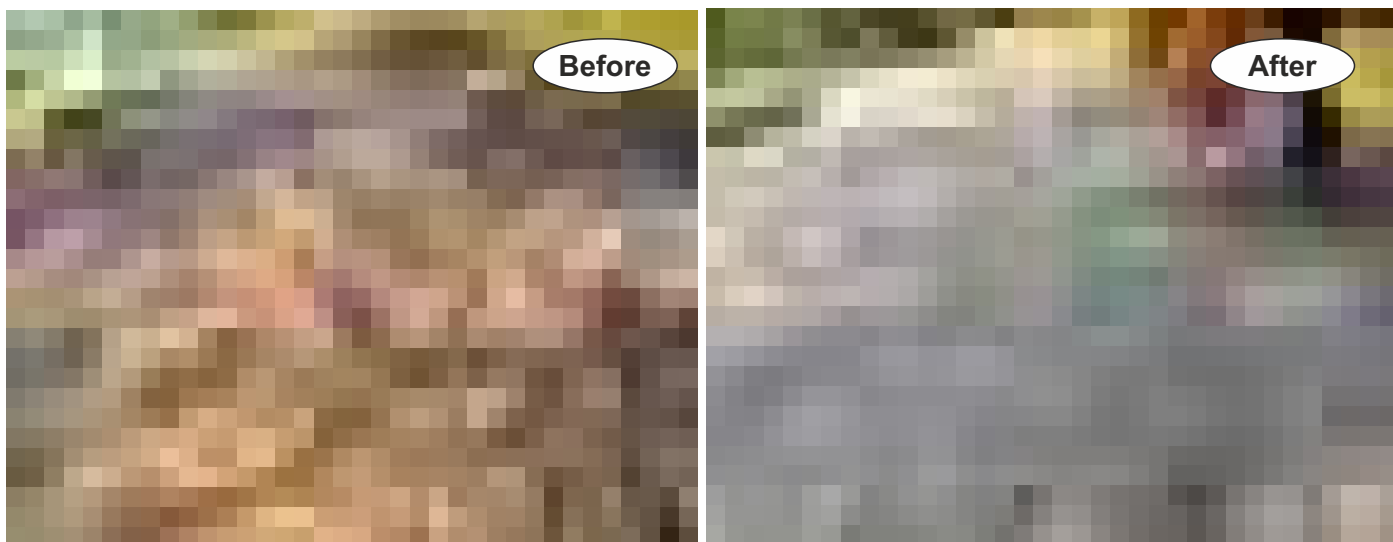
3. ICMR- NIOH, Ahmedabad



4. ICMR- NIP, New Delhi



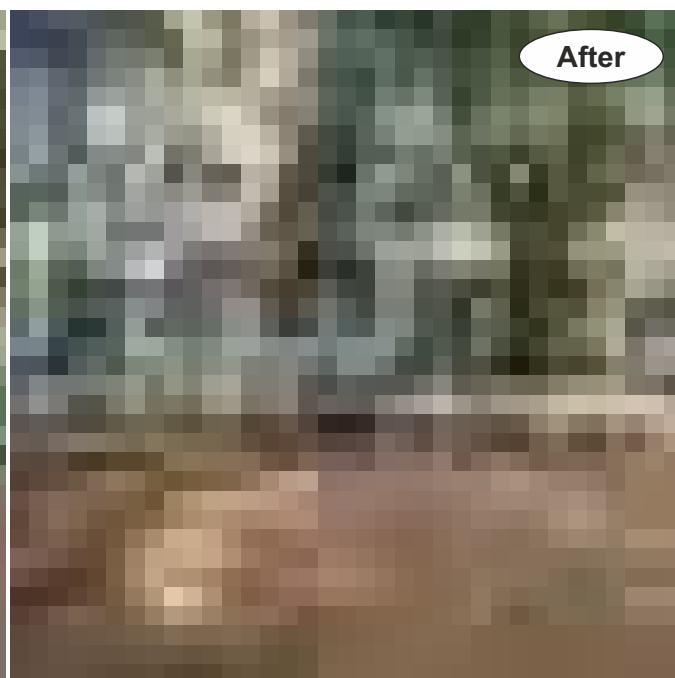
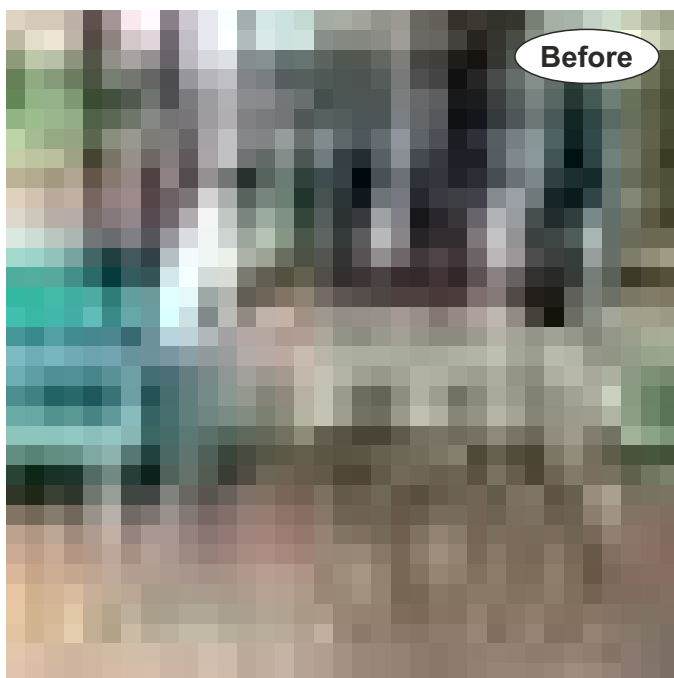
5. ICMR-VCRC Puducherry



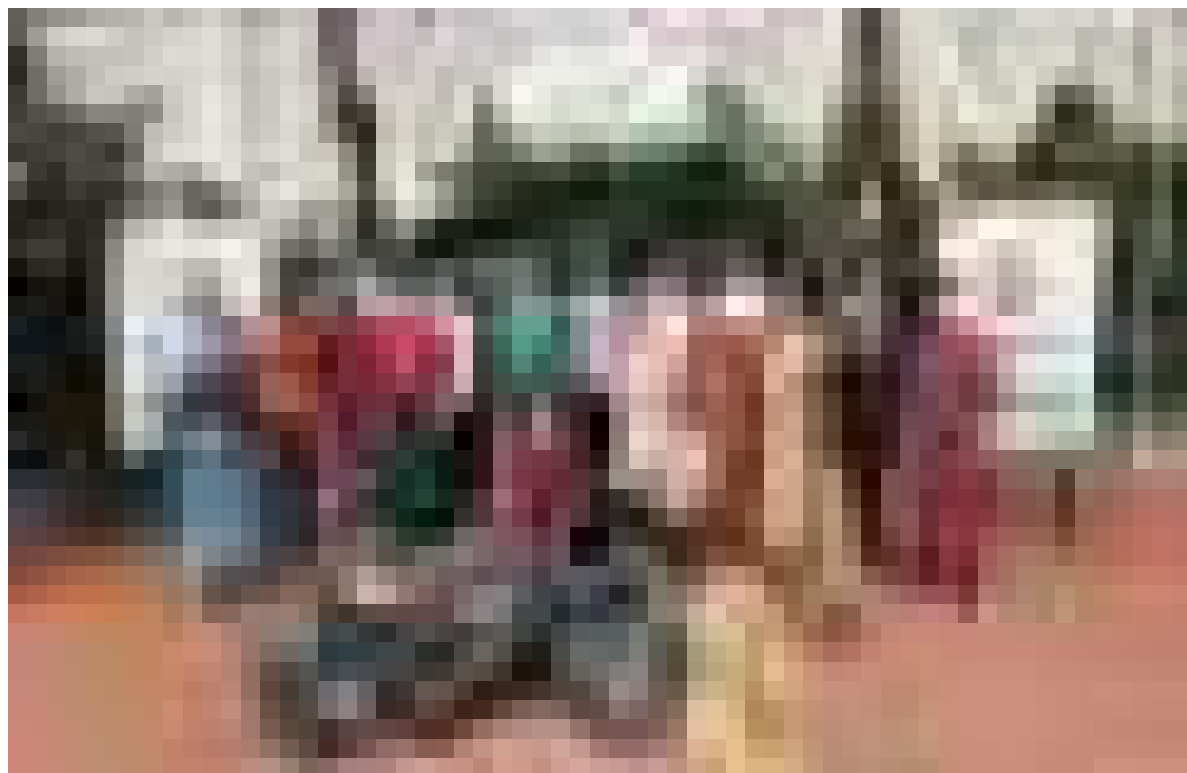
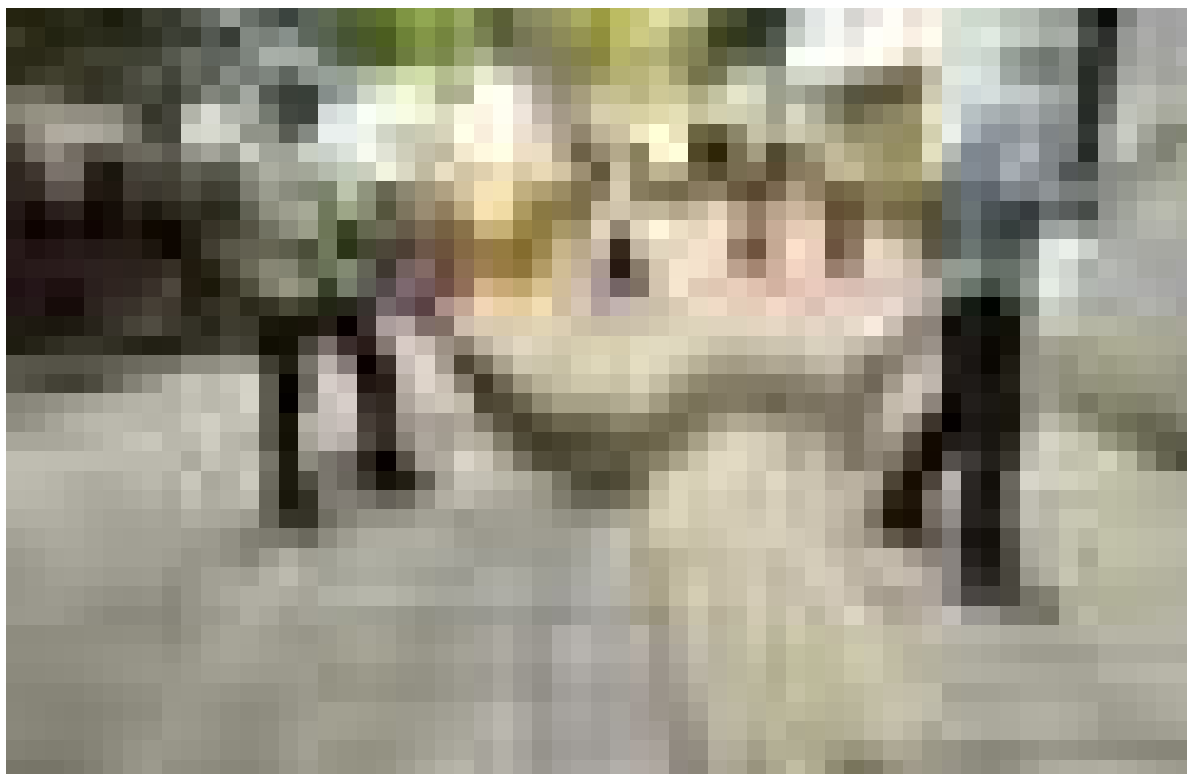
6. ICMR-NIRTH (Jabalpur, Madhya Pradesh)



7. ICMR- NIRT, Chennai (Tamil Nadu)

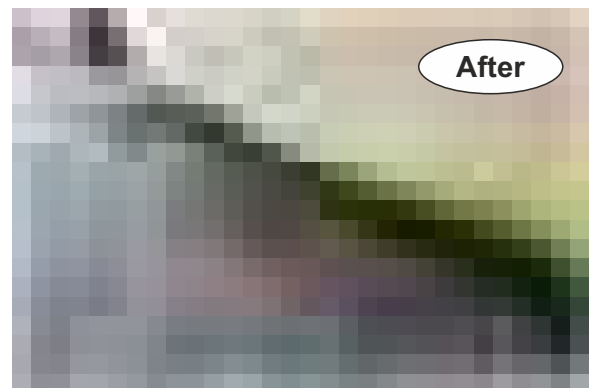
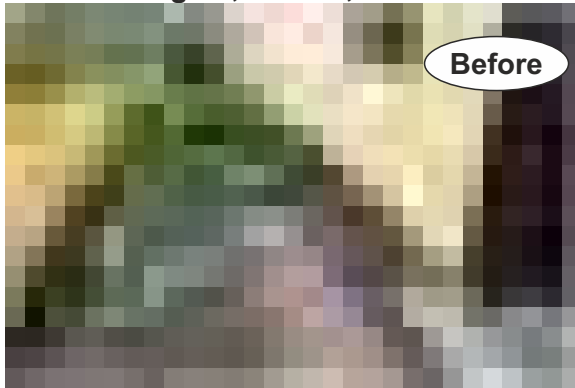


8. ICMR- NIV, Pune

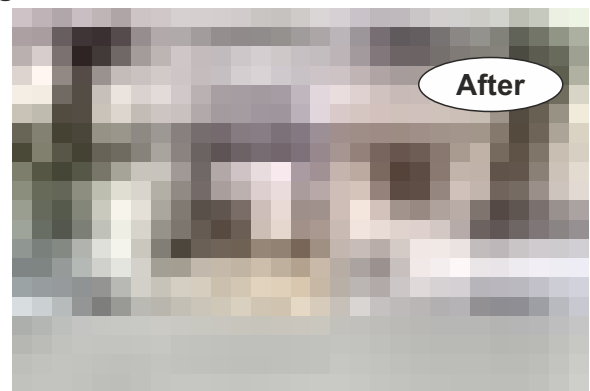
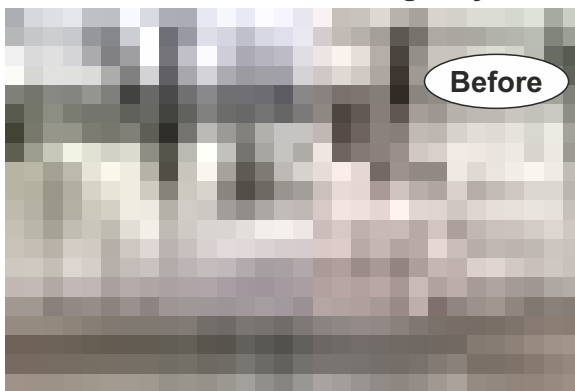


9. MRU/MRHRU Units across the Nation

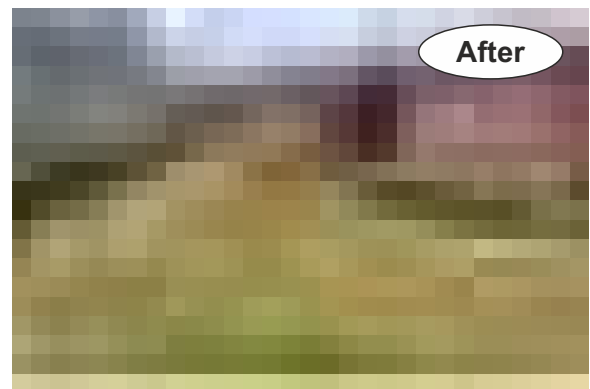
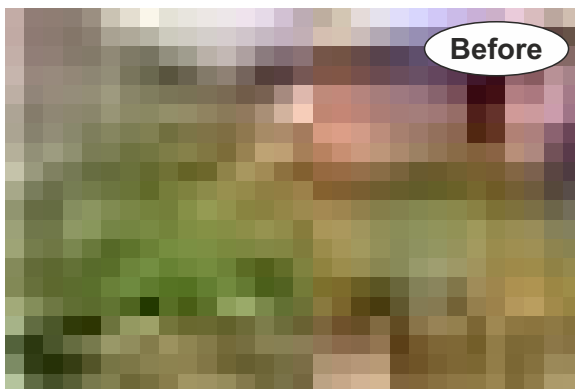
MRHRU- Angara, Ranchi, Jharkhand



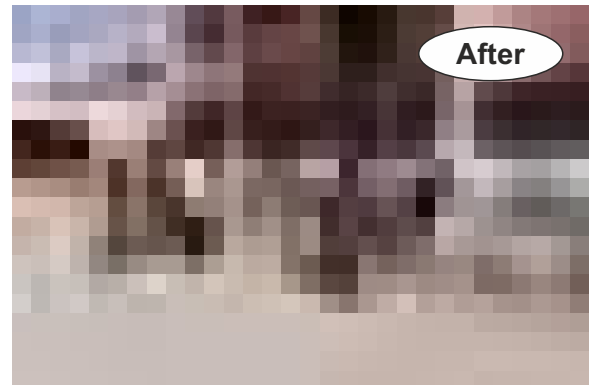
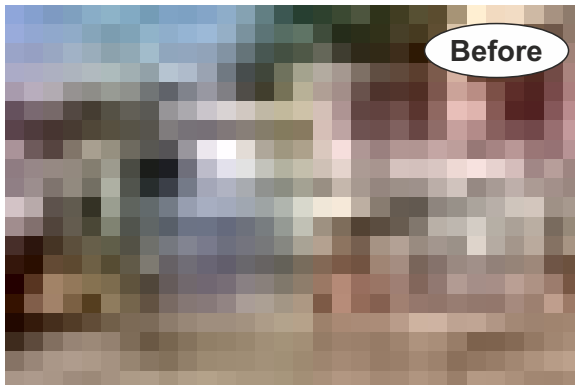
MRU-Osmania Medical College, Hyderabad, Telangana



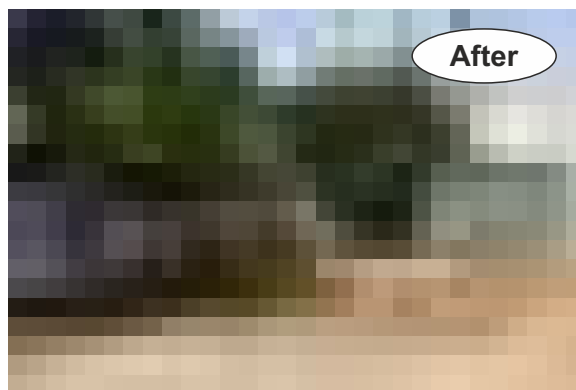
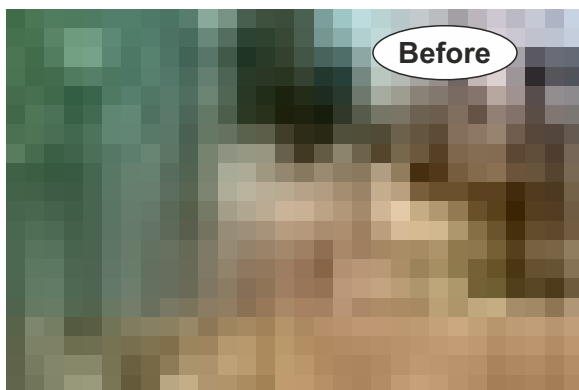
MRHRU – Khag, Budgam, Jammu & Kashmir



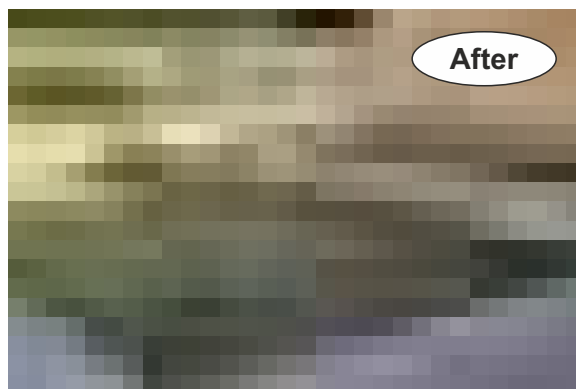
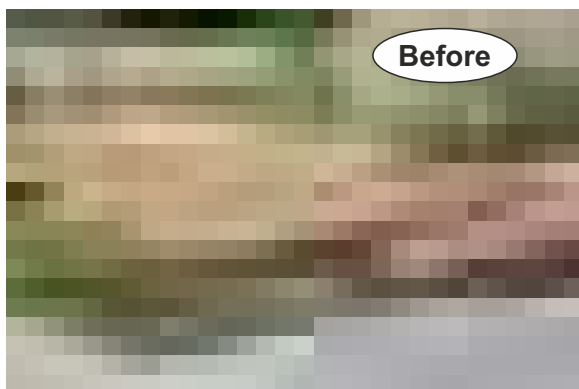
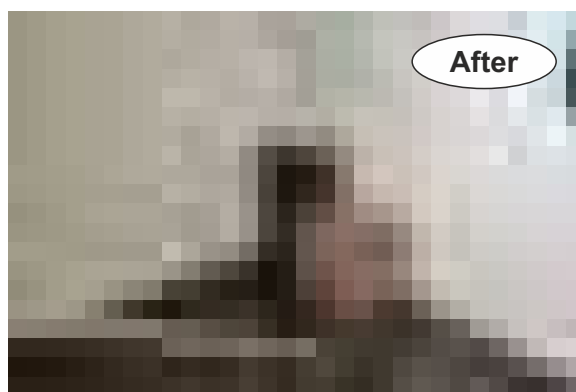
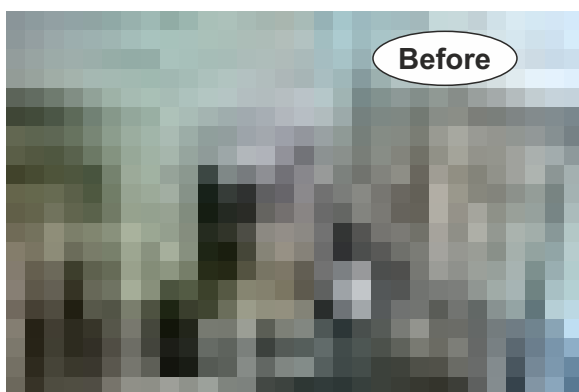
MRU – Government Medical College, Dungarpur, Rajasthan



MRU – ESIC Medical College, Faridabad, Haryana



VRDL Unit, AIIMS, Nagpur



Chapter 5

Establishment of Network of Viral Research and Diagnostic Laboratories for Managing Epidemics and Natural Calamities

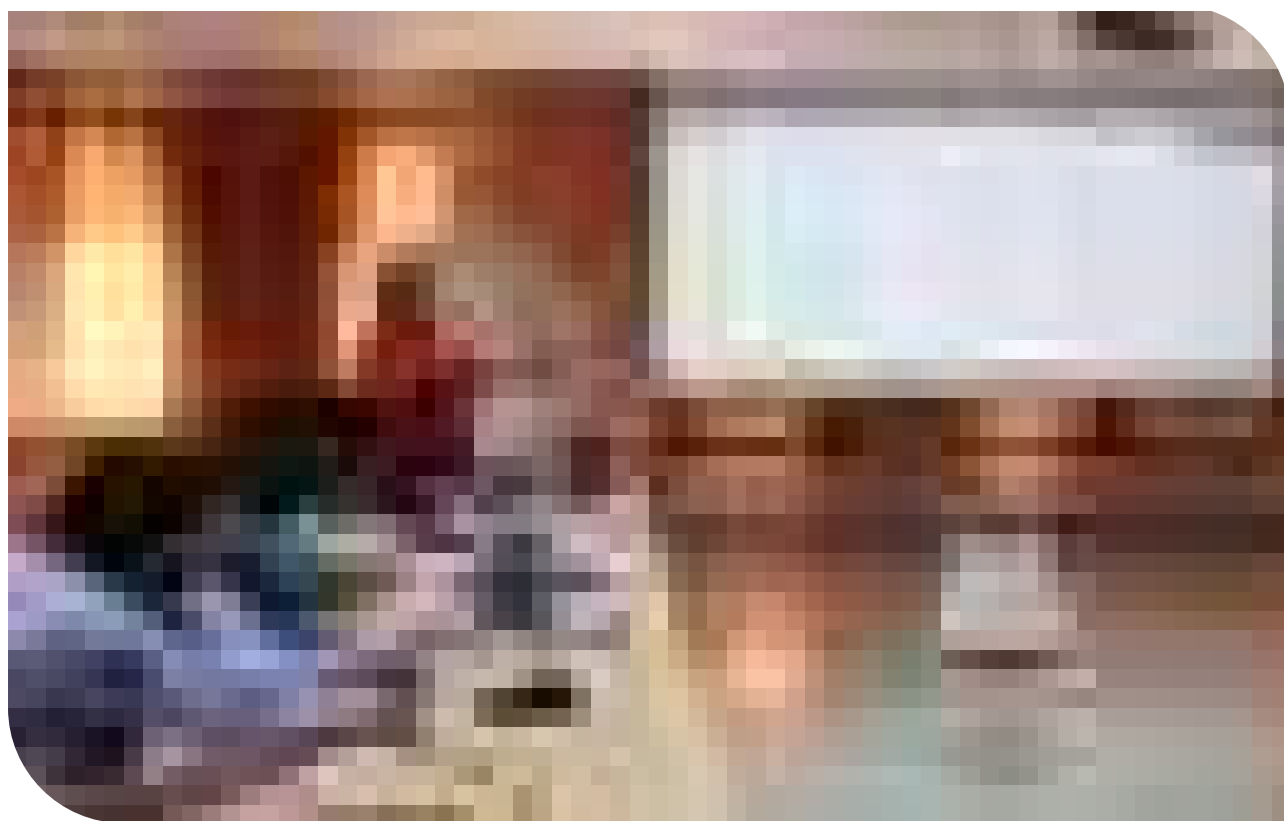
- 5.1 During the past few years, India has witnessed several outbreaks of emerging/ re-emerging viral infections. Annual epidemics of Dengue, Chikungunya, Influenza, Rotavirus, Measles Rubella, Japanese encephalitis etc. are reported from all parts of the country. Besides, in the past two decades, India has witnessed acute outbreaks or threats of infiltration of new or exotic viruses such as Nipah virus (2001; 2007; 2018, 2019, 2021& 2023); SARS-CoV (2003); Avian Influenza H5N1(2006); ECSA strain of chikungunya (2006); pandemic influenza (2009); Zika virus (2016, 2018 & 2021). Ebola, Yellow fever and MERS-CoV (Middle East Respiratory Syndrome-coronavirus) are the other potential viral agents which pose a serious threat to the country.
- 5.2. Realizing the high risk faced by the country due to emerging/re-emerging viral infections and limited capacity for timely detection of such viruses, the Department of Health Research (DHR)/Indian Council of Medical Research (ICMR) took a far-sighted decision of enhancing the country's capacity for early identification and diagnosis of all viral infections of public health importance. This initiative of DHR/ICMR has resulted in rolling out on approval of the VRDL Scheme by the Union Cabinet.
- 5.3 Viral Research & Diagnostic Laboratories (VRDLs) has played a significant role in surveillance, diagnosis and detection of outbreaks. The Scheme is in the mid phase for setting up of new VRDLs and creating high quality systems for existing network which has significant role in identification of emerging/ re-emerging viral pathogens at an early stage and preventing spreading of epidemics. The network of VRDLs is now working in synchronized way by augmenting the quality parameters for consistent, reliable and high-quality diagnosis; initiated event-based surveillance for fast detection of outbreaks; strengthened coordination of VRDLs with the State public health system, Integrated Disease Surveillance Program (IDSP) and National Vector Borne Disease Control Program (NVBDCP); initiated structured research projects which would translate into information for drafting/refining public health policies. Over the years, this network has been expanded, and as in December 2023, 158 VRDLs have been established throughout the country (11 Regional Level labs, 27 State Level labs and 120 Medical College Level labs). Geographical distribution of the existing VRDL network is at **Annexure-I**.
- 5.4 Some of the key contributions of VRDL network are as below:
 - Regional Level VRDL functioning at Government Medical College, Kozhikode, Kerala played a significant role in containment of the Nipah virus outbreak in September 2023. This was the sixth outbreak in India since 2001 when the first outbreak was reported in Siliguri town, West Bengal.

Subsequently, five outbreaks have been reported- Nadia district, West Bengal, Kozhikode and Malappuram, Kerala in 2018, Ernakulum, Kerala in 2019 and Kozhikode, Kerala in 2021.

- 48 VRDLs have been supported for Next Generation Sequencing facilities and trained for genomic surveillance of SARS-CoV-2 as well as other viral pathogens.
- Sentinel surveillance for Zika viruses (ZIKV) initiated with 35 VRDLs in 2018 is now expanded in the entire VRDL network. Necessary handholding and trainings have been provided to the whole network for diagnosis of Zika virus infection.
- A pan India Epidemiological, Virological and Genomic Surveillance network on Influenza like Illness (ILI) / Severe Acute Respiratory Illness (SARI) with 30 VRDLs has been established for Human Influenza and SARS-CoV-2 viruses. The diagnostic spectrum of the surveillance network has been expanded with the inclusion of one more respiratory pathogen i.e. Respiratory Syncytial Virus (RSV) in the surveillance program. Further, 15 sites of surveillance network are strengthened for pediatric Severe Acute Respiratory Infection (SARI) surveillance with a specific emphasis of RSV infection in children under 5 year age group.
- The ILI/SARI surveillance network is now spread across the country covering 21 States and 5 Union Territories (UTs). The influenza virus types and subtypes data is also fed into WHO FluNet portal through ICMR-NIV Pune. The surveillance network is monitoring the disease trends of respiratory viruses with special focus to SARS-CoV-2 and Influenza infections, co-infections, and genetic evolution over time within the same catchment area.
- In September 2013, India, along with other World Health Organization-South East Asia Region (WHO-SEAR) countries, targeted to implement Measles- Rubella elimination programme by 2023. 17 VRDLs have been involved in WHO Global Measles Rubella Laboratory Network (GMRLN) to conduct case based surveillance for Measles and Rubella. Under phase I, six VRDLs have been accredited by WHO for measles rubella testing and nine more VRDLs are in the advanced stages of the induction and accreditation. Active surveillance along with strong laboratory network is underway.
- Strengthening of non-viral diagnostic capacity: Acute undifferentiated febrile illness (AUF) is often undifferentiated in public health settings. AUF has been frequently characterized as fever without an apparent localized signs and symptoms. The major causes of AUF in India are malaria, influenza, dengue, typhoid, chikungunya, leptospirosis, scrub typhus and other viral hemorrhagic fever. Fifty VRDLs have been strengthened in diagnosis of Scrub Typhus and thirty VRDLs in Leptospirosis. This has broadened the scope of VRDLs beyond viral diseases.

- Turnaround time reduced from 7 days to 24-48 hours.
- Dengue Serotyping has been initiated to know the status of circulating serotype in the country in different geographic locations. A total of 46 VRDLs were mapped and were involved in the molecular serotyping of Dengue. Data related to circulating Serotype in different region of the country are being monitored.
- A sizeable number of VRDLs have been able to establish robust linkages with State IDSP, NVBDCP and State public health departments, thus increasing outreach of public health programs.
- A 5 days Hands-on-Training on "Laboratory quality management system" for strengthening lab networks was organised at PGIMER, Chandigarh, wherein a total of 19 participants from the 10 VRDLs across the country were trained.
- A workshop on "Capacity building for External Quality Assurance Program - Serology and Molecular diagnostics" was conducted from 21st to 29th August 2023, organized by the Resource Centre - Virus Research & Diagnostic Laboratory (RC-VRDL), ICMR-National Institute of Virology, Pune. The training program was conducted with the support of WHO SEARO, WHO India Office, National Serological Reference Laboratory (NRL), Australia and ICMR- Headquarters. The expert scientists from NRL served as trainers for the training program. A total of 35 participants including scientists and technical staff from 10 VRDLs, 05 ICMR Institutes and 01 DBT institute were trained.





5.5 Resource Center-National Institute of Epidemiology

- ➡ The VRDL network are engaged in diagnosis of wide variety of viral pathogen and played a significant role in outbreak detection. The VRDLs are capable to diagnose up to 30-35 different viruses, 20-25 types in State level, and up to 20 at Medical college level VRDL. Besides that, VRDLs were actively involved in testing of new variants of SARS-CoV-2 and other infectious pathogens during the upsurge of respiratory illnesses. The VRDL network is currently diagnosing 15-35 viral etiology under their routine diagnostic spectrum. Testing data are being fed into the Data Mining Centre at ICMR-National Institute of Epidemiology (NIE). Details of tests conducted and outbreaks investigated by VRDL Network and reported to the NIE portal during the year 2024 is given below:

Table 1: Tests conducted and reported to Data Mining Centre by VRDL Network

Parameters	Apr 2014 – March 2024	Jan 2023 – March 2024
Total no. of patients investigated by VRDLs	30,00,977	9,11,143
Total no. of tests run	55,07,196	18,57,200
Total no. of tests positive	6,68,473	1,61,869
Total cases positives (%)	6,02,612 (20.1)	1,44,254 (15.8)
Disease Clusters investigated by VRDLs	1,093	81

Table 2: Outbreaks investigated and reported to Data Mining Centre by VRDL Network during January 2023 – March 2024

Pathogen investigated (January 2023 - March 2024)	Number of suspected outbreaks investigated
Varicella Zoaster Virus (VZV)	36
Dengue	11
Mumps virus	5
Influenza A H3N2	4
Influenza A Pandemic H1N1	4
Hepatitis A Virus (HAV)	4
Entero virus	3
Influenza A	2
Influenza B	2
Orientia tsutsugamushi (Scrub typhus)	2
Hepatitis E virus (HEV)	2
Leptospira	2
Adeno Virus	1
Chikungunya	1
Shigella/Sapovirus/Astrovirus	1
Rota Virus	1
Total	81

5.6 Training / Workshops:

Data Mining Centre (ICMR-National Institute of Epidemiology, Chennai):

- No. of trainings conducted for data entry on NIE portal since April 2014: 20
- No. of persons trained since April 2014: 1425
- No. of trainings conducted in the year 2023 (Jan 2023 to March 2024): 1 (KFD)+4
- No. of persons trained in the 2023-2024 (Jan 2023 to Mar 2024): 660
- No. of VRDLs reporting to Data Mining Centre at National Institute of Epidemiology (NIE) (Jan 2023 to Mar 2024): 145
- No. of new VRDLs have started reporting to Data Mining Centre at National Institute of Epidemiology (NIE) during 2024: 24

Other key achievement by the NIE Data Centre

- New revised portal and full integration with IHIP is completed.

5.7 Resource Centre for VRDL network: ICMR-NIV, Pune

❖ Training / Workshops:

RC-VRDL conducts training programs for the VRDLs to build the human resource capacity for the VRDL network. A basic training program for the VRDLs is conducted for all new VRDLs to orient them regarding the VRDL network activities and requirements for the network laboratories. The participants are given hands-on training for outbreak investigations, bio-safety and bio-security, emergency responses, serological diagnosis, and molecular diagnosis for viral aetiologies. A summary of the basic training programs conducted by RC-VRDL since 2014 is provided in Table 1 below.

Additionally, specialized trainings are designed and conducted in response to specific public health emergencies and outbreaks caused by viral agents. These included training in Biosafety and Biosecurity, ELISA, cell culture, viral diagnostics by PCR, Zika virus diagnostics, Yellow Fever diagnostics, KFD virus diagnostics, Influenza diagnostics, COVID-19 laboratory preparedness and COVID-19 diagnostics. Additional need-based capacity building trainings, such as Whole-genome sequencing training, EQA capacity building training (with support from ICMR HQ, NRL Australia and WHO SEAR Office) are also conducted by RC-VRDL for the VRDL network laboratories. A summary of the basic training programs and the specialized training programs conducted by RC-VRDL since 2014 is provided in Table 1 below. Training programs conducted by other ICMR-NIV

departments for the VRDLs for high-consequence virus diagnostics, are not included in Table 1 below.

Parameters	Apr 2014 – Dec. 2023		Jan 2023 – March 2024	
	Basic training	Specialized trainings	Basic training	Specialized trainings
No. of training conducted	26	33	4	2
No. VRDLs trained	155	135	35	22
Total No. of Person trained	453	904 (including online training programs)	80	48

5.8 No. of labs supported for kits/reagents, pathogen-wise details during Jan, 2023 to March 2023

Pathogen Details	No. of labs supported for kits/reagents
IgM capture ELISA kits for diagnosis of Dengue, Japanese Encephalitis and Chikungunya infections	3070 kits to 128 VRDLs
Zika Diagnostic PCR Kit	198 (132 VRDLs, were initially provided with reagents for 250 reactions. 66 VRDLs were provided with additional kits upon request)
Vero CCL Cell Line	02 VRDL
Zika Positive Control	135 (All reagent requests supplied had positive control included. Additional positive controls were provided to 3 VRDLs)
Supply of WHO supported micropipettes	132 VRDLs
Dengue Serotyping kits	47 VRDLs

5.9 External Quality Assurance Programme (EQAP):

Serological Diagnosis (ELISA) of Viruses EQA program:

External Quality Assessment (EQA) program for ELISA based diagnosis of Dengue, Chikungunya and Japanese Encephalitis has been established and EQA panels for were distributed to VRDLs; with the following objectives.

- To maintain and improve analytical quality of the VRDLs.
- To identify causes of potential discordance in test results, and implement corrective action.
- To evaluate inter-laboratory comparability of test results.

The program has been introduced since 2018 and the results from the EQA program for 2022 and 2023 are summarized in Table 3 below:

Year	Number of VRDLs provided with EQA Panels for Dengue, JE and CHIK IgM	Number of VRDLs reporting results for atleast one parameter	Average concordance
2022	71	61	Dengue IgM: 94.99%
			Chikungunya IgM: 98.27%
			Japanese Encephalitis IgM: 94.97%
2023	80	76	Dengue IgM: 98.11%
			Chikungunya IgM: 99.86%
			Japanese Encephalitis IgM: 99.23%

Dengue Serotyping Molecular EQA:

Additionally, an EQA program for detection of Dengue serotypes by Real-time RT-PCR has been initiated in 2023. The EQA program will involve 46 VRDLs, participating in the project “Serotype specific detection of circulating Dengue virus in India”. So far, 21 VRDLs have been provided with a molecular Dengue EQA panel, and the remaining shall be provided with the panel shortly, in a phased manner. The completion of the testing, reporting and analysis is expected by September 2024.

- 5.10 Testing of Quality control (QC) samples has been a continued activity in the current year. Samples from 66 VRDLs were received for quality control testing from January 2023 to March 2024. The summary of the QC testing activity at RC-VRDL is summarized in table 4 below. RC-VRDL is also actively reaching out to all VRDLs to improve participation.**

Number of VRDLs	List of Parameters	Total Number of samples received	Number of Samples tested
66	Dengue IgM Dengue NS1	12,020	9,924
	Chikungunya IgM		
	Japanese Encephalitis IgM		
	Hepatitis A IgM		
	Hepatitis B surface antigen (HBsAg)		
	HCV IgG HCV Total antibody		
	HEV IgM		
	Measles IgM		
	Mumps IgM		
	Rubella IgM		
	Rubella IgG		
	CMV IgM		
	VZV IgM		
	West Nile IgM		
	Parvovirus B19 IgM		
	Rotavirus Antigen		

Other key achievement by the NIV Resource Centre

RC-VRDL, ICMR-NIV Pune, has been actively supporting the VRDL network on various issues related to outbreak investigations, scientific, technical and logistic support; and resolution of network activity related issues. A summary of the support activities, for the period January 2023 to March 2024 is summarized in Table 5 below:

Type of Support	Number of VRDLs supported
Support for laboratory layout and design	17
Support for referral sample testing at ICMR-NIV	32
Resolution of Queries regarding diagnostic reagents, SOPs and network specific testing algorithms(excluding routinely supplied reagents through RC-VRDL)	135
Trouble-shooting and root cause analysis support	38

5.11 Physical Target

12th Plan Period (2012-2017)

Year	Target			Actual Achievement		
	Regional VRDL	State VRDL	Medical College VRDL	Regional VRDL	State VRDL	Medical College VRDL
2013-2014	2	5	10	2	4	6
2014-2015	3	10	40	3	3	13
2015-2016	5	15	40	0	4	10
2016-2017	0	0	30	0	4	16
Total	10	30	120	5	15	45

14th Finance Commission Period (2017-2018 to 2020-2021)

Year	Target			Actual Achievement		
	Regional VRDL	State VRDL	Medical College VRDL	Regional VRDL	State VRDL	Medical College VRDL
2017-2018	5	10	15	2	1	11
2018-2019	0	0	30	2	4	10
2019-2020	0	0	0	1	2	9
2020-2021	0	0	0	0	3	13
Total	5	10	45	5	10	43

15th Finance Commission Period (2021-2022 to 2025-2026)

Year	Target			Actual Achievement till 31st March 2024		
	Regional VRDL	State VRDL	Medical College VRDL	Regional VRDL	State VRDL	Medical College VRDL
2021-22	0	2	12	0	2	12
2022-23	1	-	14	1	-	14
2023-24	0	1	8	0	-	9

5.12 The financial achievements from inception of the Scheme are given in the table below:
(Rs. in Crore)

Year	BE	RE	Actual Expenditure
2013-2014	45.00	34.00	34.00
2014-2015	35.00	30.00	30.00
2015-2016	46.00	45.25	45.25
2016-2017	39.25	44.25	44.25
2017-2018	56.00	66.00	66.00
2018-2019	70.00	55.00	52.14
2019-2020	80.00	73.00	69.37
2020-2021	83.00	83.00	81.89
2021-2022	82.00	79.20	75.79
2022-2023	82.00	70.00	69.98
2023-2024	60.00	60.00	60.00

5.13 Components of the Scheme and Funding Norms:

- (i) **Regional Labs:** The non-recurring cost of a Regional Level Lab is Rs.14.575 crore for development of infrastructure, which include civil works/ furnishing & furniture (Rs.9.425 crore) and equipment (Rs. 5.15 crore). The recurring cost of Regional Lab per annum is Rs0.968 crore, towards staffing (Rs. 61.8 lakh), consumables, contingencies and training (Rs.35 lakh).
- (ii) **State Level Labs:** The non-recurring cost of a State Level Lab is Rs.2.971 crore for development of

infrastructure which include civil works mainly for renovation/modification of the building (Rs.62.50 lakh) and for equipment (Rs.2.346 crore). The recurring cost of a State Level Lab per annum is Rs.68.00 lakh which will be extended for a period of five years for engaging trained technical man power on contractual basis (Rs.43.00 lakh per annum) and for consumables, contingencies and training (Rs.25.00 lakh).

- (iii) **Medical College Labs:** The non-recurring cost of a Medical College Level Lab is Rs.1.507 crore comprising of Rs.88.20 lakh for equipment and Rs.62.50 Lakh for civil works/renovation of building. The recurring cost of a Medical College Level Lab per annum is Rs.46.40 lakh, towards staffing (Rs.31.4 lakh) and consumables, contingencies and training (Rs.15 lakh).

5.14 Role of VRDL Network in COVID-19

A decade ago, when India witnessed one of the worst flu pandemic, swine flu in 2009, the public health system was paralyzed due to severe dearth of infrastructure for molecular diagnosis of viral infections and the public health professionals helplessly watched the pandemic quickly escalating to all parts of the country. Though the country was equipped to carry out serology-based ELISA or rapid blood tests, but the virus was challenging and could not be detected in blood. Similar challenge is posed by several other respiratory viruses, MERS-CoV, SARS-CoV and SARS-CoV-2 causing COVID19 which pose a threat to us time and again. A total of 162 COVID-19 rapid antigen test kits and 17 COVID-19 home/self-test kits have been validated so far.

- 5.15 Molecular virological test was the only option for detection of H1N1 which was there in only two Institutions: ICMR-National Institute of Virology at Pune and National Centre for Disease Control in Delhi in a vast country like India. The event was an eye-opener for the public health system of the country wherein glaring gaps in capacity were brought out. This in turn paved the way for strengthening the molecular diagnostic facilities for viruses in India through the Virus Research & Diagnostic Laboratory (VRDL) Network of DHR. Contrary to 2009, in January 2020, when the threat of COVID19 epidemic knocked our doors, the country could immediately scale up its preparedness by standardizing diagnostic assays at ICMR-National Institute of Virology in Pune. Besides country's apex virology institute, the VRDL network is continuously playing the key role as the backbone of country's strength for the COVID-19 testing.

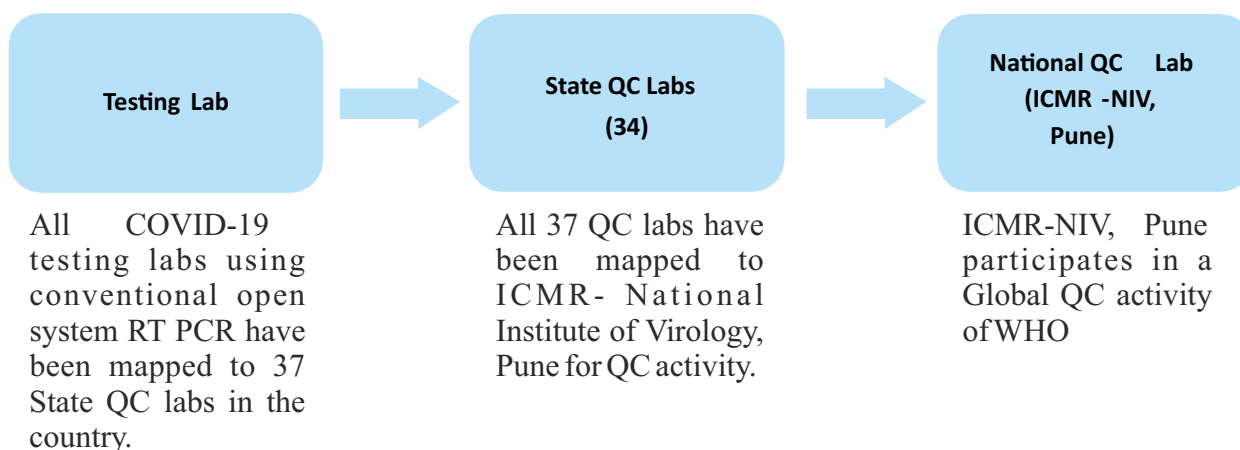
- As on November 2023, 158 VRDLs have been established and all are functional and involved in COVID-19 testing. Results are being reported to COVID-19 testing Portal.
- More than 70 million samples have been tested for COVID-19 till the month of December 2023.

- 5.16 **QA/QC Activity for COVID-19 Labs:** India has expanded COVID-19 testing laboratories with different testing platforms in a phased manner. With the vast network of laboratories and enormous number of diagnostic kits used within the laboratories, it is important to institute quality parameters to reduce errors in diagnosis. To ensure quality diagnosis of the laboratories, Inter-Laboratory

Quality Control and External Quality Assurance Programme has been launched for COVID-19 testing laboratories. Both these activities build confidence in testing laboratories for their quality diagnosis and are being co-ordinated and monitored at ICMR Hq. The EQA has been rolled out by providing diagnostic proficiency testing panels from Australia through WHO support.

5.17 ILQC of the labs is implemented through a three-tier structure.

- National QC Lab
- State QC Lab
- Testing laboratories



5.18 Validation of COVID-19 Rapid Antigen Test kits

There is a myriad of commercially available diagnostic commodities for SARS-CoV-2. These commercial assays varied in their detection technology, ranging from SARS-CoV-2 nucleic acid, antigens, antibody to answer presence of infection. They also varied in detection targets and thus performance characteristics. A network of 28 VRDLs is actively functioning as validation center for the validation of COVID-19 rapid Antigen detection-based test kits including home test kits. A total of 169 COVID-19 rapid antigen test kits and 18 COVID-19 home /self-test kits have been validated so far.

5.19 List of Regional Labs:-

- (I) The Postgraduate Institute of Medical Education and Research, Chandigarh
- (ii) ICMR-Regional Medical Research Centre, Dibrugarh
- (iii) ICMR-National Institute of Cholera and Enteric Diseases
- (iv) All India Institute of Medical Sciences, New Delhi
- (v) Government Medical College, Kozhikode
- (vi) All India Institute of Medical Sciences, Bhopal
- (vii) ICMR-Regional Medical Research Centre, Bhubaneswar
- (viii) Jawaharlal Institute of Post graduate Medical Education and Research, Puducherry

- (ix) All India Institute of Medical Sciences, Jodhpur
- (x) All India Institute of Medical Sciences(AIIMS),Patna
- (xi) All India Institute of Medical Sciences(AIIMS), Bilaspur

5.20 State wise list of VRDLs

State	Level of VRDL	S.No	Name of VRDL	Funded in
Andaman & Nicobar Island	State Level	1	Regional Medical Research Centre (RMRC), Port Blair	2018-2019
	Medical College Level	2	Andaman and Nicobar Islands Institute of Medical Sciences, Port Blair	2020-2021
Andhra Pradesh	State Level	3	Guntur Medical College, Guntur	2018-2019
	State Level	4	Sri Venkateswara Institute of Medical Sciences, Tirupati, Andhra Pradesh	2014-2015
	Medical College Level	5	Andhra Medical College, Visakhapatnam	2019-2020
	Medical College Level	6	Government Medical College (GMC), Anantpur	2015-2016
	Medical College Level	7	Rajiv Gandhi Institute of Medical Science (RIMS), Kadappa	2015-2016
	Medical College Level	8	Rangaraya Medical College, Kakinada, Andhra Pradesh	2017-2018
	Medical College Level	9	Siddhartha Medical College, Gunadala, Vijayawada, Andhra Pradesh	2014-2015
	Medical College Level	10	All India Institute of Medical and Sciences, Mangalagiri, Andhra Pradesh	2021-2022
	Medical College Level	11	Kurnool Medical College, Kurnool	2022-2023
Arunchal Pradesh	Medical College Level	12	Tomo Riba Institute Health and Medical Sciences (TRIHMS), Naharlagun	2022-2023
Assam	Regional Level	13	Regional Medical Research Centre, Dibrugarh	2013-2014
	State Level	14	Gauhati Medical College, Gauhati, Assam	2014-2015
	Medical College Level	15	Fakhruddin Ali Ahmed Medical College, Barpeta, Assam	2017-2018
	Medical College Level	16	Jorhat Medical college, Jorhat	2015-2016
	Medical College Level	17	Silchar Medical College, Silchar, Assam	2017-2018
	Medical College Level	18	Tezpur Medical College, Tezpur	2015-2016
	Medical College Level	19	Diphu Medical College & Hospital, Diphu, Assam	2022-2023
	Medical College Level	20	All India Institute of Medical Sciences (AIIMS), Guwahati, Assam	2022-2023
	Medical College Level	21	Lakhimpur Medical College & Hospital, Assam	2023-2024
Bihar	Regional Level	22	All India Institute of Medical Sciences (AIIMS), Patna	2019-2020
	Medical College Level	23	Darbhanga Medical College, Darbhanga	2017-2018
	Medical College Level	24	Patna Medical College, Patna	2013-2014
	Medical College Level	25	Rajendra Memorial Research Institute of Medical Sciences (RMRIMS), Patna	2019-2020

Contd...

State	Level of VRDL	S.No	Name of VRDL	Funded in
Bihar	Medical College Level	26	S.K. Medical College, Muzaffarpur	2017-2018
	Medical College Level	27	Jawahar Lal Nehru Medical College & Hospital, Bhagalpur	2020-2021
Chandigarh	Regional Level	28	Post Graduate Institute of Medical Education & Research, Chandigarh	2013-2014
	Medical College Level	29	Government Medical College & Hospital, Chandigarh	2017-2018
Chhattisgarh	State Level	30	All India Institute of Medical Sciences (AIIMS), Raipur	2017-2018
	Medical College Level	31	Late Baliram Kashyap (LSBK) Memorial Govt. Medical College, Jagdalpur, Chhattisgarh	2014-2015
	Medical College Level	32	Pt. JNM Medical College, Raipur, Chhattisgarh	2022-2023
	Medical College Level	33	Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh	2022-2023
	Medical College Level	34	Government Medical College, Kanker, Chhattisgarh	2022-2023
	Medical College Level	35	Chandulal Chandrakar Memorial Government Medical College, Durg, Chhattisgarh	2023-2024
Delhi	Regional Level	36	All India Institute of Medical Sciences (AIIMS), Delhi	2018-2019
	Medical College Level	37	Lady hardinge Medical College, Delhi	2018-2019
	State Level	38	Maulana Azad Medical college Delhi-	2020-2021
	Medical College Level	39	Guru Teg Bahadur Hospital, Delhi	2020-2021
	Medical College Level	40	Dr. Ram Manohar Lohia Hospital and Atal Bihari Vajpayee Institute of Medical Sciences	2020-2021
	Medical College Level	41	Army Hospital Research and Referral Dhaua Kuan, New Delhi	2022-2023
	Medical College Level	42	Vallabhbhai Patel Chest Institute (VPCI), University of Delhi	2023-2024
Goa	Medical College Level	43	Goa Medical College, Goa	2020-2021
Gujarat	State Level	44	B.J. Medical College, Ahmedabad	2013-2014
	Medical College Level	45	Government Medical College, Surat	2018-2019
	Medical College Level	46	Government Medical College, Vadodara	2018-2019
	Medical College Level	47	Government Medical College, Bhavnagar, Gujarat	2019-2020
	Medical College Level	48	Shri M.P. Shah Govt. Medical College, Jamnagar	2013-2014
	Medical College Level	49	Pandit Dindayal Upadhyay Government Medical College, Rajkot, Gujarat	2019-2020
	Medical College Level	50	All India Institute of Medical Sciences (AIIMS), Rajkot, Gujarat	2022-2023
Harayana	Medical College Level	51	Bhagat Phool Singh (BPS) Medical college for Women, Sonipat	2015-2016
	Medical College Level	52	Pt. BD Sharma Post Graduate Institute of Medical Education & Research, Rohtak	2013-2014
	Medical College Level	53	Kalpna Chawla Government Medical College, Karnal, Haryana	2022-2023
Himachal Pradesh	State Level	54	Indira Gandhi Medical College, Shimla	2013-2014
	Medical College Level	55	Dr. Rajendra Prasad Government Medical College, Tanda, Himachal Pradesh	2014-2015

Contd...

State	Level of VRDL	S.No	Name of VRDL	Funded in
Himachal Pradesh	Medical College Level	56	Lal Bahadur Shastri Medical College, Mandi	2020-2021
	Medical College Level	57	Pt. Jawaharlal Nehru Govt. medical College, Chamba, Himachal Pradesh	2021-2022
	Regional Level	58	All India Institute of Medical Sciences, Bilaspur	2022-2023
Jammu & Kashmir	State Level	59	Sher-e-Kashmir Institute of Medical Sciences, Srinagar	2013-2014
	Medical College Level	60	Govt Medical College, Srinagar, Jammu & Kashmir	2016-2017
	Medical College Level	61	Govt. Medical College, Jammu	2013-2014
	Medical College Level	62	Government Medical College, Baramulla	2021-2022
	Medical College Level	63	Government Medical College, Anantnag	2022-2023
Jharkhand	Medical College Level	64	MGM Medical College, Jamshedpur	2016-2017
	Medical College Level	65	Rajendra Institute of Medical Sciences (RIMS), Ranchi	2016-2017
	State Level	66	All India Institute of Medical Sciences, Deogarh, Jharkhand	2021-2022
Karnataka	State Level	67	Bangalore Medical College & Research Institute, Bangalore, Karnataka	2014-2015
	Medical College Level	68	Government Medical College, Mysore, Karnataka	2014-2015
	Medical College Level	69	Gulbarga Institute of Medical Sciences, Gulbarga, Karnataka	2016-2017
	Medical College Level	70	Hassan Institute Of Medical Sciences (HIMS), Hassan	2015-2016
	Medical College Level	71	Karnataka Institute of Medical Science Hubballi	2020-2021
Karnataka	Medical College Level	72	Shimoga Institute of Medical Sciences, Shimoga, Karnataka	2016-2017
	Medical College Level	73	Vijayanagar Institute of Medical Sciences (VIMS), Bellary	2016-2017
	Medical College Level	74	National Institute of Traditional Medicine Belagavi, Karnataka	2023-2024
	Medical College Level	75	National Institute of Mental Health & Neurosciences (NIMHANS), Bangalore	2023-2024
	Medical College Level	76	Kodagu Institute of Medical Sciences, Madikeri, Karnataka	2023-2024
Kerala	Regional Level	77	Government Medical College (GMC), Kozhikode	2018-2019
	State Level	78	National Institute of Virology (NIV) Field Unit, Kerala	2018-2019
	Medical College Level	79	Government Medical College, Thrissur	2016-2017
	Medical College Level	80	Government Medical College, Trivandrum, Kerala	2014-2015
	Medical College Level	81	Government Medical College, Kannur, Pariyaram	2021-2022
	Medical College Level	82	Government Medical College Manjeri, Malapuram, Kerala	2023-2024
	Medical College Level	83	Government Medical College, Ernakulam, Kerala	2023-2024
Madhya Pradesh	Regional Level	84	All India Institute of Medical Sciences, Bhopal, Madhya Pradesh	2014-2015
	State Level	85	National Institute of Research In Tribal Health (NIRTH), Jabalpur	2018-2019
	Medical College Level	86	Bundelkhand Medical College, Sagar, Madhya Pradesh	2018-2019
	Medical College Level	87	Gajra Raja Medical College, Gwalior, Madhya Pradesh	2016-2017

Contd...

State	Level of VRDL	S.No	Name of VRDL	Funded in
Madhya Pradesh	Medical College Level	88	MGM Medical College, Indore, Madhya Pradesh	2016-2017
	Medical College Level	89	Shyam Shah Medical College, Rewa, Madhya Pradesh	2017-2018
Maharashtra	State Level	90	Govt Medical College (GMC), Nagpur	2019-2020
	Medical College Level	91	Dr Vaishampayan Memorial (VM) Government Medical College, Solapur, Maharashtra	2019-2020
	Medical College Level	92	G.S Seth Medical college and KEM Hospital, Mumbai	2018-2019
	Medical College Level	93	Government Medical College (GMC), Aurangabad	2019-2020
	Medical College Level	94	Government Medical College, Akola	2019-2020
	Medical College Level	95	Government Medical College, Miraj, Sangli	2017-2018
	Medical College Level	96	Indira Gandhi Medical College, Nagpur, Maharashtra	2014-2015
Maharashtra	Medical College Level	97	Kasturba Hospital for Infectious Disease, Mumbai, Maharashtra	2018-2019
	Medical College Level	98	Shri Bhausaheb Hire Government Medical College & Hospital, Dhule	2019-2020
	Medical College Level	99	AIIMS, Nagpur	2020-2021
	State Level	100	Armed Forces Medical College (AFMC), Pune	2021-2022
Manipur	State Level	101	Regional Institute of Medical Sciences (RIMS), Imphal	2016-2017
	Medical College Level	102	Jawaharlal Nehru Institute of Medical Sciences (JNIMS), Imphal, Manipur	2014-2015
Meghalaya	State Level	103	North-Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong	2013-2014
Mizoram	Medical College Level	104	Zoram Medical College, Mizoram	2020-2021
Odisha	Regional Level	105	Regional Medical Research Center (RMRC), Bhubaneswar	2017-2018
	State Level	106	Srirama Chandra Bhanja (SCB) Medical College, Cuttack	2015-2016
	State Level	107	AIIMS, Bhubaneswar	2020-2021
	Medical College Level	108	Saheed Laxman Nayak Medical College & Hospital, Koraput, Odisha (SLNMCH)	2020-2021
	Medical College Level	109	Veer Surendra Sai Institute of Medical Sciences and Research, Burla, Sambalpur, Odisha	2020-2021
	Medical College Level	110	Maharaja Krishna Chandra Gajapati Medical College and Hospital, Brahmapur.	2021-2022
Puducherry	Regional Level	111	Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry	2014-2015
	Medical College Level	112	Indira Gandhi Medical College & Research Institute, Puducherry	2016-2017
Punjab	Medical College Level	113	Govt. Medical College, Amritsar	2013-2014
	Medical College Level	114	Govt. Medical College, Patiala, Punjab	2014-2015
	Medical College Level	115	Guru Gobind Singh Medical College, Faridkot	2020-2021
	Medical College Level	116	AIIMS, Bathinda	2022-2023

Contd...

State	Level of VRDL	S.No	Name of VRDL	Funded in
Rajasthan	Regional Level	117	All India Institute of Medical Sciences (AIIMS), Jodhpur	2017-2018
	State Level	118	Sawai Man Singh (SMS) Medical College, Jaipur	2015-2016
	Medical College Level	119	Jhalawar medical college, Jhalawar	2016-2017
	Medical College Level	120	Ravindra Nath Tagore (RNT) Medical College, Udaipur	2016-2017
	Medical College Level	121	S N Medical College, Jodhpur Rajasthan	2014-2015
Rajasthan	Medical College Level	122	Sardar Patel Medical College (SPMC) Bikaner	2016-2017
	Medical College Level	123	Govt. Medical College Kota	2021-2022
	Medical College Level	124	Military Hospital Jodhpur, Rajasthan	2022-2023
Tamil Nadu	State Level	125	Coimbatore Medical College, Coimbatore	2016-2017
	State Level	126	The King Institute of Preventive Medicine and Research (KIPM&R), Chennai	2016-2017
	Medical College Level	127	Government Medical College, Theni, Tamil Nadu	2014-2015
	Medical College Level	128	Government Medical College, Thiruvavur, Tamil Nadu	2018-2019
	Medical College Level	129	Government Medical College, Villupuram, Tamil Nadu	2018-2019
	Medical College Level	130	Government Mohan Kumaramangalam Medical College, Salem	2016-2017
	Medical College Level	131	Madras Medical College, Chennai	2016-2017
	Medical College Level	132	Madurai Medical College, Madurai, Tamil Nadu	2014-2015
	Medical College Level	133	Tirunelveli Medical College, Tirunelveli	2016-2017
	Medical College Level	134	ICMR-National Institute for Research in Tuberculosis, Chennai	2021-2022
Telangana	State Level	135	Gandhi Medical College, Telangana	2015-2016
	Medical College Level	136	Kakatiya Medical College, Warangal, Telangana	2017-2018
	Medical College Level	137	Osmania Medical College, Hyderabad	2013-2014
	Medical College Level	138	All India Institute of Medical Sciences (AIIMS), Bibinagar	2021-2022
Tripura	Medical College Level	139	Government Medical College, Agartala	2014-2015
Uttar Pradesh	State Level	140	Banaras Hindu University (BHU), Varanasi	2016-2017
	State Level	141	King George's Medical University (KGMU), Lucknow	2015-2016
	Medical College Level	142	Jawaharlal Nehru Medical College (JNMC), Aligarh	2015-2016
	Medical College Level	143	Uttar Pradesh Rural Institute of Medical Sciences & Research, Saifai, Etawah, UP	2015-2016
	State Level	144	ICMR-Regional Medical Research Centre, Gorakhpur	2020-2021
	Medical College Level	145	All India Institute of Medical Science Raebareli, Uttar Pradesh	2021-2022
	Medical College Level	146	Government Institute of Medical Sciences, Greater Noida	2021-2022
	Medical College Level	147	LLRM Medical College, Meerut, Uttar Pradesh	2022-2023
	Medical College Level	148	Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, Uttar Pradesh	2023-2024

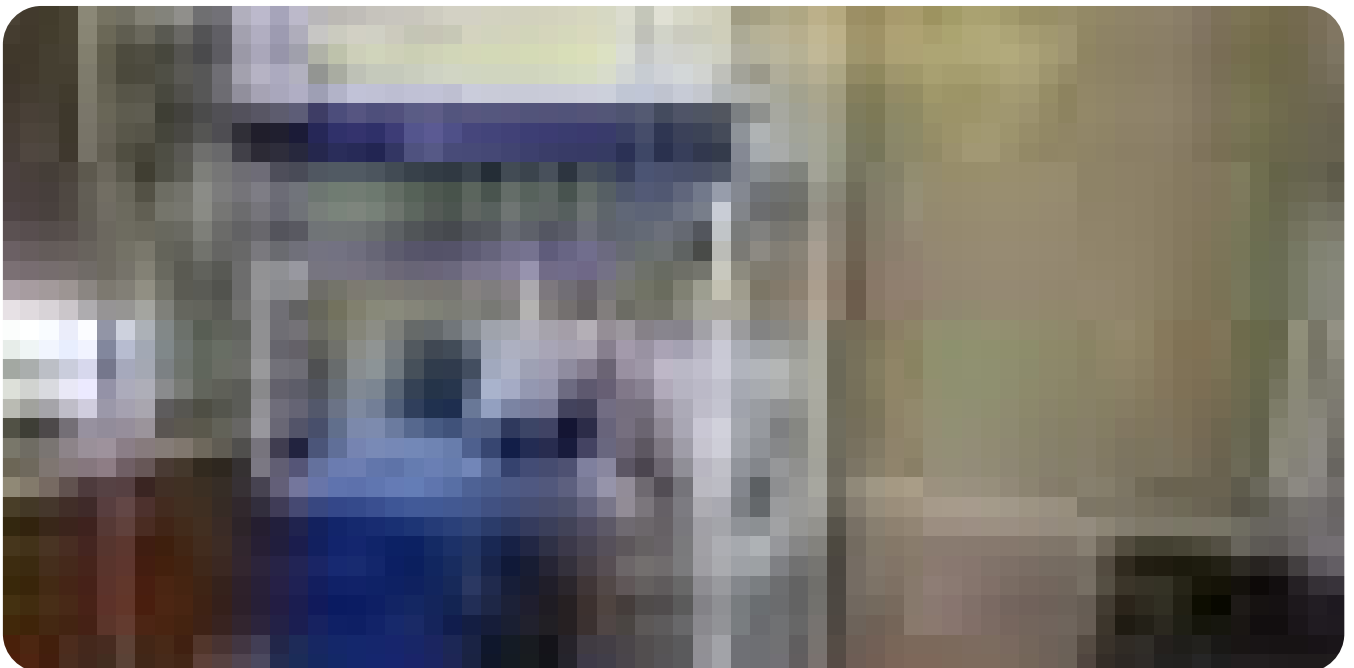
Contd...

State	Level of VRDL	S.No	Name of VRDL	Funded in
Uttarakhand	State Level	149	All India Institute of Medical Sciences (AIIMS) Rishikesh	2019-2020
	Medical College Level	150	Doon Medical College, Dehradun	2019-2020
	Medical College Level	151	Govt. Medical College, Haldwani, Uttarakhand	2015-2016
West Bengal	Regional Level	152	ICMR Virus Unit, National Institute of Cholera & Enteric Diseases, Kolkata	2014-2015
	Medical College Level	153	Burdwan Medical College, Burdwan	2020-2021
	Medical College Level	154	Institute of Post Graduate Medical Education & Research (IPGMER), Kolkata	2015-2016
	Medical College Level	155	Malda Medical College, Malda	2018-2019
	Medical College Level	156	Midnapore Medical College, Midnapore, West Bengal	2016-2017
	Medical College Level	157	Murshidabad Medical College, Murshidabad	2016-2017
	Medical College Level	158	North Bengal Medical College, Darjeeling	2016-2017
	Medical College Level	159	RG Kar Medical College, Kolkata	2018-2019
	Medical College Level	160	Diamond Harbour Govt. Medical College & Hospital, Diamond Harbour, West Bengal	2021-2022
	Medical College Level	161	All India Institute of Medical Sciences (AIIMS), Kalyani, West Bengal	2021-2022

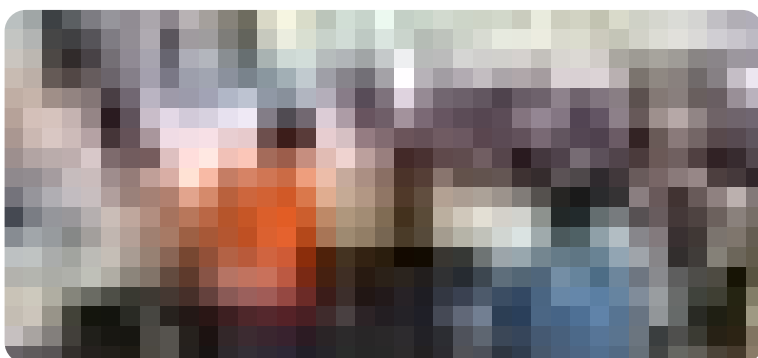
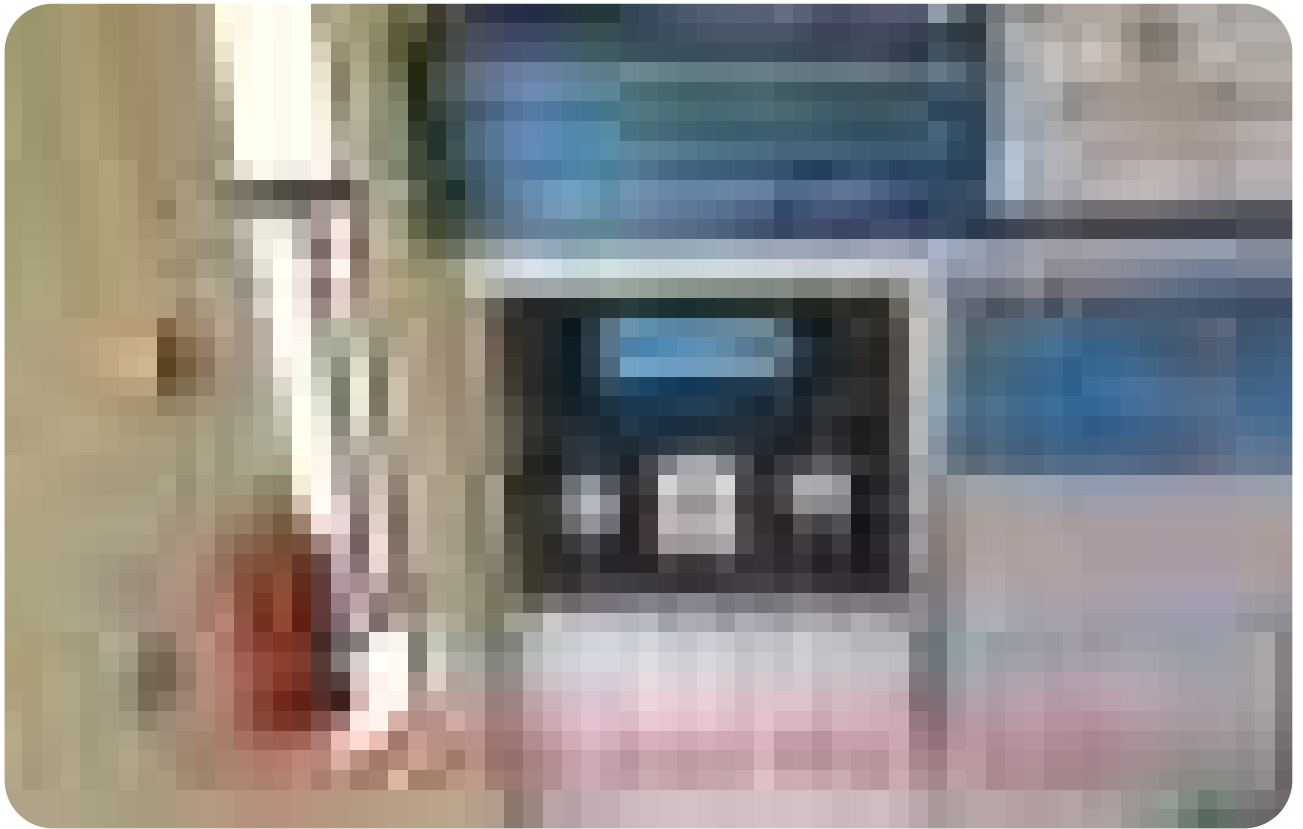
5.21 Geographical spread of VRDL Network



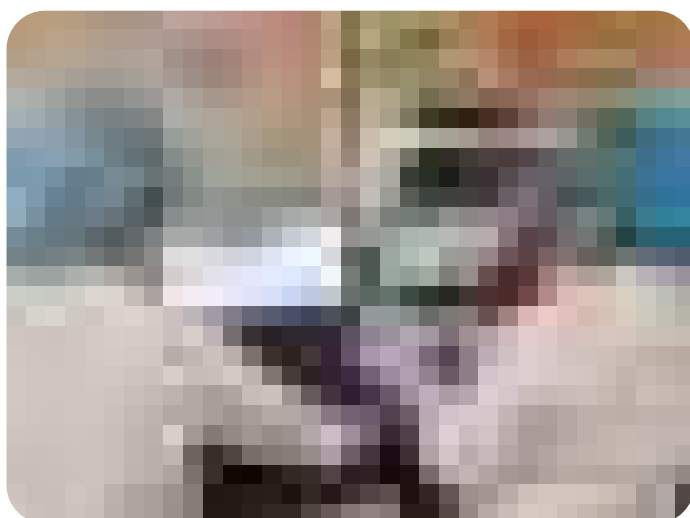
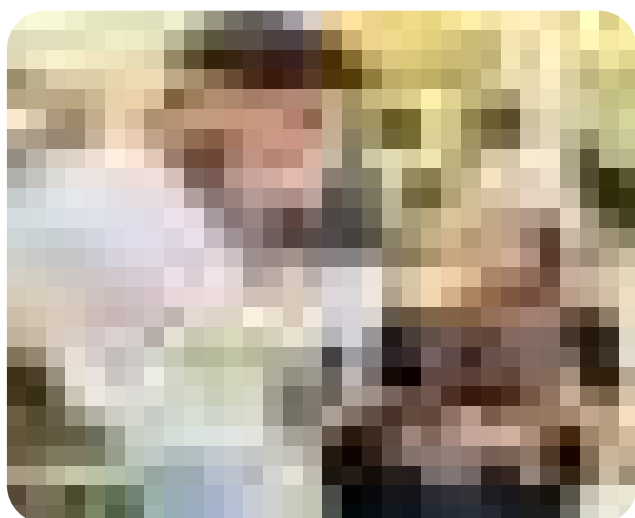
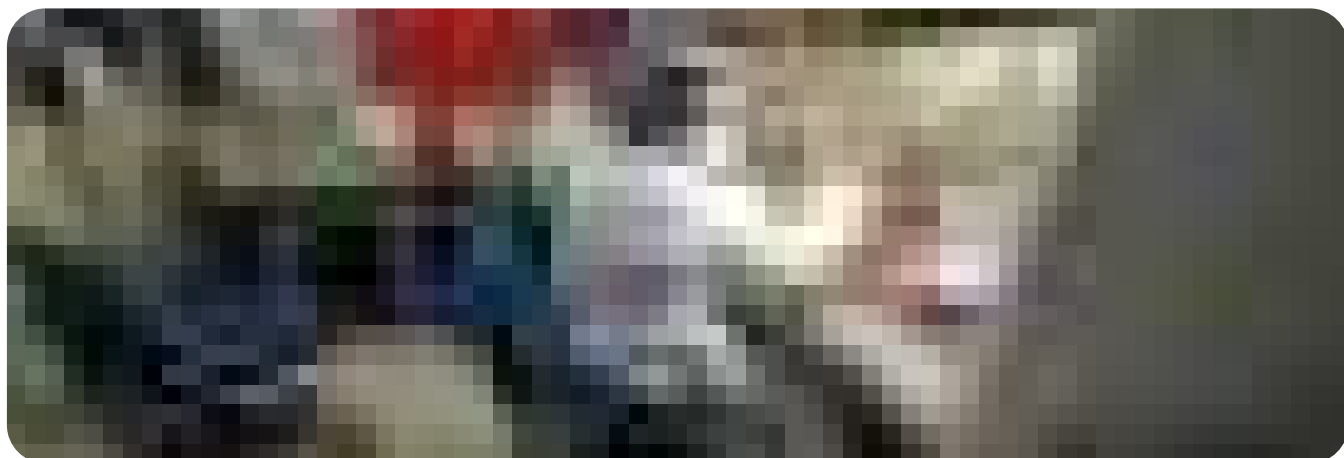
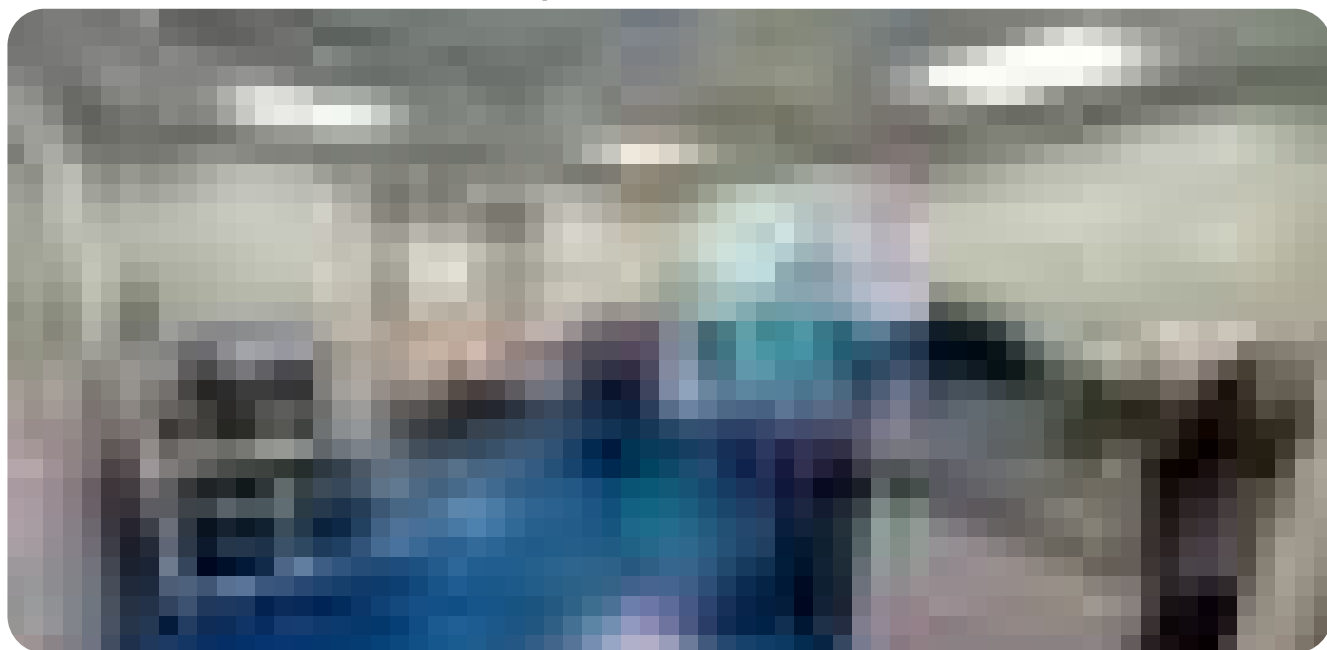
5.22 Glimpses of few VRDLs



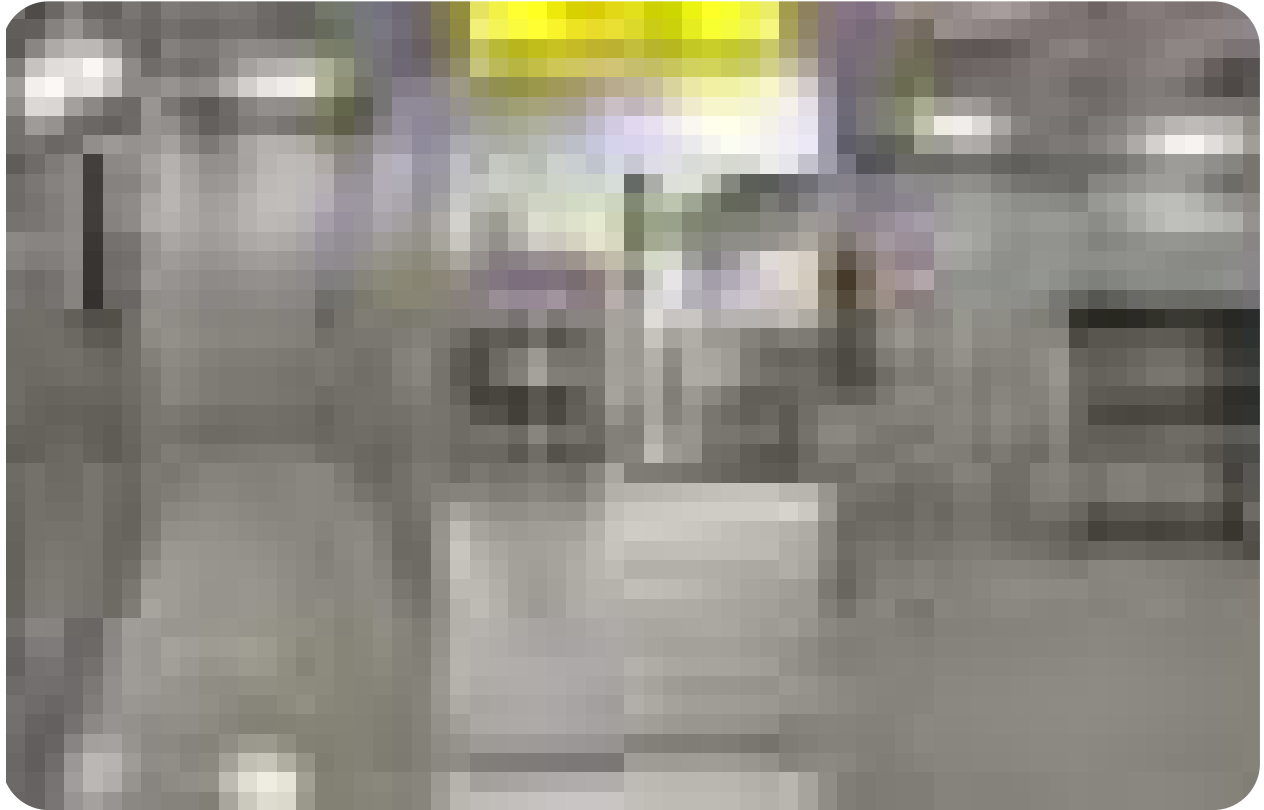
Glimpses of few VRDLs



Glimpses of few VRDLs



Glimpses of few VRDLs



5.23 **Research studies:**

During the year VRDLs have published more than 200 publications in peer reviewed national and international journals.

Chapter 6

Establishment of Multi Disciplinary Research Units (MRUs)
in Government Medical Colleges/ Research Institutes

- 6.1 Health research is predominantly carried out in the hospitals and research institutes. Medical colleges are the backbone of both medical education and providing health care services to patients. They are also expected to set the trends in the thinking process and innovations to improve the understanding of the diseases and their management. However, over the years it has been noticed that the majority of medical colleges cum hospitals have confined themselves to patient care and teaching based on conventional methods. Presently, quality medical research is largely confined to a small number of institutes and medical colleges in the country which may be attributable to lack of appropriate infrastructural facilities, motivation for conducting research and ever increasing patient care load.
- 6.2 Therefore, with a view to promote and encourage medical research in the country and provide assistance for appropriate research facilities, Government introduced a central sector umbrella scheme for Development of Infrastructure for promotion of Health Research in the year 2013-14 i.e. during the 12th Five Year Plan (2012-13 to 2016-17). The umbrella scheme has 02 sub-schemes namely (i) **establishing Multi Disciplinary Research Units (MRUs) in Government Medical Colleges and Research Institutes**; and (ii) establishing Model Rural Health Research Units (MRHRUs) in rural areas under the mentorship of ICMR institutes.
- 6.3 The scheme was extended from 2017-18 to 2019-20 to be co-terminus with the 14th Finance Commission Period. Subsequently, Department of Expenditure vide its Notification No.42(02)/PF-II/2014 dated 10.01.2020 approved an interim extension to all ongoing scheme still 31.03.2021 or till the date of recommendations of 15th Finance Commission came into effect, whichever was earlier.
- 6.4 The Standing Finance Committee chaired by Secretary (DHR) in its meeting on 15.03.2021 appraised the scheme and subsequently, the competent authority approved it for continuation during the period of 15th Finance Commission (2021-22 to 2025-26) with the financial outlay of Rs. 288.11 crore for MRUs.

Objectives of the Scheme

- 6.5 The scheme provides infrastructural support, in terms of civil works, equipment and recurring expenditure, to carry out bio-medical research in consonance with national health research priorities outlined in National Health Policy of the country. The main objectives of the scheme are:
 - Encouraging and strengthening research environment in medical colleges and research institutes.
 - Bridging infrastructural gap inhibiting health research in the medical colleges and research institutes.

- Capacity building and human resource development in the field of health research.
- Undertaking clinical trials.
- Undertaking multicentric and multidisciplinary research projects.
- Ensuring geographical spread of health research infrastructure in medical colleges and research institutes across the country.
- Improving overall health status of the population by creating evidence-based application of diagnostic procedures/drugs/devices.

6.6 Approval Mechanism

- (i) Proposals for setting up MRUs are submitted by the Heads of government medical colleges/ research institutes to the Department of Health Research as per the format prescribed in the scheme guidelines.
- (ii) These are considered by the Technical Evaluation Committee (TEC) of Experts and its recommendations are forwarded to the Approval Committee.

Composition of TEC:

- i. Prof. Sushma Bhatnagar, Professor & Head, (Onco - Anesthesia) and Palliative Medicine.
All India Institute of Medical Sciences, New Delhi.
- ii. Prof. Sandeep Bansal, Consultant Professor and Head of Deptt. (Deptt. of Cardiology).
Safdarjung Hospital, New Delhi
- iii. Prof. Achal Kumar Srivastava, Professor (Clinical Neurophysiology),
All India Institute of Medical Sciences, New Delhi
- iv. Prof. Piyush Gupta, Principal (Pediatrician)
University College of Medical Sciences, New Delhi
- v. Prof. Rajesh Sagar, Department of Psychiatry,
All India Institute of Medical Sciences, New Delhi.
- vi. Prof. Mongjam Megha Chandra Singh, Head, Deptt. of Community Medicine,
Maulana Azad Medical College, New Delhi

Composition of Approval Committee

1. Secretary, Department of Health Research..... Chairman
2. Additional Secretary & Financial Advisor, Ministry of Health & Family Welfare.....Member
3. Joint Secretary, Department of Health Research.....Member
4. Head, HRD, Indian Council of Medical Research.....Member

Funding Norms

- 6.7 The approved MRUs are eligible for one-time **non-recurring grant-in-aid** for (i) civil construction, and (ii) purchase of equipments, and **recurring grant** for (i) salaries, (ii) contingencies/ consumables /training etc. as per the following norms:

(Rs in crore)

Non-Recurring		Recurring (per annum)	
Civil Construction	0.25	Salaries	0.28
Equipment	*2.00 (to be released in two installments of Rs.1 crore each)	Contingencies/ Consumables/ Training, etc.	0.20

* *Proposals for grants in excess of Rs.2.00 crore for purchase of equipment recommended by the medical college/LRAC may be considered by the Department with the approval of the Secretary (DHR) on case to case basis taking into account the merits of the proposal.*

Operational Mechanism

- 6.8 The concerned States and medical colleges devise suitable internal mechanism for speedy execution of the civil works, procurement & installation of equipment, selection & posting of requisite core staff with the active involvement of the State Health/Medical Education Department. This involves:
- Signing of tripartite Memorandum of Agreement between the Department of Health Research, State Health/Medical Education Department and the medical college/research institute.
 - Finalisation of layouts/maps for establishing the MRU.
 - Tendering and hiring the agencies for construction/renovation of space provided for the setting up of MRU.
 - Tendering and procuring equipment and ensuring their maintenance.
 - Engaging contractual staff for MRU.

6.9 Staff Structure

(i) PMIU in DHR

A Programme Management & Implementation Unit (PMIU) consisting of regular government/contractual staff in Department of Health Research looks after the MRU related activities like policy formulation, monitoring, budgetary control etc.

Composition of PMIU in DHR is as under:

S.No.	Designation	No. of posts
1	Project Manager	1
2	Finance Manager/Consultant Finance & Accounts	1
3	Scientist C	2
4	Data Entry Operator	2
5	Tasking Staff	1

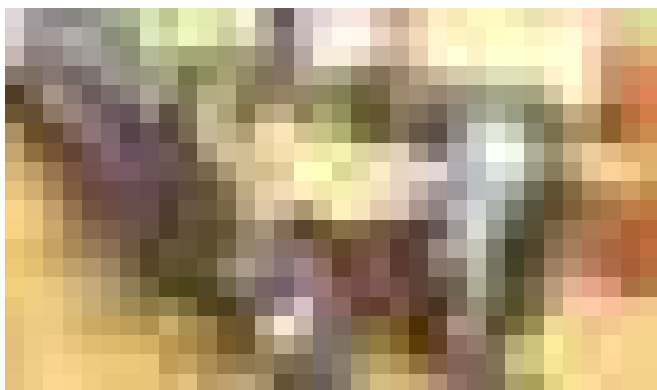
Note: PMIU is common for both MRU and MRHRU schemes.

(ii) Staff in MRUs

S. No.	Designation	No. of Posts
1	Research Scientist-II (Scientist 'C')	1
2	Research Scientist- I (Scientist 'B')	1
3	Lab Technician	2
4	Lab Assistant/ DEO (Grade 'A')	1

Monitoring Mechanism

- 6.10 Progress of research work of MRUs is closely and regularly monitored by an Expert Committee of DHR by way of holding review meetings. Besides, visits by experts and officials of DHR are also undertaken to have on the spot view of progress of the units. MRUs are also subject to all the prescribed internal/ statutory audit checks and inspections etc.
- 6.11 During 2023-24, a total of 06 Review meetings and 05 Zonal Conclaves involving all 115 MRUs were held to review their performance in terms of research projects undertaken, research projects completed, research papers published, patents filed, new technologies developed/transferred etc. Suggestions for improving performance were also shared with the units whose performance was not found satisfactory in terms of the above parameters.



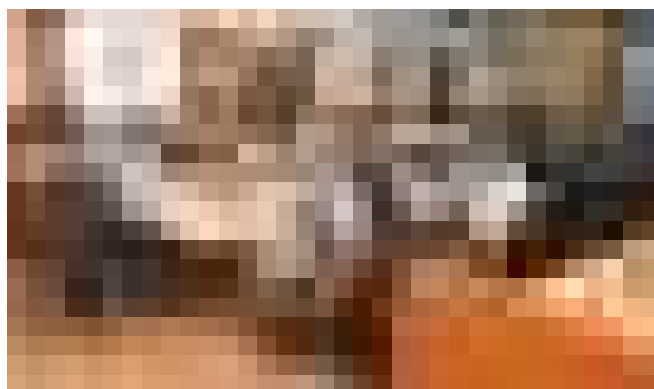
North Zone



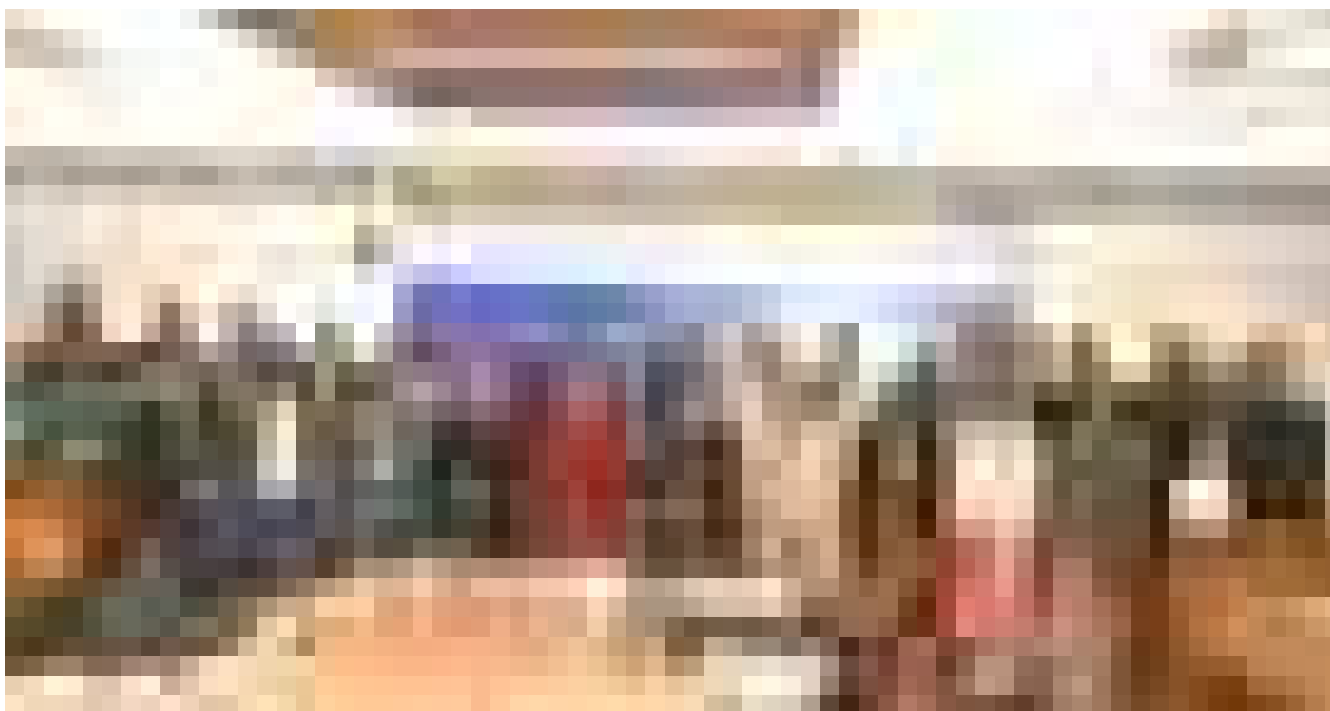
North East and East Zone



West and Central Zone



South Zone



DG ICMR and Secretary DHR with the participants in the Zonal Conclaves

- 6.12 The National Institution for Transforming India (NITI) Aayog and the Prime Minister's office have also developed Output Outcome Monitoring Framework (OOMF) and Dashboard for Analytical Review of Projects Across Nation (DARPAN) portals respectively for uploading data of Govt. schemes on quarterly and annual basis. The requisite data in respect of MRU scheme is regularly fed on these portals. The major Output & Outcome performance indicators of OOMF portals are:

	Output	Outcome
1	Number of MRUs to be established at medical colleges/research institutes.	Increase in health research activities/studies at government medical colleges/research institutes (Nos.)
2	Number of MRUs to be functional out of the total MRUs established.	Initiation to development of Diagnostics kits/Technologies for non communicable and communicable diseases (Nos.).
3	Number of research studies/projects to be completed by MRUs established	Number of research papers published/ presented/patents filed on new clinically/public health relevant knowledge generated from the MRUs established
4		Numbers of new technologies developed for introduction into the public health system.
5		No. of leads converted into patents/ products/processes for use in public health services.

- 6.13 The performance indicators of the DARPAN portal are as under:

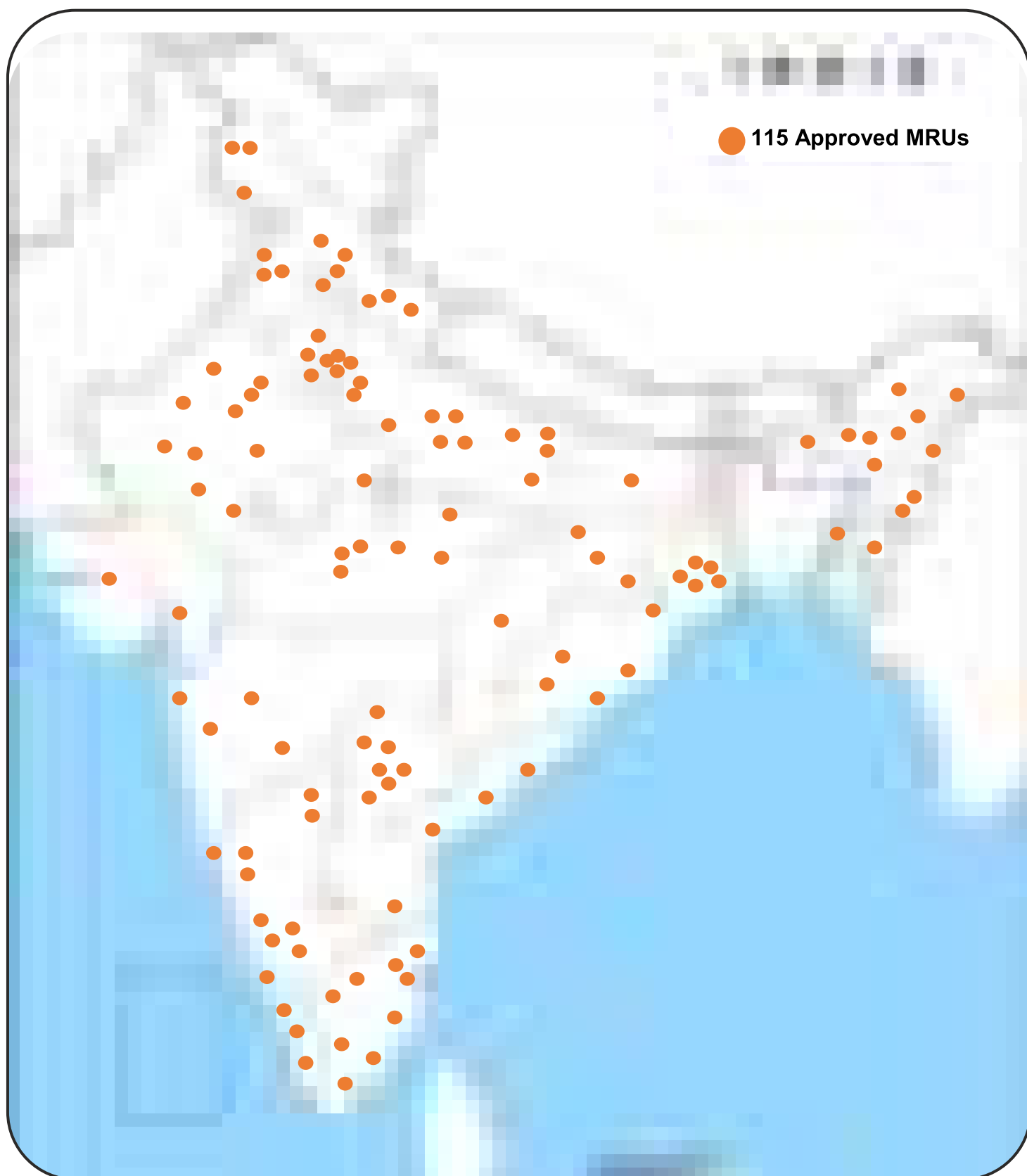
1	Number of Publication
2	Number of MRUs approved
3	Number of Research Projects
4	Funds Released

Local Research Advisory Committee (LRAC)

- 6.14 For operating the MRU in medical colleges/research institutes, a Local Research Advisory Committee (LRAC) is constituted which considers and approves research proposals received from different departments of the colleges/research institutes. LRAC also monitors progress of research proposals in the college. The head of the medical college/ research institute designates one of the members of the faculty, preferably of the level of professor as Nodal Officer for overseeing the functioning of MRU. LRAC works as recommendatory body for all proposals of the medical college to be pursued through its MRU. Composition of LRAC is as under:

1	Chairperson	External Expert, preferably Professor level from reputed Research Institution/University
2	Co-Chairperson	
3	Three Clinicians/ Academicians	One External and Two Internal with expertise in Non- Communicable Diseases – one Expert specializing in the disease identified in Research Project.
4	One nominee of State Health/ Medical Education Deptt	
5	One nominee from ICMR HQ or nearest ICMR Institute.	
6	Member Secretary	Nodal Officer, MRU

Distribution of Multi Disciplinary Research Units in Government Medical Colleges



Physical Achievements

6.15 Since the inception of the scheme in 2013-14, following 115 MRUs have been sanctioned till 31.03.2024.

S.No	State	Names of Medical Colleges approved for establishment of MRUs
1	Andhra Pradesh (4)	Siddhartha Medical College, Vijaywada
2		Rangaraya Medical College, Kakinda
3		Andhra Medical College, Visakhapatnam
4		S.V. Medical College, Tirupati
5	Arunachal Pradesh (1)	TomoRiba Institute of Health & Medical Sciences
6	Assam (7)	Silchar Medical College and Hospital, Silchar
7		Jorhat Medical College, Jorhat
8		Fakhruddin Ali Ahmed Medical College, Barpeta
9		Assam Medical College and Hospital, Dibrugarh
10		Gauhati Medical College, & Hospital, Guwahati
11		Diphu Medical College & Hospital, Diphu
12		Tezpur Medical College & Hospital
13	Bihar (1)	Indira Gandhi Institute of Medical Sciences, Patna
14	Chandigarh (1)	Government Medical College, Chandigarh
15	Chhattisgarh (1)	Pt. JNM Medical College, Raipur
16	Delhi (NCT) (4)	University College of Medical Sciences
17		Vallabh Bhai Patel Chest Institute
18		Maulana Azad Medical College
19		Vardhman Mahavir Medical College & Safdarjung Hospital
20	Goa (1)	Goa Medical College, Panji
21	Gujarat (2)	M.P.Shah Medical College, Jamnagar
22		Surat Municipal Institute of Medical Education and Research, Surat
23	Haryana (3)	Pt. BD Sharma Post Graduate Institute of Medical Sciences, Rohtak
24		Kalpana Chawla Govt. Medical College, Karnal
25		ESIC Medical College & Hospital, Faridabad
26	Himachal Pradesh (3)	Indira Gandhi Medical College & Hospital, Shimla
27		Dr. R.P. Govt. Medical College, Kangra at Tanda
28		Dr. Radha Krishnan Govt. Medical College, Hamirpur
29	Jammu & Kashmir (3)	Govt. Medical College, Jammu
30		Govt. Medical College, Srinagar
31		Sher-i-Kashmir Institute of Medical Sciences, Srinagar

Contd...

S.No	State	Names of Medical Colleges approved for establishment of MRUs
32	Jharkhand (3)	MGM Medical College & Hospital, Jamshedpur
33		Rajendra Institute of Medical Sciences, Ranchi
34		All India Institute of Medical Sciences, Deogarh
35	Karnataka (8)	Dharwad Institute of Medical Sciences, Dharwad
36		Mandya Institute of Medical Sciences, Mandya
37		Karnataka Institute of Medical Sciences, Hubli
38		Shimoga Institute Of Medical Sciences, Shivamogga
39		Gulbarga Institute of Medical Sciences, Kalaburagi
40		Raichur Institute of Medical Sciences, Raichur
41		Mysore Medical College & Research Institute, Mysore
42		Hassan Institute of Medical Sciences, Hassan
43	Kerala (4)	Govt. Medical College, Thiruvananthapuram
44		Calicut Medical College, Kozhikode
45		Govt. Medical College, Kottayam
46		Govt. Medical College. Thrissur
47	Madhya Pradesh (7)	S.S. Medical College, Rewa
48		Netaji Subhash Chandra Bose Medical College, Jabalpur
49		M.G.M. Medical College, Indore
50		Gandhi Medical College, Bhopal
51		G.R. Medical College, Gwalior
52		Bundhelkhand Govt. Medical College, Sagar
53		All India Institute of Medical Sciences, Bhopal
54	Maharashtra (4)	Seth G.S Medical College & KEM Hospital Mumbai
55		Dr. Vaishampayan Memorial Government Medical College, Sholapur
56		Armed Forces Medical College, Pune
57		B.J. Medical College, Pune
58	Manipur (2)	Regional Institute of Medical Sciences, Imphal
59		Jawaharlal Nehru Institute of Medical Sciences, Imphal, Manipur
60	Mizoram (1)	Zoram Medical College, Falkwan
61	Nagaland (1)	Naga Hospital Authority, Kohima
62	Odisha (5)	S.C.B. Medical College& Hospital, Cuttack
63		V.S.S. Institute of Medical Sciences & Research, Burla
64		M.K.C.G. Medical College, Berhampur
65		Bhima Bhoi Medical College & Hospital, Balangir
66		Pandit Raghunath Murmu Medical College & Hospital, Baripada

Contd...

S.No	State	Names of Medical Colleges approved for establishment of MRUs
67	Punjab (3)	Govt. Medical College, Amritsar
68		Govt. Medical College, Patiala
69		Guru Gobind Singh Medical College & Hospital, Faridkot
70	Rajasthan (10)	Dr. Sampurnanand Medical College, Jodhpur
71		Government Medical College, Kota
72		Sardar Patel Medical College and Associated Group of PBM Hospitals, Bikaner
73		JLN Medical College, Ajmer
74		SMS Medical College, Jaipur
75		R.N.T. Medical College, Udaipur
76		Rajasthan University of Health Sciences, Jaipur
77		Govt. Medical College, Dungarpur
78		Government Medical College, Pali
79		Government Medical College, Jhalawar
80	Tamil Nadu (9)	Madras Medical College, Chennai
81		Tirunelveli Medical College, Tirunelveli
82		Coimbatore Medical College, Coimbatore
83		Dr.A.L.M. Post Graduate Institute of Basic Medical Sciences, Taramani
84		Tanjavur Medical College, Tanjavur
85		Govt. Mohan Kumarmangalam Medical College, Salem
86		Govt. Theni Medical College, Theni
87		Chengalpattu Medical College, Chengalpattu
88		Madurai Medical College, Madurai
89	Telangana (7)	Osmania Medical College, Hyderabad
90		Gandhi Medical College, Secunderabad
91		Nizam Institute of Medical Sciences, Hyderabad
92		Govt. Medical College, Mahbubnagar
93		All India Institute of Medical Sciences, Bibinagar, Telangana
94		Government Medical College, Siddipet
95		Kakatiya Medical College, Hanumakonda
96	Tripura (1)	Agartala Govt. Medical College, Agartala
97	Uttar Pradesh (11)	G.S.V.M Medical College, Kanpur
98		King George Medical University, Lucknow
99		Institute of Medical Sciences, Banaras Hindu University, Varanasi

Contd...

S.No	State	Names of Medical Colleges approved for establishment of MRUs
100	Uttar Pradesh (11)	Uttar Pradesh University of Medical Sciences, Saifai, Etawah
101		Government Institute of Medical Sciences, Greater NOIDA
102		All India Institute of Medical Sciences, Raebareli
103		Baba Raghav Das Medical College, Gorakhpur
104		All India Institute of Medical Sciences, Gorakhpur
105		S.N. Medical College, Agra
106		Government Medical College, Kannauj
107		Moti Lal Nehru Medical College, Prayagraj
108	Uttarakhand (3)	Govt. Medical College, Haldwani (Nainital)
109		Veer Chandra Singh Garhwali Govt. Institute of Medical Science & Research Institute, Srinagar, Pauri Garhwal.
110		All India Institute of Medical Sciences, Rishikesh
111	West Bengal (5)	R.G. Kar Medical College & Hospital, Kolkata
112		Medical College & Hospital, Kolkata
113		Institute of Post Graduate Medical College Education & Research, Kolkata
114		Nil Ratan Sircar Medical College & Hospital, Kolkata
115		All India Institute of Medical Sciences, Kalyani, West Bengal

Note: Of the 115 MRUs sanctioned, 13 are in the north-eastern region.

6.16 Physical Targets for establishing new MRUs during 2021-22 to 2025-26

Year	No. of MRUs to be Established
2021-22	*06
2022-23	**06
2023-24	06
2024-25	06
2025-26	06

* Against the target of setting up 06 MRUs, 12 MRUs were approved.

** Against the target of setting up 06 MRUs, 18 MRUs were approved

Note: The proposals for establishing new MRUs are considered and approved on first come first served basis subject to their fulfilling prescribed guidelines, rules and procedures. The geographical spread of these units is also kept in view.

6.17 Financial Achievements**(Rs. crore)**

Year	Budget Estimates (BE)	Revised Estimates (RE)	Actual Expenditure
2013-14	45.00	37.10	36.25
2014-15	80.00	31.00	31.00
2015-16	45.50	28.00	25.20
2016-17	24.25	24.25	24.25
2017-18	36.00	45.00	45.00
2018-19	50.00	37.00	36.00
2019-20	58.00	55.00	55.00
2020-21	60.00	58.00	52.80
2021-22	60.00	51.00	39.61
2022-23	60.00	48.00	44.86
2023-24	60.00	50.00	50.00

6.18 Research Performance

As per the reports received from medical colleges and research institutes for the year 2023- 24, 528 research studies/ projects are underway in MRUs on different aspects of diseases and 251 Research Papers have been published.

6.19 Use of State-of-the-Art Equipment at MRUs

Multi Disciplinary Research Units infrastructure has resulted into the development of laboratories in Govt. Medical Colleges equipped with advanced instruments for high through-put testing of large number of samples. The research undertaken at these MRUs will help to develop affordable, accessible and usable new medical diagnostic technologies, drugs, devices, drug monitoring mechanism, vaccine designing etc. Following is the list of some the State-of-the-Art instruments used at MRUs:

S. No.	Name of MRU	State-of-the-Art facilities
1	Govt. Medical College, Srinagar, J&K	CFX-96 Real Time-PCR (RT-PCR), Neon Cell Transfection System, Countess FL (Cell counter), EVOS FL Auto microscope
2	Madurai Medical College, Madurai, TN	RT-PCR, Gas Chromatography Mass Spectrometry (GCMS), High Performance liquid Chromatography (HPLC), ChemiLuminescence Immunology Analyzer (CLIA)
3	Institute of Medical Sciences, Banaras Hindu University, Varanasi	Microarray, Next Generation sequencing system-Nanopore Atomic Absorption spectrophotometer, Real time PCR system

Contd...

S. No.	Name of MRU	State-of-the-Art facilities
4	Tirunelveli Medical College, Tirunelveli, TN	Real Time PCR, Inverted phase4 contrast microscope, HPLC, GCMS, Cytogenetic Work Station, Zebra fish Lab
5	Government Medical College, Calicut, Kerala	FISH, Molecular diagnostic lab including genetic testing, Sanger sequencer
6	Institute of Post Graduate Medical Education & Research , Kolkata	Electron Microscope with Ultramicrotome.
7	Silcher Medical College, Silcher, Assam	Next Generation Sequencer (High throughput Genetic analyzer)
8	Ravindra Nath Tagore Medical College, Udaipur, Rajasthan	Fluorescent in situ Hybridization (FISH), GEL-DOC Imaging Equipment for CHEMILUMINESCENCE
9	Shyam Shah Medical Rewa, Rewa, MP	Real time PCR, HPLC beta variant, Fluorescent Microscope
10	Coimbatore Medical College, Coimbatore, Tamil Nadu	Fluorescent in situ Hybridization (FISH), GEL-DOC Imaging Equipment for CHEMILUMINESCENCE
11	All India Institute of Medical Sciences, Rishikesh, Uttarakhand	Nanopore Sequencer, Q-PCR
12	MP Shah Govt. Medical College, Jamnagar, Gujarat	High Performance liquid Chromatography (HPLC)
13	S.V. Medical College, Tirupati, Andhra Pradesh	High Performance liquid Chromatography (HPLC), Auto Analyzer, Ultra Centrifuge, Fluorescent Microscope
14	Madras Medical College, Madras, Tamil Nadu	Real time – PCR, Fluorescence in situ hybridization (FISH), Auto Analyzer
15	Gandhi Medical College, Secunderabad, Telangana	Seq Studio Genetic Analyzer, HPLC & GCMS, Flow-cytometry, RTPCR, Tissue Processor,
16	Dr. ALM Post Graduate Institute of Basic Medical Sciences, University of Madras, Taramani Campus, Chennai	Applied Biosystem 3500 8 Capillary Genetic Analyzer, Automated Cytogenetic Analysis Workstation, Floor Model High Speed Refrigerated Centrifuge, Real Time PCR System
17	S.P. Medical College, Bikaner, Rajasthan	Bio Chemistry Analyzer
18	SMS Medical College, Jaipur, Rajasthan	High Performance liquid Chromatography (HPLC), Fluorescent Microscope, Real time – PCR
19	Armed Forces Medical College, Pune, Maharashtra	Real time PCR system, Inverted fluorescence microscope, Multimode Microplate Reader and Washer

Contd...

S. No.	Name of MRU	State-of-the-Art facilities
20	All India Institute of Medical Sciences, Rishikesh, Uttarakhand	Real time PCR system
21	King George Medical College, Lucknow, UP	Multimodal plate reader, Real time PCR system, Chemi Doc MP Imaging system
22	Maulana Azad Medical College, Delhi	Genetic Analyzer, Gas Chromatography Mass Spectrometry, Flow Cytometer, Multi Mode Reader, DNA Extraction System, Real time PCR system
23	Sher-I-Kashmir Institute of Medical Sciences Srinagar, J&K	Multimode Elisa Reader, High Performance liquid Chromatography (HPLC), Real time PCR system
24	University College of Medical Sciences,	Upright Trinocular Fluorescent Microscope, Inverted Fluorescent Microscope
25	Assam Medical College & Hospital, Dibrugarh, Assam	Ultra-centrifuge, Microscope LED illumination,
26	Medical College and Hospital, Kolkata	Florescence Microscope with karyotyping software
27	Healtcare Laboratory & Research Centre, Naga Hospital, Kohima, Nagaland	Gas Chromatography Mass Spectrometer With Accessories, Auto Analyzer, Real time PCR system,

6.20 Prominent features of the Scheme

(i) Multi-Centric Studies by MRUs

The MRU scheme approved for 2021-22 to 2025-26 has provision for undertaking of multi-centric studies by MRUs. Operational guidelines for multi-centric studies were notified in December 2023. During 2023-24, following 05 multi-centric projects were approved by the Project Screening Committee (PSC) and Grants-in-aid amounting to Rs 2.38 crore was released:

1. Role Of PIGF, SFlt1, Cellfree DNA In Early Pregnancy As Predictor Of The Development Of Pre-Eclampsia And Their Association With Foetal Chromosome Allele
2. Metagenomic and Metabolomic Profiling in Graves' Disease
3. Cytokine and autoantibody cluster interactions in Systemic Lupus Erythematosus (SLE)
4. Diagnostic utility of circulating tumour cells and cell-free DNA (liquid biopsy) in lung cancer patients with mediastinal/hilar lymphadenopathy on endobronchial ultrasound-transbronchial needle aspiration: A multicentric diagnostic accuracy study.
5. Studies to develop new method for quantification of methylation pattern of genes related to Glioma development

(ii) Funding and administration of MRUs by Central Government

As per the revised scheme for the 15th Finance Commission Period (2021-22 to 2025-26), Central Government is to administer and bear all the recurring and non-recurring liabilities of the MRUs. In the earlier scheme, the recurring liabilities were to be taken over by the State Government after 5 years of running the MRU.

(iii) Grant for purchase of equipment

In line with the economy measures of the government, grants-in-aid for purchase of equipment has been fixed at Rs.2.00 crore. Proposals for grants in excess of Rs.2.00 crore for purchase of equipment recommended by the medical college/ LRAC will be considered by the Department with the approval of the Secretary (DHR) on case to case basis taking into account the merits of the proposal.

(iv) Development of Dashboard of the Scheme

Development of Dashboard for compilation and instant reporting of data in respect of established MRUs. The Dashboard provides information in terms of number of MRUs, number of publications, ongoing projects, completed projects, funds sanctioned/utilized, total patents, equipment details, training details, LRAC members/meeting details, conference details, increase in transfer of technologies, instant generation of reports.

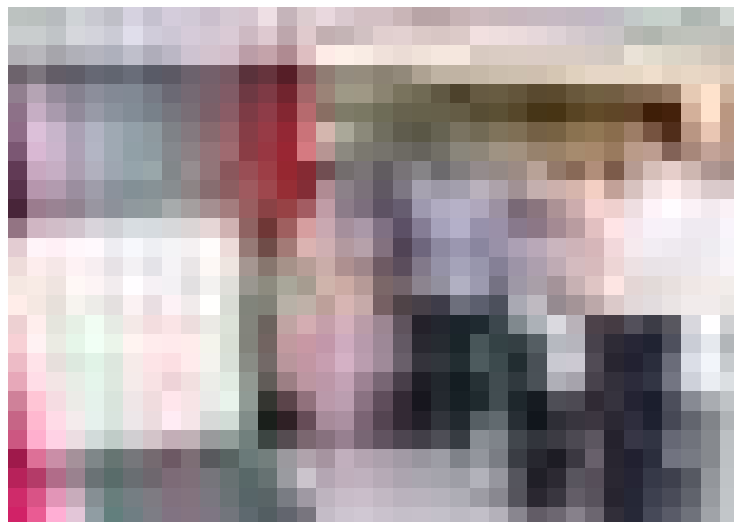
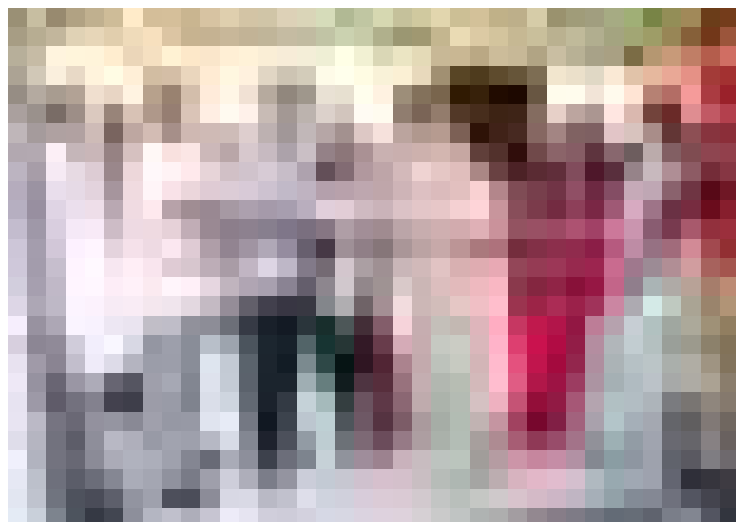
(v) IPEM-Development of integrated Primary Health Care Model on Palliative Care, Elderly Care and Mental Health (I-PEM)

The National Institute for Transforming India(NITI) Aayog desired, the Department of Health Research to develop Integrated Primary Health Care Model for Palliative Care, Elderly Care and Mental Health (I-PEM) involving collaboration between Multi Disciplinary Research Units (MRUs)/ Model Rural Health Research Units (MRHRUs) of the Department of Health Research (DHR) and Health & Wellness Centres (HWCs) of the Department of Health & Family Welfare(DoH&FW). Grants-in-Aid @ 15.45 Lakh to 06 identified MRUs/MRHRUs has been released for necessary data collection based on which the Health Care Models would be piloted in the selected regions. In Addition to this GIA of Rs 1.00 Lakh to 12 participating units in this project has been released to provide incentives for ASHA workers for necessary data collection based on which the Health Care Models would be piloted in the selected region.

(vi) Clinical trial by MRUs

Existing network/ infrastructure of MRUs to be utilised for undertaking clinical trials

Neurophysiology and Neurodiagnostic Lab at MRU- ESICMCH Faridabad



**Inauguration of Neurophysiology and Neurodiagnostic Lab at MRU- ESICMCH Faridabad
by Dr. Rajiv Behl, Director General of Indian Council of Medical Research (ICMR) and Secretary
Department of Health Research (DHR)**

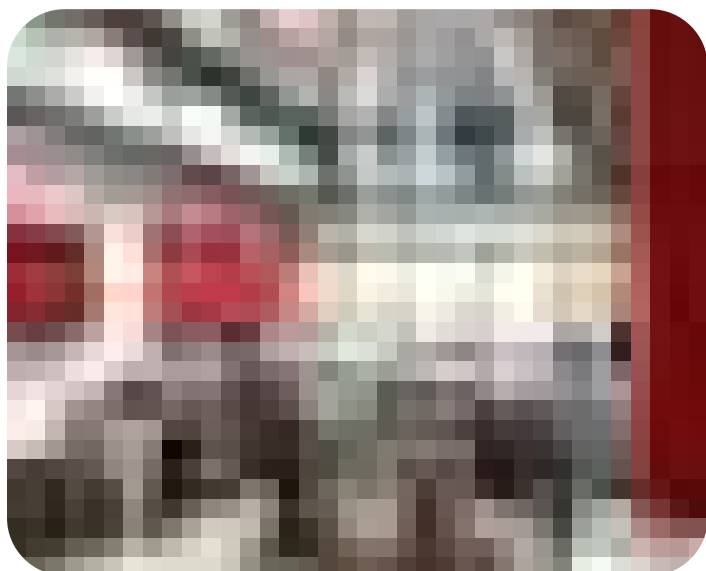
Laboratory Set Up at Multidisciplinary Research Units



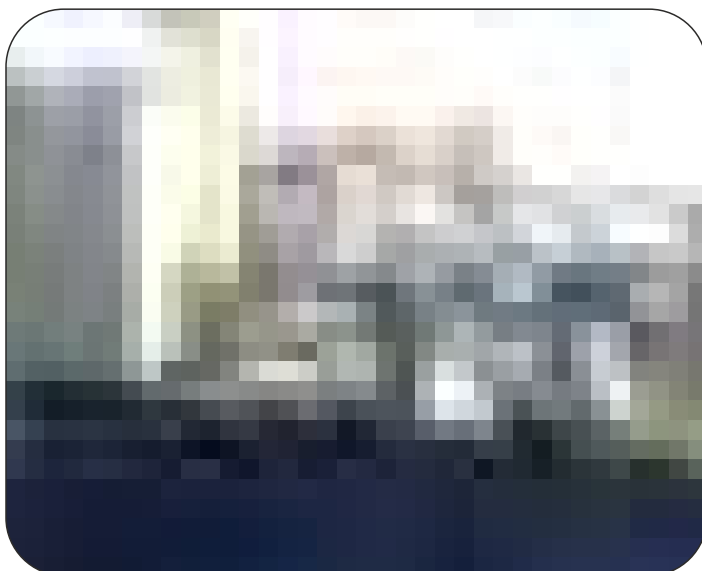
AIIMS, Rishikesh



Bundelkhand Medical College, Sagar, M.P



N.R.S Medical College & Hospital, Kolkata

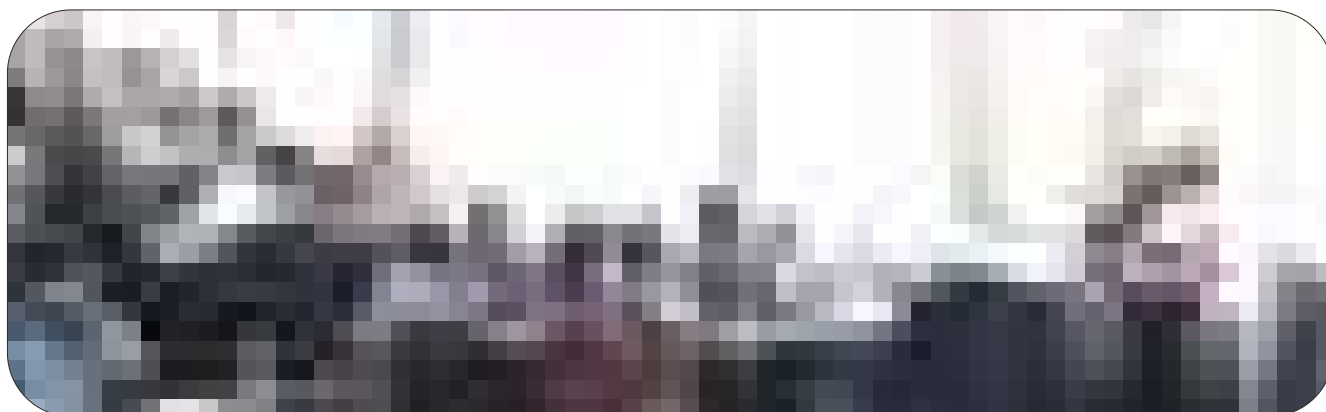
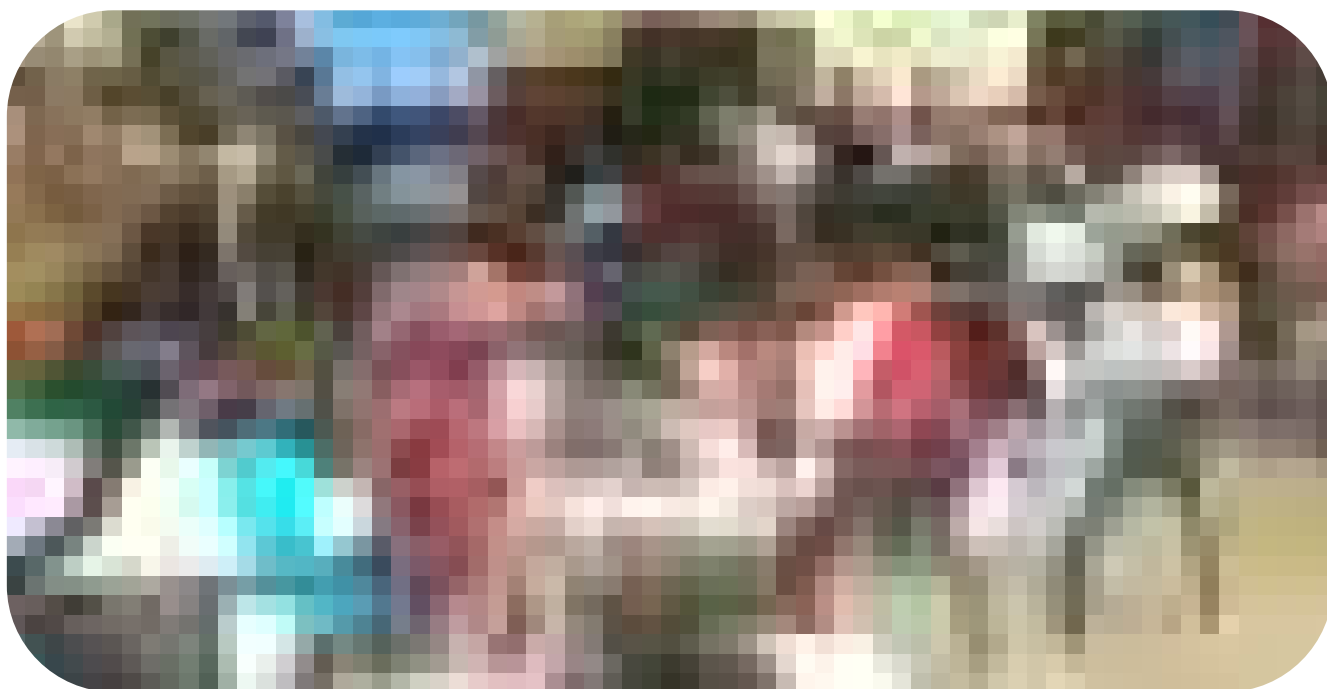


SCB Medical & Hospital, Cuttack



GMC, Chandigarh

Orientation workshops on Research Methodology at Multidisciplinary Research Units



MRU- Mahatama Gandhi Memorial Medical College (MGMMC), Jamshedpur, Jharkhand

Orientation workshops on Research Methodology at Multidisciplinary Research Units

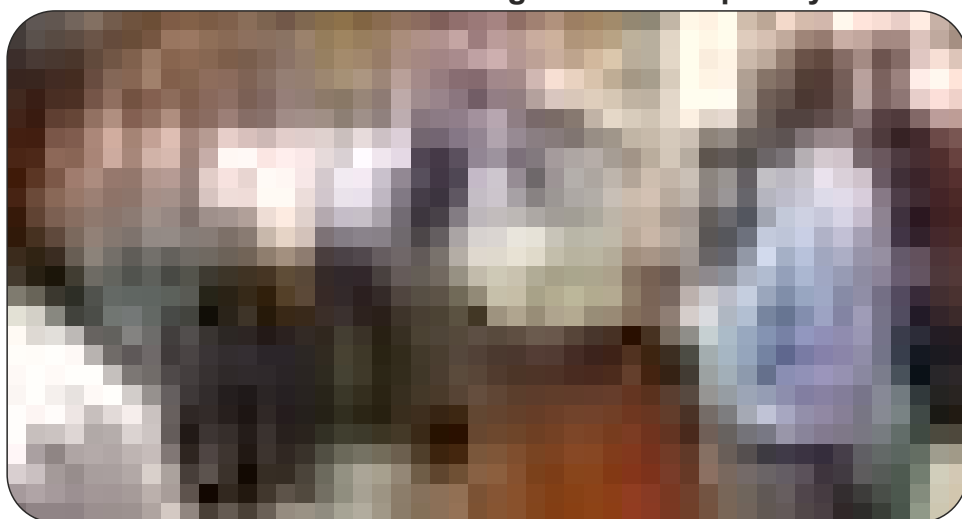
**MRU- S.P. Medical College,
Bikaner, Rajasthan**



**MRU- Surat Municipal Institute
of Medical Education and
Research (SMIMER),
Surat, Gujarat**

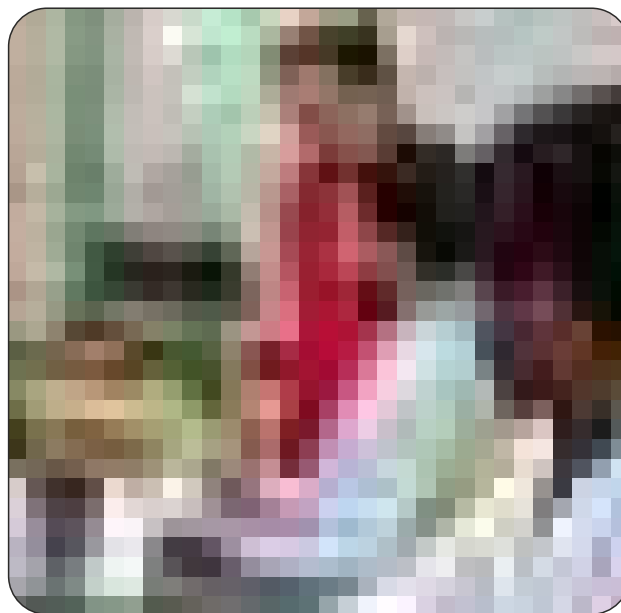
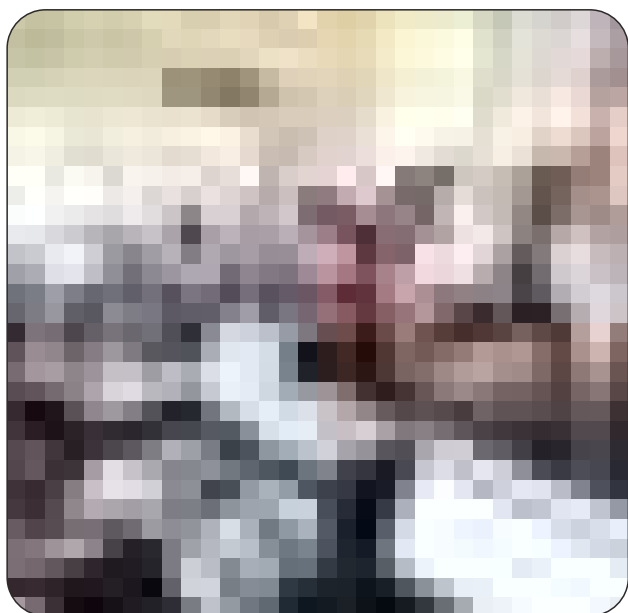


Hands on Training at Multidisciplinary Research Units

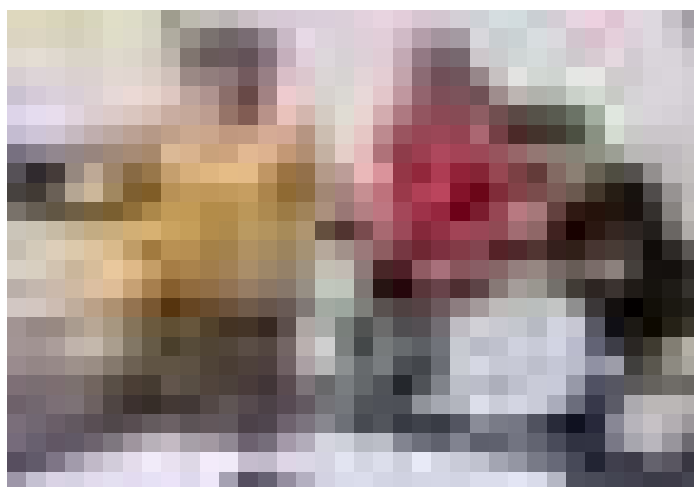
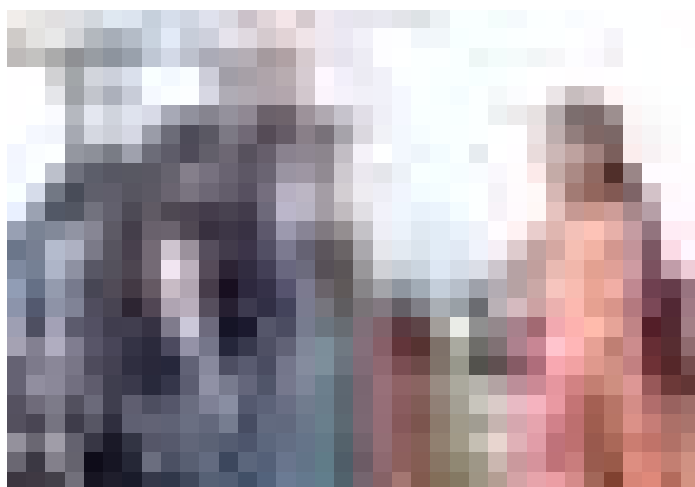


Fully Automated
Biochemistry Analyzer
(Em200)"at
MRU- MGMMC,
Jamshedpur, Jharkhand

Cervical Cancer screening &
Molecular Dignostics of HPV
at MRU- MGMMC,
Jamshedpur, Jharkhand



Training under STEMI Project at MRU- Shyam Shah Medical College, Rewa, M.P



ELISA and Biochemical Test at MRU- Surat Municipal Institute of Medical Education and Research (SMIMER), Surat, Gujarat

Health Camps Organized by Multidisciplinary Research Units

MRU- Mahatama Gandhi Memorial Medical College (MGMMC), Jamshedpur, Jharkhand





MRU- Shyam Shah Medical College, Rewa, M.P.

Chapter 7

Establishment Of Model Rural Health Research Units (MRHRUs)

Introduction

- 7.1 Public health system in India has a wide network. Over the last more than 75 years, preventive, diagnostic and therapeutic services have been provided through this network managed by States. It has been observed that a big gap exists between Primary Health Centres (PHCs)/ Community Health Centres (CHCs) and tertiary care hospitals with state-of-the art-facilities created by the Centre and also by some of the State Governments. The professionals and policy makers had a general view that modern methods of diagnosis and management cannot be practised at peripheral level. The wide spread use of latest technologies in healthcare will not only ease delivery of healthcare services but also reduce cost of treatment at rural level.
- 7.2 Further, wide variations exist in the pattern of diseases prevalent in different geographical areas and local conditions which require development of State/area specific and disease specific strategies to provide better health care facilities, thus ensuring that the modern technology is available to the general public. Transfer of research findings/technologies at the rural level has been found to be major lacuna in providing quality medical services to the rural population.
- 7.3 To bridge the gap, Department of Health Research rolled out a central sector umbrella scheme for Development of Infrastructure for Health Research in 2013-14, i.e. during 12th Five Year Plan(2012-13 to 2016-17).The umbrella scheme has 02 sub-schemes, namely(i)establishing Multidisciplinary Research Units(MRUs) in Government Medical Colleges and Research Institutes, and (ii) **establishing Model Rural Health Research Units (MRHRUs) in rural areas under the mentorship of ICMR institutes.**
- 7.4 The scheme was extended from 2017-18 to 2019-20 to be co-terminus with the 14th Finance Commission Period. Subsequently, Department of Expenditure vide its Notification No.42(02)/PF-II/2014 dated 10.01.2020 approved an interim extension to all ongoing schemes till 31.03.2021 or till the date of recommendations of 15th Finance Commission came into effect, whichever was earlier.
- 7.5 The Standing Finance Committee chaired by Secretary (DHR) in its meeting on 15.03.2021 appraised the scheme and subsequently the Competent Authority approved it for continuation during the period of 15th Finance Commission (2021-22 to 2025-26) with the financial outlay of Rs. 192.36 crore for MRHRUs.
- 7.6 MRHRU scheme is based on the experience of establishing such a unit at Ghatampur under the ICMR –National Jalma Institute of Leprosy and other Mycobacterial Diseases, Agra, where the methods of

diagnosis and treatment as well as epidemiology were shown to be workable deep at the grass root rural settings.

7.7 Objectives of the Scheme

- To create infrastructure for transfer of technology to the rural areas for improving quality of health services.
- To ensure an interface between the new technology developers (researchers in medical institutes; State or Centre), health systems operators (Centre or State Health Services) and the beneficiaries (communities in rural areas).
- To undertake Clinical Trials.
- To undertake multi-centric research projects.
- To ensure geographical spread of health research infrastructure in the country.

7.8 Approval Mechanism

- (i) Proposals for setting up MRHRUs are submitted by the State Health/Medical Education Departments in consultation with ICMR Mentor Institute, to the Department of Health Research.
- (ii) These are considered by the Technical Evaluation Committee (TEC) of Experts and its recommendations are forwarded to the Approval Committee for consideration.

Composition of TEC:

- i. Prof. Sushma Bhatnagar, Professor & Head, (Onco - Anesthesia) and Palliative Medicine.
All India Institute of Medical Sciences, New Delhi
- ii. Prof. Sandeep Bansal, Consultant Professor and Head of Deptt. (Deptt. of Cardiology).
Safdarjung Hospital, New Delhi
- iii. Prof. Achal Kumar Srivastava, Professor (Clinical Neurophysiology),
All India Institute of Medical Sciences, New Delhi
- iv. Prof. Piyush Gupta, Principal (Pediatrician)
University College of Medical Sciences, New Delhi
- v. Prof. Rajesh Sagar, Department of Psychiatry,
All India Institute of Medical Sciences, New Delhi.
- vi. Prof. Mongjam Megha Chandra Singh, Head, Deptt. of Community Medicine,
Maulana Azad Medical College, New Delhi

Composition of Approval Committee

1. Secretary, Department of Health Research..... Chairman
2. Additional Secretary & Financial Advisor Ministry of Health & Family Welfare.....Member
3. Joint Secretary, Department of Health Research.....Member
4. Head, HRD, Indian Council of Medical Research.....Member

Funding Norms

- 7.9 Approved MRHRUs are eligible for one-time **non-recurring grant-in-aid** for (i) civil construction and (ii) purchase of equipment, and recurring grant for (i) salaries and (ii) contingencies/consumables/training etc. as per the following norms:

(Rs. Crore)

Non-Recurring		Recurring (per annum)	
Civil Construction	2.075 (to be released in two instalments of Rs.1.00 crore and Rs.1.075 crore)	Salaries	0.42
Equipment	1.0 (to be released in two instalments of Rs.0.50 crore each)	Contingencies/ Consumables/ Training, etc.	0.50

Operational Mechanism

- 7.10 ICMR mentoring institute devises a suitable internal mechanism for speedy execution of the civil works, procurement & installation of equipment, selection & posting of requisite staff with the active involvement of the State Health/Medical Education Department This involves:

- A tripartite Memorandum of Agreement to be signed between the Department of Health Research, State Health Department and the ICMR Mentoring Institute.
- Provisioning of 620 sq. meters of land free of cost by the State Govt. in close proximity of Primary Health Centre (PHC)/ Community Health Centre (CHC) for establishing MRHRU.
- Finalisation of layouts/maps for establishing MRHRU.
- Tendering and hiring the agencies for construction/renovation of space provided for the setting up of MRHRU.
- Tendering and procuring equipment
- Engaging contractual staff for MRHRU.

7.11 Staff Structure

- (i) Composition of PMIU in DHR is as under:

S.No.	Designation	No. of posts
1	Project Manager	1
2	Finance Manager/Consultant Finance & Accounts	1
3	Administrative Officer	1
4	Scientist C	2
5	Data Entry Operator	2
6	Multi Tasking Staff	1

(ii) Staff in MRHRUs

S. No.	Designation	No. of Posts
1	Scientist – C	02
2	Technical Assistant (statistician)	01
3	Technical Assistant (research)	01
4	Assistant (Multipurpose)	01
5	Technician - C (lab technician)	01
6	Data Entry Operator	01
7	Group-D/MTS	01

Monitoring Mechanism

- 7.12 Progress of research work of MRHRUs is closely and regularly monitored by an Expert Committee of DHR by way of holding review meetings. Besides, visits by experts and officials of DHR are also undertaken to have on the spot view of progress of the units. MRHRUs are also subject to all the prescribed internal/ statutory audit checks and inspections etc.
- 7.13 The National Institution for Transforming India (NITI) Aayog and the Prime Minister's office have also developed Output Outcome Monitoring Framework (OOMF) and Dashboard for Analytical Review of Projects across Nation (DARPAN) portals respectively for uploading data of Govt. schemes on quarterly and annual basis. The requisite data in respect of MRHRU scheme is regularly fed on these portals. The major Output & Outcome performance indicators of the OOMF portal are:

	Output	Outcome
1	Number of MRHRUs to be established	Increase in transfer of new technologies for improving the quality of health services to rural population
2	Number of Research Studies/ projects to be completed at each of the MRHRUs	Number of patents filed on health relevant knowledge generated from MRHRUs established
3		Number of Research papers published/presented from the MRHRUs established

7.15 The performance indicators of the DARPAN portal are as under:

1	Number of Publication
2	Number of MRHRUs approved
3	Number of Research Projects
4	Fund Released

Local Research Advisory Committee (LRAC)

7.16 For operating the MRHRU, a Local Research Advisory Committee(LRAC) is constituted which considers and approves research proposals received from State Government and ICMR mentor institute. LRAC/mentor institute also monitor the progress of research proposals. The LRAC is the recommendatory body for all proposals of the MRHRU

1	Chairperson	Medical Person preferably a Senior Professor level/Director level person of proven record of work in rural translational/Implementational research.
2	Co-Chairperson	
3	One Microbiologist with credential of work in diagnostics/epidemiology	
4	Two Clinicians/Academicians with expertise in Non-communicable diseases (NCDs),one of them having expertise in mental health	
5	One Academic Pediatrician	
6	One Academic Obstetrician & Gynaecologist	
7	Any other Expert depending upon Disease as Identified in project	
8	Principal/Dean	Linked State Govt. Medical College and professor/Head from Linked State Govt. Medical College as Special Invitees.
9	Director	Medical Education Department of State Govt./Nominee.
10	Director	Health & Family Welfare Department, State Govt./Nominee
11	Director	Mentor Institute of Indian Council of Medical Research (ICMR)
12	Nodal Officer	Mentor Institute of Indian Council of Medical Research (ICMR)
13	Nominee from DHR	

Physical Achievements

7.17 Since the inception of the scheme, following 34 MRHRUs have been sanctioned till 31.03.2024

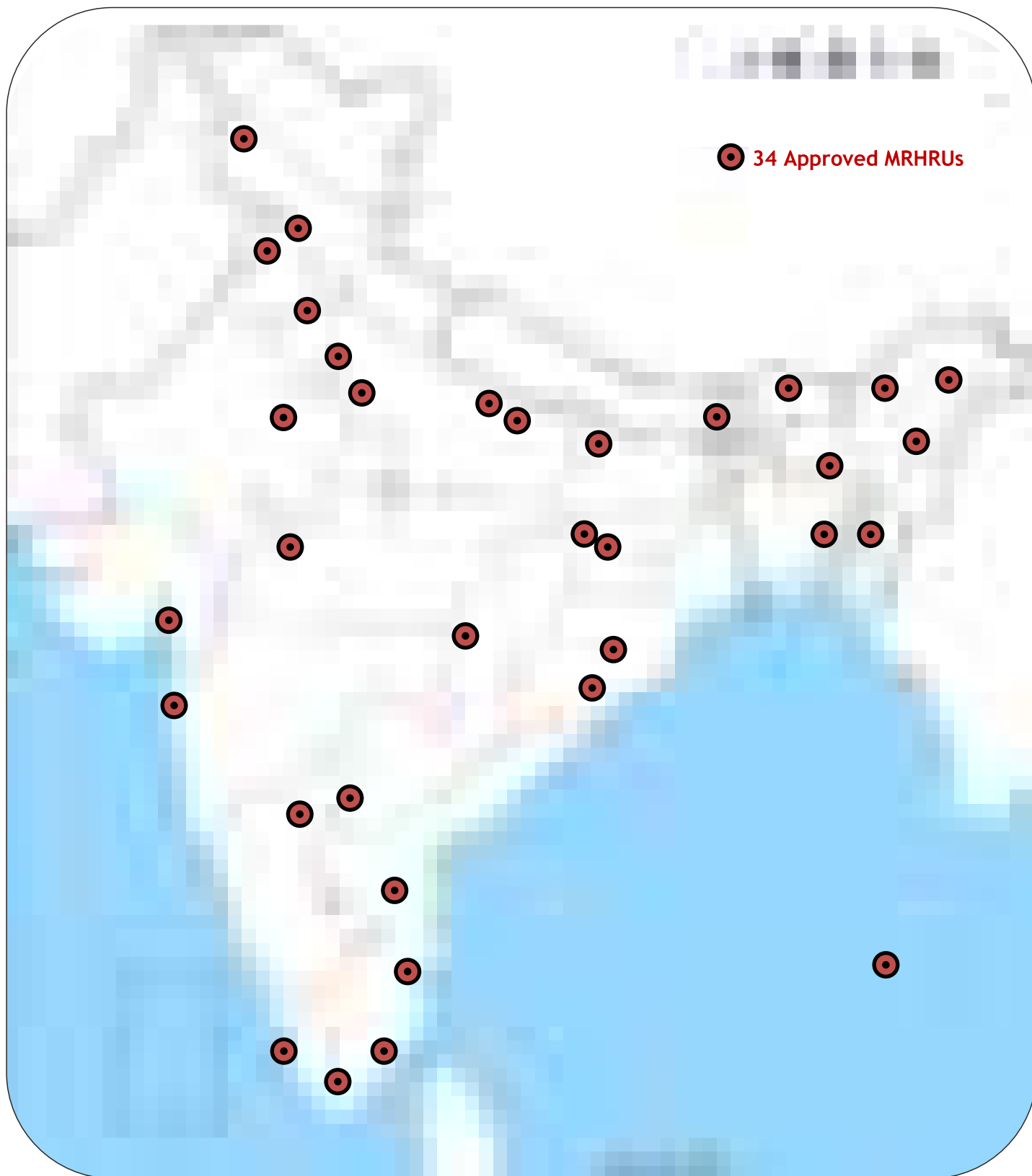
S.No.	State/ UT	Location of MRHRU	Linked Medical College	ICMR Mentor Institute
1	Andaman & Nicobar Islands	PHC Chouldari, South Andaman District	Andaman & Nicobar Institute of Medical Sciences, Port Blair	ICMR - Regional Medical Research Centre, Port Blair, Andaman & Nicobar Islands
2	Andhra Pradesh	Old RHTC Premises, Chandragiri	S.V. Medical College, Tirupati	ICMR-National Institute of Nutrition, Hyderabad, Telangana
3	Arunachal Pradesh	CHC Sagalee, Papum Pare	Tomo Riba Institute of Health & Medical Sciences (TRIHMS), Neharlagun	ICMRNE - Regional Medical Research Centre, Dibrugarh, Assam
4	Assam	PHC Chabua	Assam Medical College, Dibrugarh	ICMRNE -Regional Medical Research Centre, Dibrugarh, Assam
5	Bihar	PHC Kudhani Muzzafarpur	Sree Krishna College and Hospital, Muzzafarpur	ICMR - Rajendra Memorial Research Institute of Medical Sciences, Patna, Bihar
6	Chhattisgarh	CHC Jheet, Patan Block, Durg District	Pt Jawahar Lal Nehru Memorial Medical College, Raipur	ICMR - National Institute of Research In Tribal Health, Jabalpur, Madhya Pradesh
7	Gujarat	PHC Vanz, Surat	Govt. Medical College, Surat	ICMR-National Institute of Occupational Health, Ahmedabad, Gujarat
8	Haryana	CHC Khotpura, Panipat	Kalpana Chawla Govt. Medical College & Hospital, Karnal	ICMR-National Institute of Cancer Prevention and Research, NOIDA, Uttar Pradesh
9	Himachal Pradesh	CHC Haroli, Una	Dr. Rajendra Prasad Govt. Medical College, Tanda, Kangra	ICMR - National Jalma Institute for Leprosy & other Mycobacterial Diseases, Agra, Uttar Pradesh
10	Jammu & Kashmir	PHC Khag, Budgam	Govt. Medical College, Srinagar	ICMR-National Institute of Child Health & Development Research, Delhi
11	Jharkhand (2)	CHC Angara, Ranchi	Rajendra Institute of Medical Sciences (RIMS), Ranchi	ICMR-National Institute of Malaria Research, New Delhi & National Institute of Malaria Research, Field Unit Itki, Ranchi, Jharkhand
12		CHC Namkum	Rajendra Institute of Medical Sciences (RIMS), Ranchi	ICMR - Regional Medical Research Centre, Bhubaneswar, Odisha
13	Karnataka	PHC Sirwar, Manvi Taluk, Raichur	Raichur Institute of Medical Sciences, Raichur	ICMR-National Institute of Traditional Medicine, Belagavi, Karnataka
14	Kerala	CHC Chettikade,	Govt. Medical College, Alappuzha	ICMR-National Institute of Virology, Pune, Maharashtra
15	Madhya Pradesh	PHC Badoni, Datia	GR Medical College, Gwalior	ICMR - National Institute of Research In Tribal Health, Jabalpur, Madhya Pradesh
16	Maharashtra	Sub District Hospital, Dahanu, Thane	Grants Medical College and JJ Group of Hospital, Mumbai	ICMR - National Institute for Research in Reproductive and Child Health, Mumbai, Maharashtra

Contd...

S.No.	State/ UT	Location of MRHRU	Linked Medical College	ICMR Mentor Institute
17	Maharashtra	Rural Hospital Vani taluka Dindori District Nasik	Government Medical College Dhule Maharashtra	ICMR - National Institute for Research in Reproductive and Child Health, Mumbai, Maharashtra
18	Meghalaya	CHC Sohra, East Khasi Hills	Health Authority of East Khasi Hills District	ICMRNE - Regional Medical Research Centre, Dibrugarh, Assam
19	Mizoram	PHC Aizwal, Mizoram	Zoram Medical college, Mizoram	ICMRNE - Regional Medical Research Centre, Dibrugarh, Assam
20	Nagaland	PHC Niuland, Dimapur	PHC Niuland, Dimapur	ICMRNE - Regional Medical Research Centre, Dibrugarh, Assam
21	Odisha (2)	CHC Tigiria	SCB Medical College, Cuttak	ICMR - Regional Medical Research Centre, Bhubaneswar, Odisha
22		CHC Sheragada, Ganjam,	MKCH Medical college, Berhampur	ICMR - Regional Medical Research Centre, Bhubaneswar, Odisha
23	Punjab	CHC Bhunga, Hoshiarpur	Govt. Medical College, Amritsar	ICMR-National Institute of Child Health & Development Research, Delhi
24	Puducherry	CHC Karikalampakkam	Pondicherry Institute of Medical Sciences, Puducherry	ICMR - Vector Control Research Centre, Puducherry
25	Rajasthan	Bhanpur Kalan, Govt. Health Clinic, Jaipur	SMS Medical College, Jaipur	ICMR - National Institute for Implementation Research on Non-Communicable Diseases, Jodhpur, Rajasthan
26	Tamil Nadu	State Rural Health Centre at Tirunelveli	Tirunelveli Medical College, Tirunelveli	ICMR - National Institute of Epidemiology, Chennai, Tamil Nadu
27		Thoppur, Madurai near Thuvaniman PHC	Madurai Medical College, Madurai, Tamil Nadu.	ICMR – National Institute for Research in Tuberculosis, Chennai
28	Tripura	Kherengbar Hospital, Khumlung	Agartala Medical College, Agartala	ICMRNE - Regional Medical Research Centre, Dibrugarh, Assam
29	Telangana	PHC Janampet, Mahabubnagar	Govt. Medical College, Mahabubnagar	ICMR-National Institute of Nutrition, Hyderabad, Telangana
30	Uttar Pradesh	CHC-Pali (Tharra Par) Shahjanwa Gorakhpur	B R D Medical College, Gorakhpur, UP	ICMR – Regional Medical Research Centre, Gorakhpur
31		C, Kheragarh, Agra	S N Medical College, Agra, UP	ICMR – National JALMA Institute for Leprosy & Other Mycobacterial Diseases
32		CHC, Nagam, Lucknow	RML Institute of Medical Sciences, Lucknow	ICMR – Regional Medical Research Centre, Gorakhpur, Uttar Pradesh
33		PHC Bilaspur, Block Dankaur, Gautam Budh Nagar	Govt. Institute of Medical Sciences, Kasna, Greater NOIDA	ICMR-National Institute of Cancer Prevention and Research, Noida
34	West Bengal	North Bengal Medical College (NBMC), Darjeeling (A rural hospital and designated Rural Health Training Centre)	North Bengal Medical College, Darjeeling	ICMR - National Institute of Cholera & Enteric Diseases, Kolkata, West Bengal

Note: Of the 34 MRHRUs sanctioned, 06 are in the north-eastern region

Distribution of Model Rural Health Research Units in the States



7.18 Physical Targets for Establishing new MRHRUs during 2021-22 to 2025-26

Year	No. of MRHRUs to be Established
2021-22	2
2022-23	2
2023-24	2
2024-25	2
2025-26	3

Note: The proposals for establishing new MRHRUs are considered and approved on first come first served basis subject to their fulfilling prescribed guidelines, rules and procedures. The geographical spread of these units is also kept in view.

7.19 Financial Achievements**(Rs. Crore)**

Year	Budget Estimates (BE)	Revised Estimates (RE)	Actual Expenditure
2013-14	10.00	12.50	12.40
2014-15	20.00	13.00	13.00
2015-16	10.00	6.50	6.50
2016-17	6.00	6.00	6.00
2017-18	9.00	11.00	8.12
2018-19	13.00	10.00	10.00
2019-20	15.00	19.00	17.50
2020-21	20.00	16.00	11.39
2021-22	20.00	18.00	17.99
2022-23	20.00	19.00	12.78
2023-24	20.00	20.00	19.12

7.20 During the year 2023-24, 66 research studies/projects were undertaken and 65 Research Papers were published.

7.21 Prominent features of the Scheme introduced with effect from 2023-24:

(i) Clinical trial by MRHRUs

Existing network/infrastructure of MRHRUs to be utilised for undertaking clinical trials.

(ii) Multi-Centric Research Projects by MRHRUs

The MRHRU scheme approved for 2021-22 to 2025-26 has provision for undertaking of multi-centric studies by MRHRUs. Operational guidelines for multi-centric studies were notified in December 2023. During 2023-24, following 03 multi-centric projects were approved by the Project Screening Committee (PSC) and Grants-in-aid amounting to Rs. 1.67 crore was released:

1. Utilizing the Model Rural Health Research Units to improve snakebite management through decentralized antivenom distribution models in India: An implementation research project
2. Optimizing strategies for enhancing Sickle Cell Disease management in tribal population: A multi-centric implementation research
3. Effectiveness of a lifestyle toolkit in improving health outcomes in individuals with cardio metabolic multimorbidity and its intergenerational prevention: a cluster randomized controlled trial

(iii) Development of Dashboard of the Scheme

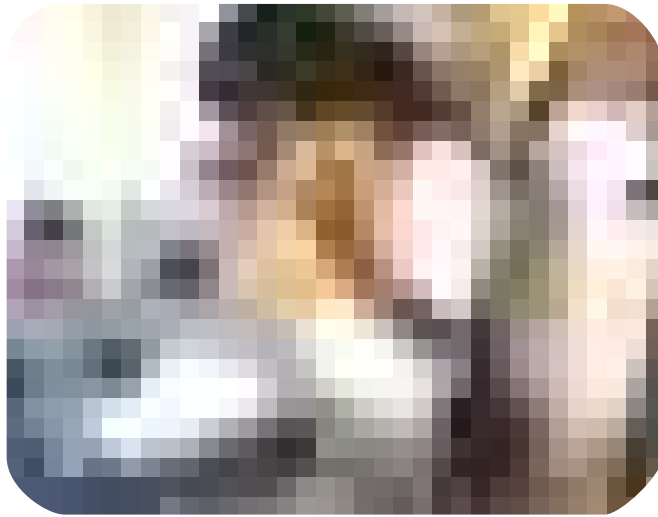
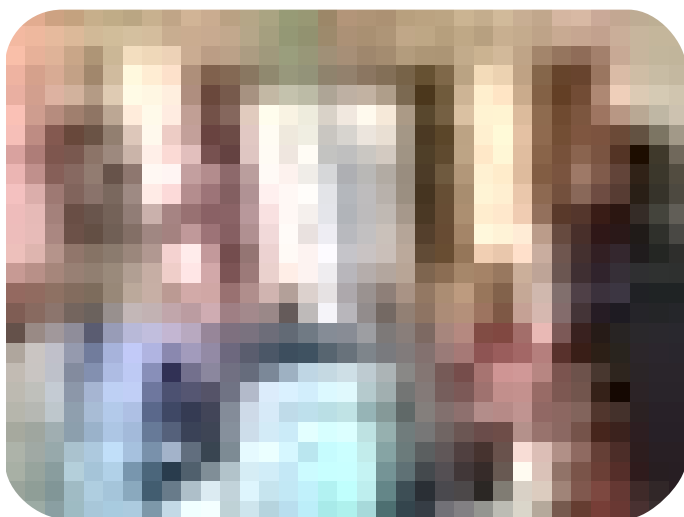
Development of Dashboard for compilation and instant reporting of data in respect of established MRHRUs. The Dashboard provides information in terms of number of MRHRUs, number of publications, ongoing projects, completed projects, funds sanctioned/utilised, total patents, equipment details, training details, LRAC members/meeting details, conference details, increase in transfer of technologies, instant generation of reports.

(iv) Integrated Primary Health Care Models for Palliative Care, Elderly Care and Mental Health (I-PEM)

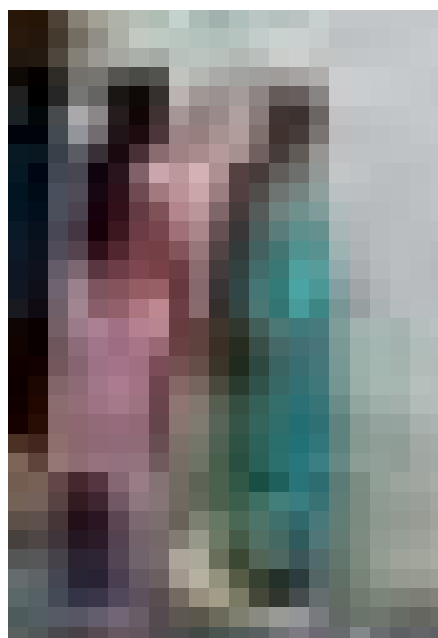
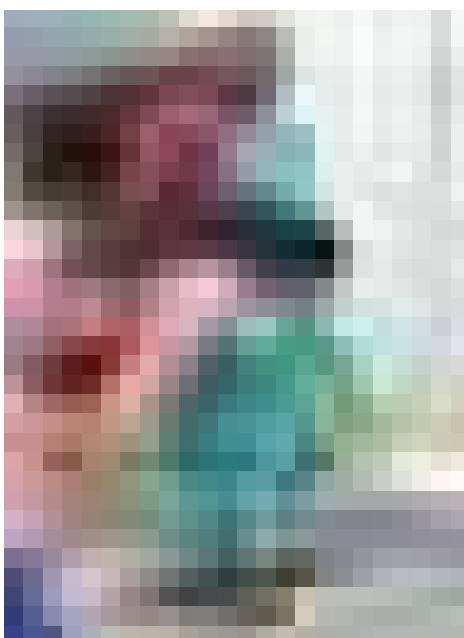
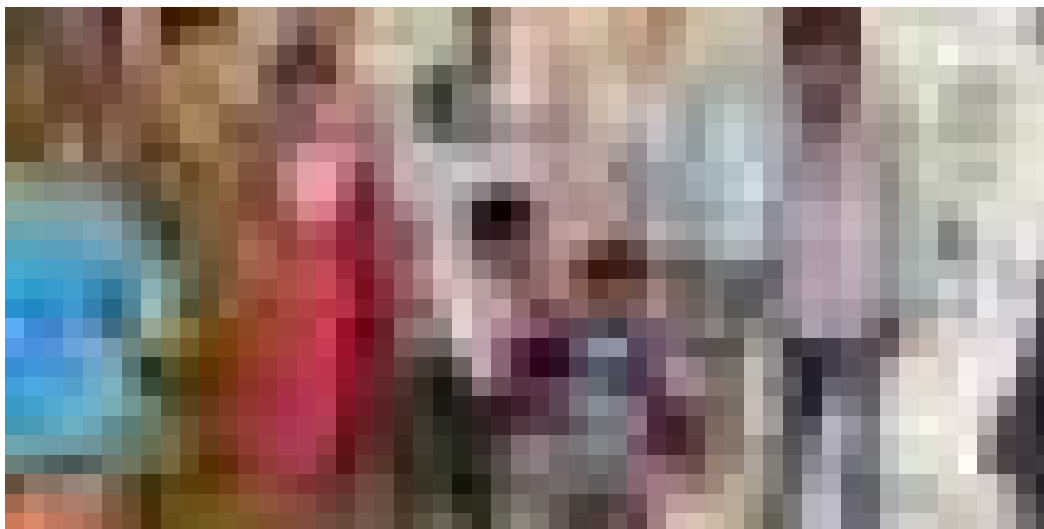
The National Institute for Transforming India(NITI) Aayog desired, the Department of Health Research to develop Integrated Primary Health Care Model for Palliative Care, Elderly Care and Mental Health (I-PEM) involving collaboration between Multi Disciplinary Research Units (MRUs)/ Model Rural Health Research Units (MRHRUs) of the Department of Health Research (DHR) and Health & Wellness Centres (HWCs) of the Department of Health & Family Welfare(DoH&FW). Grants-in-Aid @ 15.45 Lakh to 06 identified MRUs/MRHRUs has been released for necessary data collection based on which the Health Care Models would be piloted in the selected regions. In Addition to this GIA of Rs 1.00 Lakh to 12 participating units in this project

has been released to provide incentives for ASHA workers for necessary data collection. Based on which the Health Care Models would be piloted in the selected region.

Demonstration of Mosquito Vectors at MRHRU, Angara, Ranchi

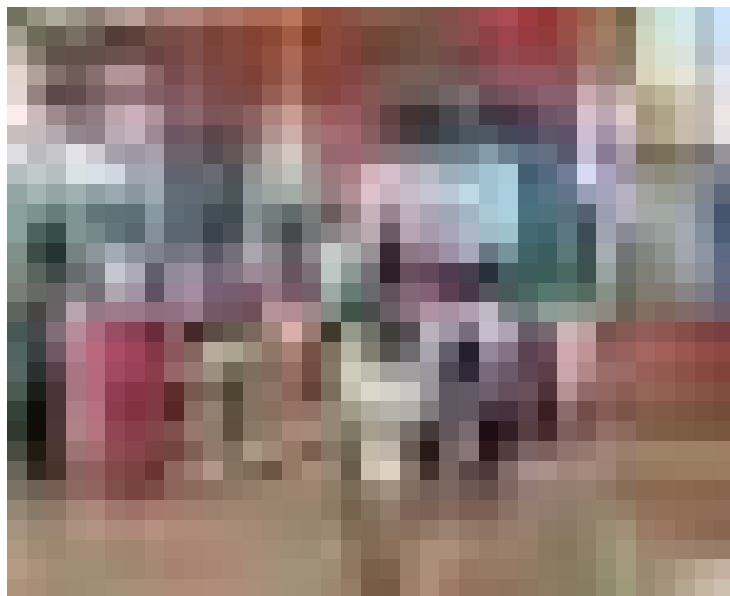


Health camps Organized by MRHRUs

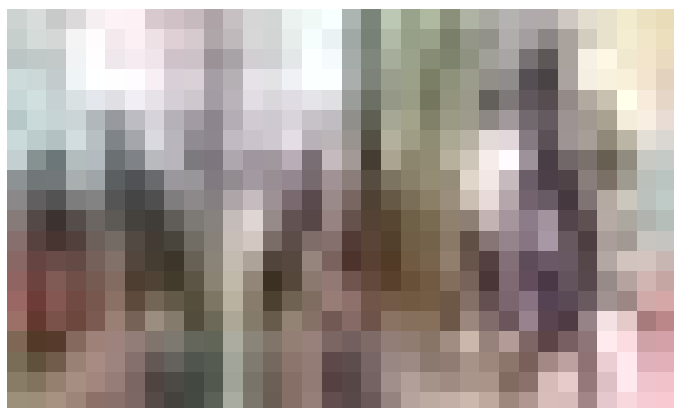
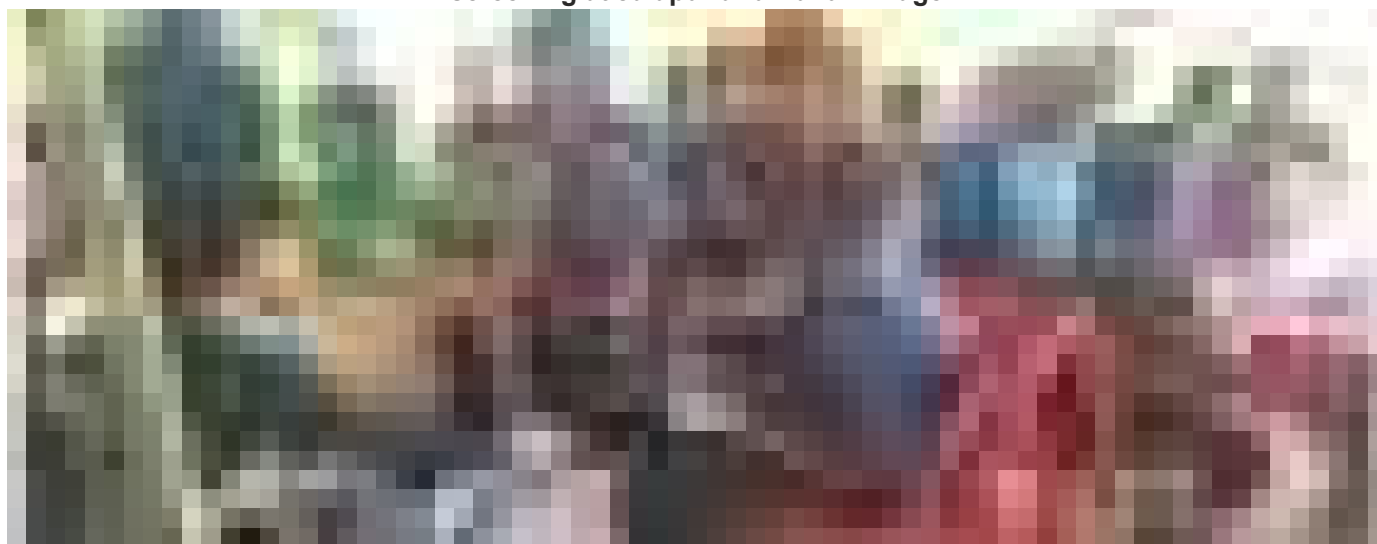


MRHRU team along with Primary Health Care (PHC) Sirwar organized Health Checkup Camp at Navalkal & Madageri village

Health camps Organized by MRHRUs



MRHRU, Sirwar along with Raichur Institute of Medical Sciences (RIMS) Raichur staff conducting diabetes screening at Jalapur and Kallur village

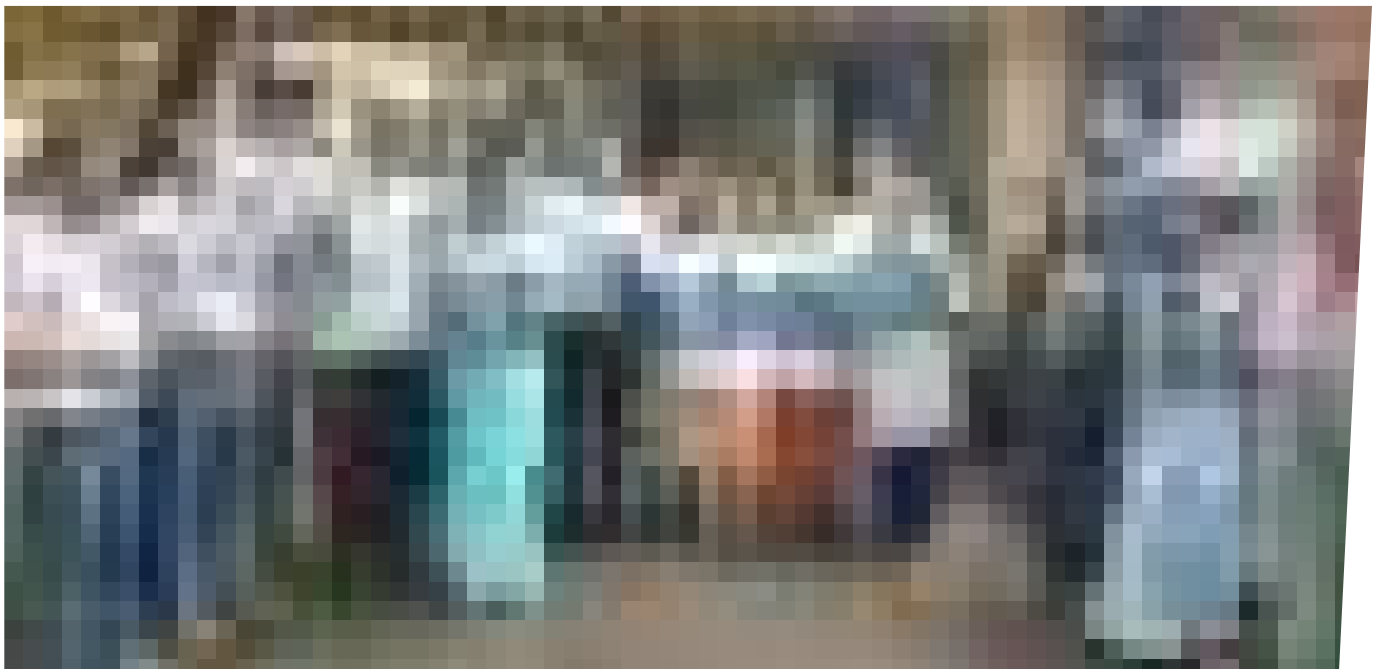
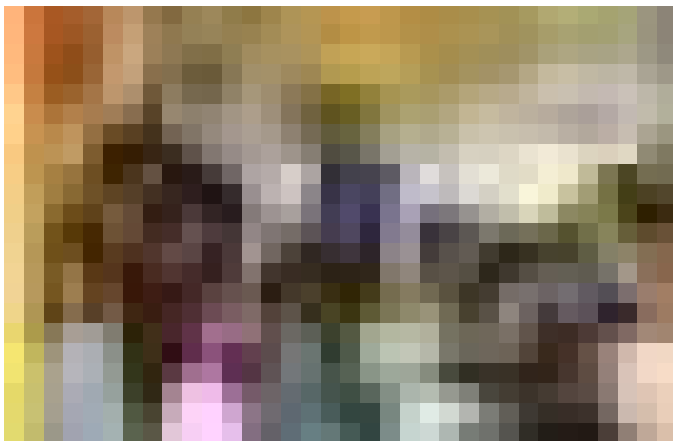


MRHRU-Tripura Three days Health Camp in Teliamura, Khowai district and Sepahijala District

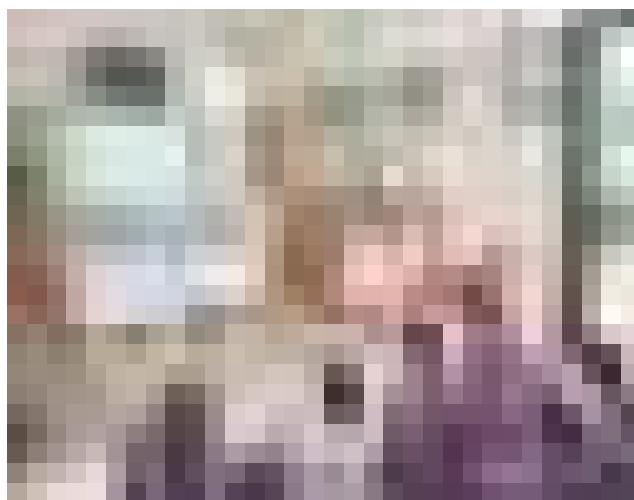
Health Awareness Activities of MRHRUs



National Nutrition Month organized by MRHRU, Assam, in collaboration with ICMR-RMRCNE and Sonowal Kachari at Baliyan Girls High School, Chabua



Dissemination of Information Education Communication (IEC) material by MRHRU, Vani on prevention and management of snakebite; training of healthcare workers and community awareness



Training of ASHA workers on prevention and suspicion of Leprosy and Sickle Cell Anemia by MRHRU, Vani



Nutritional Supplementation and Awareness Programs organized by MRHRU, Andaman & Nicobar Administration, Port Blair

Chapter 8

Grant-in-aid Scheme for Inter-sectoral Convergence & Coordination for Promotion and Guidance on Health Research

- 8.1 The Scheme was approved by Cabinet Committee on Economic Affairs (CCEA) on 6th February, 2014. The scheme was launched during 2013-14 aimed at providing support in the form of grant-in-aid for carrying out research studies to identify the existing knowledge gap and to translate the existing health leads into deliverable products. Special focus is on encouraging innovation, their translation, and implementation by collaboration and cooperation with other agencies by laying special stress on implementation research so that there is a better utilization of available knowledge.
- 8.2 Continuation of the scheme from **2021-22 to 2025-26** (for 15th Finance Commission Period) was approved on 18th March 2021 at a total estimated cost of Rs. 124.71 crores, as follows:-

Financial Year	Physical Targets	Targets (Rs. in Crores)
	No. of projects	Grand Total (including committed liabilities + administrative expenses)
2021-22	18	22.76
2022-23	18	21.53
2023-24	18	25.81
2024-25	23	24.29
2025-26	24	30.32
Total	101	124.71

8.3 Objectives of the Scheme

- To support and encourage focused and deliverable research for estimation of disease burden/ development of new technologies/process, diagnostics, to address health research issues for affordable healthcare in the country.
- To support studies on the issues pertaining to technology access particularly in the context of Gender & Child health care and under privileged.
- Translation of leads into products & processes for adoption in public health systems.
- Development of collaborative health research projects involving different Science & Technology departments/organizations.
- To evaluate the existing processes/ products/ technologies for their comparative cost effectiveness to save public expenditure.

8.4 Projects eligible for funding under the scheme :-

i. Research studies with emphasis on public health:-

The objective of this component is to support research studies on diseases burden, risk factors,

diagnosis & treatment, etc. of major diseases. The studies are limited to Non-communicable diseases. A total number of 87 studies with the maximum duration of 3 years and cost range between Rs.50 lakhs - Rs.3 crores each were funded under this category during 14th Finance Commission period (i.e. 2017-2018 to 2019-2020) and extended up to 31st March 2021. During 15th Finance Commission Period (i.e. 2021- 22 to 2025-26), a total number of 85 studies with the maximum duration of 3 years including 6 studies for cost range between Rs. 50 lakhs – Rs. 3 crores and 1 study for cost range between Rs. 50 lakhs – Rs. 10 crores, have been targeted to be funded under this category at a total estimated cost of Rs. 79.25 crores.

ii. Translational Research Projects:

The objective of this component is to translate the already identified leads into products and processes in the area of human healthcare, through coordination among the agencies involved in basic, clinical and operational research for use in the public health system. A total number of 29 studies with a duration of 1-3 years and cost range of Rs. 50 lakhs - 10 crores were funded under this category during 14th Finance Commission (i.e. 2017-18 to 2019-20) and extended upto 31st March 2021. During 15th Finance Commission Period (i.e. 2021-22 to 2025-26), a total number of 5 studies with the maximum duration of 3 years and cost range between Rs. 3.00 crores – Rs. 10.00 crores, are targeted to be funded under this category at a total estimated cost of Rs. 15.00 crores.

iii. Inter-sectoral Co-ordination including Funding of Joint Projects

The objective of this component is to promote joint/collaborative research projects with other agencies involved in bio-medical- health research in the country for optimum use of resources and transfer of knowledge. A total number of 6 studies with a duration of 1-3 years and cost range of Rs. 50 lakhs - 10 crores were funded this category during 14th Finance Commission period (i.e. 2017- 2018 to 2019-2020) and extended up to 31st March 2021. During 15th Finance Commission Period (i.e. 2021-22 to 2025-26), a total number of 5 studies with the maximum duration of 3 years and cost range between Rs. 50 lakhs – 10.00 crores, are targeted to be funded under this category at a total estimated cost of Rs. 10.00 crores.

8.5 Implementing Agency:

The scheme is implemented through the ICMR and the DHR exercises the overall managerial control. Funds are released to the concerned institutes/organizations annually through ICMR.

8.6 Project Management

Provision has been made in the scheme for setting up of Project Implementation & Management Units (PIMUs) at ICMR and DHR to be manned by contractual staff only for the duration of the project period.

8.7 Monitoring Mechanism

- i. A Multi-tier system of screening of proposals by the Screening Committee, evaluation of proposals by the Evaluation Committee, approval of proposals by the Approval Committee and

Monitoring & Evaluation of project outcomes under the scheme by the Committee constituted for this purpose, will be followed for implementation of the Scheme.

- ii. The system of monitoring and periodic evaluation of the projects will be undertaken after appropriate peer review/ Project Review Committees with support from ICMR which will provide technical support.

8.8 Status of Implementation

i. Physical Achievement:-

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Research Studies with Emphasis on Public Health	40	74	22	8	40	2	26	19	5	28	67
Translational Research	-	12	11	-	4	-	1	24	38	30	58
Inter-Sectoral Coordination	-	5	3	-	3	-	3	-	4	-	2
*Cost-effective analysis	-	9	5	3	2	-	1	*	*	*	*
Total Achievement	40	100	41	11	49	2	31	43	47	58	127
Against Total Target					41	41	41	40	18	18	18

* Being undertaken through HTA.

ii. Financial Achievement: Rs. in Crores)

Year	Budget Estimate (B.E)	Revised Estimate (R.E)*	Actual Expenditure
2013-14	40.00	5.35	4.95
2014-15	31.00	23.50	23.26
2015-16	30.50	16.00	13.99
2016-17	14.25	16.99	15.99
2017-18	20.00	30.00	28.14
2018-19	35.00	5.00	4.50
2019-20	24.00	16.00	16.00
2020-21	27.00	19.00	15.98
2021-22	27.00	25.00	15.43
2022-23	27.00	24.00	22.43
2023-24 (1 st April 23 to 31 st March 24)	27.00 ^(Including 3 Cr for NE)	31.80 ^(Including 3 Cr for NE)	28.80 (Without 3 Cr of NE)

^ Including 3 Cr. North Eastern Region

8.9 Significant/Special achievements of the Scheme during the Year 2023

S. No.	Achievements	Numbers
1	New research projects supported	153
2	On-going research projects supported	90
3	Research projects completed	9
4	Research paper published/ presented or new clinically /public health relevant knowledge generated	45
5	Manpower trained	1238
6	Leads /protocols /devices/guidelines developed	13
7	Leads converted into patents/products/ process for use in public health services	4

Special achievements of the Scheme during
January 2023 to March 2024

No. of new research projects supported - 153

No. of on-going projects supported - 90

No. of research projects completed - 9

No. of research paper published or new
clinically/public health relevant knowledge generated - 45

Number of manpower trained - 1238

Number of leads/protocols/devices/guidelines developed - 13

No. of leads converted into patents products/process for
use in public health services - 4

Chapter 9**Human Resource Development for Health Research****9.1 Introduction (about the scheme and its objectives)**

The Human Resource Development Scheme of Department of Health Research is intended to create a pool of talented health research personnel in the country by upgrading skills of faculty of Medical Colleges/Institutes, mid - career Scientists, medical students, etc., by specialized training in priority areas of health research in leading national and international institutions. The trainees are encouraged to develop and take up research projects for addressing critical national and local health problems. Financial assistance is provided to Institutions for up-gradation of infrastructure so that they may provide training with state of the art technologies.

Objectives:

- To increase the overall availability of trained personnel for health research from Medical Colleges across the country through scholarships, Fellowships and career advancement Scheme etc. for faculty, etc. and young medical doctors and other Scientists to take up medical and health research as a career.
- To focus on the creation of a cadre of trained medical/health researchers in specific identified priority areas of health research viz., Clinical Trials; Toxicology; Good Clinical Practices (GCP); Good Laboratory Practices (GLP); Quality Control (QC) & QA; Genomics; Proteomics; Clinical Psychology, Geriatrics; Modern Biology; Biotechnology; Stem cells; Genetics; Drugs chemistry; and operational research etc.
- To create support, nurture and encourage the trainees from Medical Colleges, etc. to forge linkages with other Scientists from universities, research Institutes etc. to develop multidisciplinary and multi-sectoral teams necessary for addressing critical national and local health problems.
- To establish suitable online teaching and learning facilities to facilitate training in health research in various subjects in a more effective manner and for promoting biomedical/health research.

9.2 The scheme is approved during 15th Finance Commission Period (2021-22 to 2025-26) and support under the program is imparted in following categories:**i. Short Term Fellowship for training in Foreign Institutes/Indian Institute:**

Short Term Fellowship supports for training in Foreign/Indian Institutes in identified areas (1-3 months) to persons employed as regular faculty provided that they are not above the age of 55 years. A stipend of \$3000 per month for foreign institute and Rs 40,000 per month for Indian institute is being given to the fellows. During the year 2019-20, the programme was transferred to the ICMR for implementation.

Applications for training in Indian institutes are invited every year through Department of Health Research. In the year 2022-23, 02 short term fellowships in Indian institutes and 12 foreign fellowships have been supported under this programme. In the year 2023-24, 06 short term fellowships in Indian institutes and 10 Short Term international have been supported under this programme.

ii. Long Term Fellowships in India/abroad:

Long Term Fellowship supports for training in foreign /Indian Institutions in identified priority areas (6-12 months) is meant for the persons employed as regular faculty provided that they are not above the age of 45 years. A stipend of \$3000 per month for foreign institute and Rs 40,000 per month for Indian institute is being given to the fellows. Long Term Fellowship in Foreign Institutes component has also been transferred to the ICMR for implementation. Applications for training in Indian Institutions/ fellowship programme are invited every year through Department of Health Research. In the year 2022-23, 13 foreign fellowships have been supported. In year 2023-24, 19 new fellowship supported under this programme.

iii. Start-up grant for fellows undergone long term/short term training supported by DHR:

Start-up grant scheme of Department of Health Research is meant to support the biomedical researchers who have undergone training in Indian/foreign institutes supported by DHR. The aim of the program is to utilize the skills learnt during the period of training in a practical mode so that he/she is able to undertake research independently and to ensure that the trainees take up research seriously and in right earnest. The Start- up grant for the project up to Rs. 50 Lakhs per research project for three years, will be supported. In the year 2023-24, 04 ongoing start-up grants fellowship have been supported under HRD scheme..

iv. Fellowship Programme for Young Scientists:

This fellowship programme aims at fulfilling the objectives of creation of inclination/ attitude of research among the young bright students from the medical colleges/ universities. In the year 2023-24, 70 ongoing fellowships have been supported/ funded under this programme.

v. Fellowship Programme for Women Scientists:

This fellowship programme aims at encouraging women candidates to undertake biomedical research after a break in their career. In the year 2022-23, 38 ongoing fellowships were supported and in year 2023-24, 58 fellowships have been supported under this programme.

vi. Support to Institute for imparting training:

This programme aims at providing support to selected domestic Institutions for providing training in specially designated programmes/ identified priority areas. A grant upto Rs. 50 lakhs was provided during 2023-24 for equipments, up-gradation, etc. and a grant of Rs. 10 lakhs per year

upto a period of 5 years is provided for recurring expenses and for conducting training programmes. Support is also imparted to the institutions to strengthen research activities through the establishment of online courses and web-portal on health research for students, faculty and other researchers. This programme also helps prospective institutions and individuals to access resources both financial and technical on research and to promote research across the country.

In the year 2022-23, 09 institutes were supported. And in the year 2023-24, 15 institutes have been supported under this programme for imparting training in biomedical research.

VII. Research grant and fellowship to encourage Health Research Personnel [Non-resident Indian (NRI), Persons of Indian Origin (PIO), Overseas Citizen of India (OCI)] serving abroad, to come back to India for undertaking research in identified areas:

This Scheme has been designed to provide contractual research positions to the Indian scientists settled abroad who are willing to come back to India on a fulltime basis or for short duration to pursue medical/ health research in India and take up health research projects in collaboration with Indian scientists, particularly in areas of national priority. In the year 2022-23, 04 fellowships were supported. And the year 2023-24, 10 ongoing and 1 new NRI/OCI fellowships have been supported under this programme.

9.3 Major initiatives of the Scheme in 2023-24

- During the year 2023-24 , 230 fellowships have been supported.
- The initiatives have been taken to streamline the e-PMS portal of DHR for real time tracking and implementation of the research projects and grants sanctioned under HRD Scheme and to monitor the progress of the researchers and funds disbursed under the scheme.
- As part of the mid-term review exercise, the internal meetings were conducted in May-July 2023 to review the scheme and detailed deliberations held and feedback from the researchers/ fellows were also obtained about implementation of the HRD scheme. Further a stakeholders meeting was held on 12th July, 2023 under the Chairmanship of DG-ICMR & Secretary, DHR.
- The mid-term review has emerged that existing fellowship schemes in ICMR needs rationalization and integration with HRD scheme under DHR for rational utilization of resources and ease of implementation of the scheme keeping abreast all the beneficiaries with available schemes on Human Resource Development for Health Research under one umbrella scheme.
- A webinar was conducted for Research Grant Writing and for wider publicity of our call for proposal for North East. Pioneers of Bio-medical Health Research field were invited to deliver the lecture on grant writing, around 180 participants from various medical colleges and research Institutes were imparted training in grant writing.
- A call for proposal was opened for North East for all the components of HRD Schemes in the month of

December 2023 and a total of 31 proposals were received, out of that 14 proposals got approved from TEC. Details of the same is mentioned below:

- Support to Institute for imparting training - 11
- Research grant and fellowship to encourage Health Research Personnel NRI/PIO/OCI serving abroad- 1
- Short Term Fellowship for training in Foreign Institutes/Indian Institute -3

9.4 Status of Implementation of the Scheme

The achieved physical and financial targets of the scheme since the financial year 2013-14 are shown as below:

Year-wise Physical Achievements of HRD Scheme

Year	Number of fellowship supported
2013-14	13
2014-15	42
2015-16	70
2016-17	104
2017-18	191
2018-19	92
2019-20	200
2020-21	127
2021-22	196
2022-23	232
2023-24	230

Year-wise Financial Achievements of HRD Scheme

(Rs. in crore)

Year	Budget Estimate	Revised Estimate	Actual Expenditure
2013-14	45.00	4.50	1.51
2014-15	19.00	5.00	4.98
2015-16	8.00	10.00	9.46
2016-17	13.00	16.00	15.39
2017-18	30.00	26.00	24.28
2018-19	30.00	15.00	13.29
2019-20	33.00	27.00	27.48
2020-21	34.00	18.00	16.32
2021-22	27.00	27.00	24.56
2022-23	30.00	30.00	27.02
2023-24	33.86	29.80	28.59

9.5 Significant Achievements of Scheme in 2023-24

- In the financial year 2023-24, 15 research projects have been completed.
- A study to evaluate the effect of standardized plant-based non-Carbohydrate prebiotic-like substances in arsenic-induced cognitive deficits provided pieces of evidence for the beneficial effects of piperine as non-carbohydrate prebiotic against arsenic-induced behaviour deficits in mice and could be translated for their successful use in humans exposed to arsenic concentrations in the environment.
- Designed and validated a new assay for quantification of variant 1 and variant 2 expression of Nuclear protein 1 (NUPR1) and developed a mechanistic model for exploring tumor suppressor genes to short circuit the metabolic wiring of cancer cells and induce cell death specifically in cancer cells. Further on, we developed a gene therapy based on TUSC1, which can target both primary and metastatic cells in solid tumors.
- Found a novel mechanism of disruption of metabolic re-wiring of cancer cells by Tumor suppressor gene therapy and elucidated the detailed mechanism of action for which a patent has been filed.
- A novel and sensitive FRET based immunosensor was developed for the quantitative detection of whole cell *H. pylori* using functionalized carbon dots and graphene oxide.
- A study reported that increased biofilm concentration play an important role in better survival of strains Ldt_{Mab4WP} and Ldt_{Mab5WP} against different antimicrobial compounds.
- Under support to institute category, 646 researchers have been trained and 14 institutes have been supported in the following biomedical areas:

S. No.	Institute	Title/Area
1.	SRM Medical College Hospital & Research Centre KANCHIPURAM, TAMIL NADU	ICMR-DHR Certificate Programme For Good Clinical Practice
2.	Institute of Liver and Biliary Sciences, Vasant Kunj, New Delhi	Training in Viral Hepatitis testing
3.	Rajendra Institute of Medical Sciences (RIMS), Ranchi	Short term program in Good Clinical Practice
4.	ICMR- NIRRCH, Jehangir Merwanji Street, Parel, Mumbai	Support to Indian Institutes for imparting Training
5.	Sri Ramachandra Institute of Higher Education and Research, Porur, Chennai	Workshop On Advanced Molecular Biology Techniques in Dental-Genetic Research

S. No.	Institute	Title/Area
6.	Mahatma Gandhi Medical Advanced Research Institute (MGMARI), Sri Balaji Vidyapeeth, Puducherry	Modern Biology in Health Research
7.	Indian Institute of Technology (IIT) Madras, Chennai	Establishment of Institutional Resource Centre for manpower training in regulatory guidelines for medical devices and research ethics
8.	School of Public Health, PGIMER, Chandigarh	Online Course in Basic Health Economics and Economic Evaluation for Health Technology Assessment
9.	School of Public Health, ICMR-National Institute of Epidemiology, Chennai	Causal Inference from Observational Studies (CAUSIT)
10.	ICMR- National Institute of Cancer Prevention and Research, (NICPR), Sector 39, Noida	Basic Molecular Biology Techniques Relevant to Cancer Research – Hands on Training-Tissue Culture related Techniques
11.	University of Hyderabad, RANGAREDDI, TELANGANA	Training Program In Research Methodology In Molecular Biology And Biotechnology
12.	Sher-e-Kashmir University of Agricultural Science & Technology SRINAGAR, JAMMU AND KASHMIR	Training module on preclinical models for translational research in biomedical sciences
13.	Public Health Foundation of India, GURGAON, HARYANA	Optimization Of Healthcare Centers For Pulmonary Rehabilitation In Elderly Through Imparting Training And Capacity Building
14.	All India Institute of Medical Sciences, NAGPUR, MAHARASHTRA	Disease Modelling and Its Applications

Chapter 10**Health Technology Assessment in India (HTAIn)****Introduction**

- 10.1 The Government of India is committed to extend healthcare services to its 1.39 billion population as part of India's Universal Health Coverage (UHC) agenda. The National Health Policy has recommended an increase in public spending on healthcare services to 3 percent of GDP. It notes that this can significantly reduce the out-of-pocket-expenditure from 65% to 35% of the overall healthcare spending. With such a challenge, it is essential for the government to ensure optimal utilization of existing resources to ensure that the greatest amount of health is generated for every rupee spent. Therefore, Department of Health Research has established a mechanism for Health Technology Assessment for evaluation of appropriateness and cost effectiveness of available and new health technologies in the country as part of research governance mandate of the Department.
- 10.2 HTA is a multidisciplinary process that summarizes information about the medical, social, economic and ethical issues related to the use of a health technology in a systematic, transparent, unbiased, robust manner. Its aim is to inform the formulation of safe, effective, health policies that are patient focused and seek to achieve best value. In essence, HTA is a process which systematically evaluates health interventions to ensure they represent good value for money. Health Technology Assessment in India has been approved as the Scheme of DHR in April 2021.

Health Technology Assessment in India (HTAIn)

- 10.3 Health Technology Assessment in India (HTAIn) is an institutional body under the Department of Health Research (DHR), Ministry of Health & Family Welfare (MoHFW) which has been set up by Government of India to facilitate the process of transparent and evidence-informed decision making in the field of health in 2017. HTAIn is entrusted with the responsibility to analyse evidence related to cost-effectiveness, clinical-effectiveness and equity issues regarding the deployment of health technologies viz. medicines, devices and health programmes by means of Health Technology Assessment (HTA), and in turn help in decision making for an efficient use of the limited health budget and provide people access to the quality health care reducing their out of pocket expenditures (OOPs) on health.
- 10.4 At present, Health Technology Assessment in India (HTAIn) is a fully functional institution mandated with the responsibility of HTA-related activities, under the Department of Health Research (DHR), MoHFW, Government of India; to facilitate the process of transparent and evidence informed decision making in healthcare. In last four years, HTAIn has extended support to various verticals (e.g Maternal Health Division) of the health ministry at the centre and also at state level, in evidence-based decision making. In may 2023, it is approved as an attached office under Department of Health Research, MoHFW.

10.5 Objectives and Significance of HTAIn

- To undertake HTA studies aiming at maximising health in the population, reducing out of pocket expenditure (OOP) and reducing inequity.
- To support the process of decision-making in health care at the Central and State policy level by providing reliable information based on scientific evidence.
- Develop systems and mechanisms to assess new and existing health technologies by a transparent and inclusive process.
- To appraise health interventions and technologies based on available data on resource use, cost, clinical effectiveness, and safety.
- To collect and analyse evidence in a systematic and reproducible way and ensure its accessibility and usefulness to inform health policy.
- Disseminate research findings and resulting policy decisions to educate and empower the public to make better informed decisions for health.

Structure of HTAIn

- 10.6 Health Technology Assessment in India (HTAIn) consists of an in-house HTAIn Secretariat, Board, Technical Appraisal Committee (TAC), Resource Hubs and Technical Partners (TP).

HTAIn Secretariat

- 10.7 HTAIn Secretariat is a DHR- in-house body that coordinates between the User Department, TAC, Technical Partners and Resource Centers. Secretariat consist of Scientists, Economists, Health Policy Analyst, Financial Consultants, Programme Manager, Data Entry Operators and Multi-Tasking Staffs. It provides necessary assistance to the TP, Resource Centers wherever required along with coordination of studies. Secretariat may also undertake topic(s) to study in certain situations. Besides that, secretariat conducts all the TAC and Stakeholders consultation meetings in DHR and ensures transparency at all stages of the study by consultation and regular updates from the Technical Partners and Resource Centers.

Board

- 10.8 HTAIn Board was set up in 2017, to take final policy decisions on the recommendations of HTA studies. The Board consist of Policy-Makers, Clinicians, Bureaucrats and Experts from different Government Bodies (Central as well as States) etc. Board is the highest decision-making body of HTAIn that endorses/appraise the TAC approved Outcomes/ Recommendation. The Board may also look into the gaps in evidence and instruct for further research. i.e. Board can identify the area that require further research.

Technical Appraisal Committee

- 10.9 Technical Appraisal Committee (TAC) is a multidisciplinary body with experts drawn from different areas viz economists, clinicians, researchers, social scientists, health policy experts etc. There may be co-opted members in the TAC depending upon the study under consideration by HTAIn. The Committee is invariably headed by an eminent person. It ensures the appraisal of the study at different stages viz. support in analyzing feasibility of topic for HTA, allocation, proposal development, outcome report and recommendations. TAC does the quality assurance and provides overall stewardship to the HTAIn. Till 31st December 2021, twenty-Six (26) TAC meetings have taken place in DHR regarding the appraisal of the HTA proposals submitted by the TP and discussing potential challenges HTAIn may face in the Indian scenario such as perspective, equity issues, availability of evidences, etc.

Regional Resource Centres or Resource Centres/hubs

- 10.10 DHR provides requisite manpower support to the Regional Resource Centres or Resource Centres/hubs in order to bridge the gap between Central and the State Governments, assist capacity building, support States located in the vicinity and undertake the studies allocated to them by the Secretariat. The mentor of the Centres liaise with the officials of the State Governments and sensitize them about a need for Health Technology Assessment (HTA) for any health intervention. Presently, the following institutes have been established as Regional Resource Centres/hubs, so far:

1. Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh.
2. Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Trivandrum
3. National Institute for Research in Reproductive Health (NIRRH), Mumbai
4. National Institute for Research in Tuberculosis (NIRT), Chennai
5. Regional Medical Research Center (RMRC), Bhubaneswar
6. Indian Institute of Public Health (IIPH), Shillong
7. Indian Institute of Public Health (IIPH), Gandhinagar
8. Kalam Institute of Technology (KIT), Hyderabad
9. National Institute of Epidemiology, Chennai
10. Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry.
11. All India Institute of Medical Sciences, Rishikesh
12. State Cancer Institute and King George Medical University, Lucknow
13. National Centre for Disease Informatics and Research, Karnataka
14. Indian Institute of Public Health, Hyderabad

15. National Institute of Virology, Pune
16. All India Institute of Medical Sciences, Jodhpur
17. Indian Institute of Science (IISc.) Bengaluru
18. Indian Institute of Technology Delhi
19. Banaras Hindu University, Varanasi
20. GMC, Tanda, Himachal Pradesh
21. Indian Institute of Technology, Kanpur.
22. Tata Medical Hospital, Mumbai

Technical Partners

Technical Partners are institutes of the Central/ State Government which have been identified by HTAIn secretariat, with regards to their capacities, expertise and previous experience in the area of HTA/ Multi-centric research. Technical Partners are the research conducting body for HTAIn with their existing capacity/ manpower. The outcome reports of the studies conducted by technical partners are submitted to the HTAIn Secretariat for approval from the TAC and Board. The following institutes have been identified as Technical Partners of HTAIn, so far::

1. All India Institute of Medical Sciences (AIIMS), Delhi
2. National Institute of Medical Statistics (NIMS), Delhi
3. National Health Systems Resource Centre (NHSRC), Delhi
4. Public Health Foundation of India (PHFI), Delhi
5. Institute of Economic Growth (IEG), Delhi
6. Indian Institute of Health Management Research (IIHMR), Jaipur
7. Indian Institute of Public Health, Bhubaneswar
8. Indian Institute of Technology, Chennai
9. Indian Institute of Technology, Mumbai
10. National AIDS Research Institute (NARI), Pune

Stakeholders

- 10.11 Stakeholders may include the user department e.g. Central/ State Govt., NHM, RSBY or NPPA, public health authorities, policy makers, medical insurers, regulatory agencies, industrial associations (e.g. manufacturers, suppliers, wholesalers, distributors and retailers), academicians or methodological experts, researchers, social groups, NGOs, patient group and so on. Stakeholders are individuals, organizations or communities that have a direct interest in the process

and/or outcomes of the study under consideration by the HTAIn, therefore their participation is required to maintain the integrity of HTAIn and for a wider acceptance of its recommendations. Thus, a stakeholder's consultation meeting is called after completion of every study to take their feedback and inputs. Outcome reports are also uploaded on the website for the feedback and suggestions. Conflicts of interests, if any, are addressed making the process transparent.

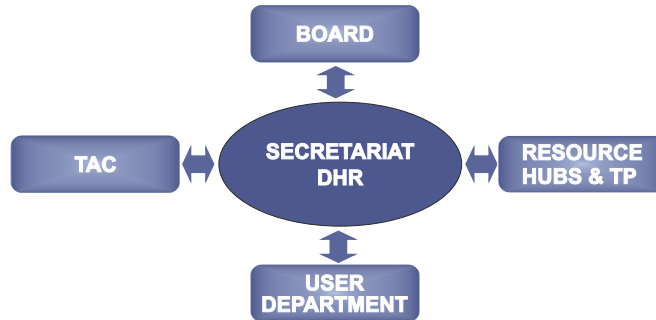


Fig: HTAIn Structure

10.12 Process of HTAIn

1. The User Department send their topic(s) to the Secretariat according to their priority area to conduct an assessment.
2. The topic is prioritized by the HTAIn Secretariat .After prioritization, Secretariat present the topic(s) to the TAC and a suitable Technical Partner/ Resource Centres is identified to allocate those topic(s) to conduct the study.
3. The respective TP/ Resource Centres then submit a study proposal that contains the policy question(s), research question(s), objective(s), methodology, timeline, manpower required and the estimated budget.
4. The proposal is submitted to the TAC for approval. TP/Resource hubs present the proposal before the TAC.
5. After the appraisal and approval of the proposal by the TAC, TP/ Resource Centres conduct the HTA study and after completion of the study submit the Outcome Report to the Secretariat for TAC approval.
6. Once the outcome report is approved by the TAC, it is submitted to the Board for final approval. The report is also uploaded in the website to get comments from Stakeholders or a meeting conducted with stakeholders to get their comments.
7. The recommendations presented to the HTAIn Board for final approval and subsequently sent to the User Department for implementation.

Key Phases of HTAIn Process



Figure: Overview of HTA

10.13 HTAIn Studies completed in 2023-24:

1. To determine cost effectiveness of rapid diagnostic test HPOS (Sicklecert) in comparison to solubility test followed by HPLC for Sickle cell diagnosis
2. Health Technology Assessment on Latent TB Infection Tests Assessing the Costeffectiveness of Latent TB Infection Tests (LTBI) in India.
3. Assessing the cost-effectiveness of the new treatment BPaLM/BPaL for Multi-drug resistant, rifampicin resistant, tuberculosis (MDR-RR-TB) as compared to the currently used oral Bedaquiline containing regimen under the National Tuberculosis Elimination Programme (NTEP)
4. Cost-effectiveness of linking HIV to Family Planning services to prevent unintended pregnancies in people living with HIV women.
5. Cost-effectiveness of rubella vaccination among women in Maharashtra
6. Health Technology Assessment of Rotational Atherectomy for Undilatable Lesions
7. Evaluation and Management of Phase- 2 Drug-Resistant Epilepsy: Health Technology Assessment Perspective
8. Cost-Effectiveness of Neuromodulator for epilepsy/ Deep Brain Stimulation
9. Health technology assessment of Intermittent Auscultation (IA) techniques (Pinard stethoscope, Doppler) for fetal heart rate monitoring against Cardiotocography (continuous/admission) among women without risk factor on their admission to the labour ward in India.
10. Cost effectiveness analysis of inducing therapeutic hypothermia using Phase Changing Material

(MiraCradle) to reduce mortality and neurodevelopmental morbidity in moderate and severe Hypoxic-Ischaemic Encephalopathy (HIE)

11. HTA proposal On Cost-Effectiveness of Deep Brain Stimulation for Parkinson's disease in India.
12. Cost effectiveness of a microchip-based cellulose acetate electrophoresis rapid test (Gazelle) in comparison to HPLC for Sickle cell diagnosis and Beta Thalassemia.
13. Cost Effectiveness Analysis of Thiamine Supplementation among pregnant and post- partum women to prevent infantile beriberi deaths
14. HTA on iBreast for screening for Breast Cancer
15. Effectiveness and cost-effectiveness of the COPD Prevention and Control Program in Kerala (SWAAS)
16. HTA report on Pneumococcal Conjugate Vaccine to prevent mortality and morbidity of pneumococcal disease in Indian Adults: A Health Economic Evaluation
17. HTA on Durgama Anchalare Malaria Nirakarana (DAMaN) Programme in Odisha
18. HTA report on SMART Logistic networks with Drones for TB care and management
19. HTA report on Cost-effectiveness of implementing the project SANKALP in the Rewari district of Haryana in India
20. HTA Proposal Indo Japan mobile Diagnostic van enabling FDR Xair XD 2000 Main Portable Handheld X-ray device
21. Price regulation & value Based Pricing for Anti-Cancer Drugs: Crizotinib for lung cancer, Nivolumab for Metastatic non-small cell lung cancer, Anzalutamide for prostate cancer
22. HTA Outcome Report on Fractional flow reserve
23. HTA Report on Cost Utility Analysis of Total Knee Replacement Vs Non-Surgical Management for Osteoarthritis Among the Older Adult Population (50 years and above): A Health Technology Assessment
24. HTA Report on Cost effectiveness analysis for implementation of smoking cessation strategies at primary health care settings in Tamil Nadu
25. HTA Report on vagal nerve stimulation
26. Health Technology Assessment Report on Cost-Effectiveness of TNF-Alpha Inhibitors, B-Cell Inhibitors And Jak Inhibitors for The Treatment of Rheumatoid Arthritis In India
27. AI X-Ray screening and interpretation tools for Tuberculosis (qXR v4.0, Genki and Mine-2)
28. HTA Proposal on Complete Profiling of Tuberculosis (TGS)

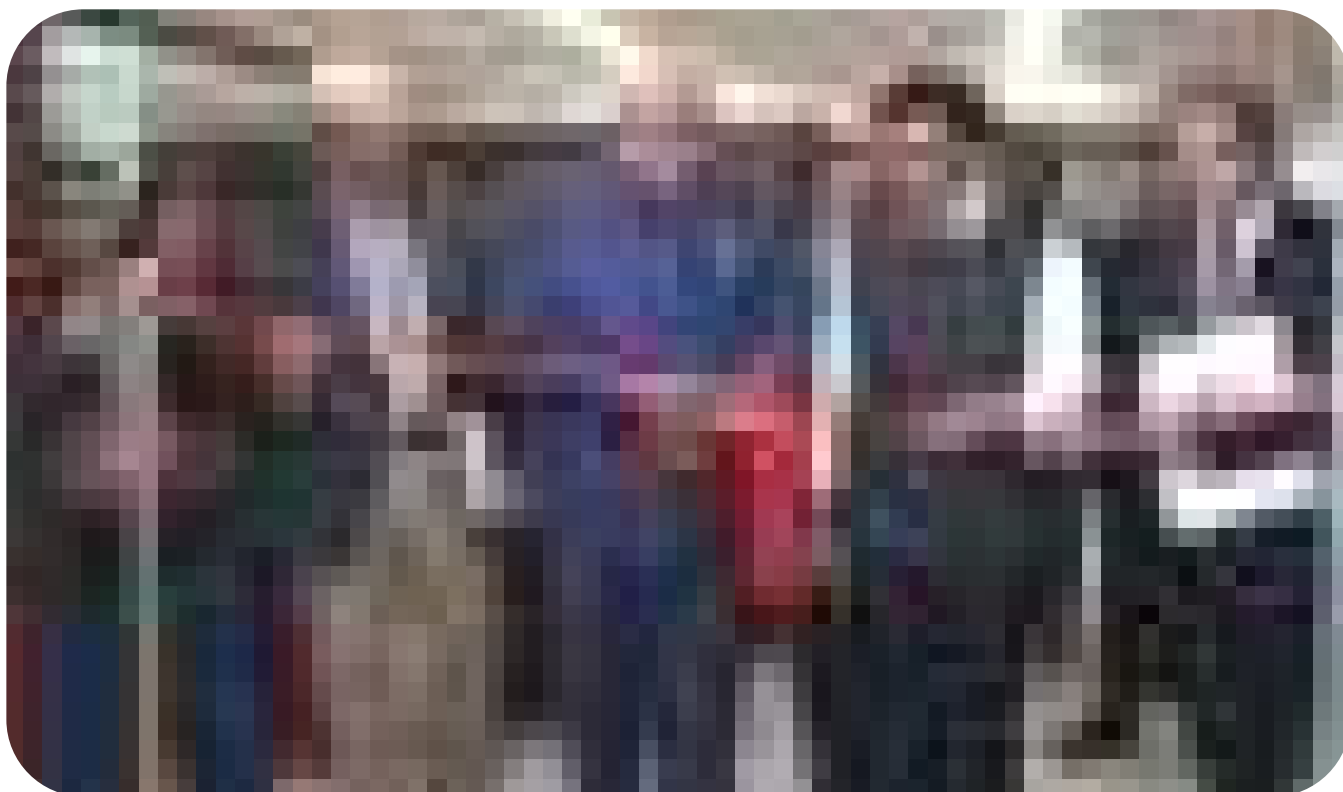
10.14 International Symposium on Health Technology Assessment

1. ISHTA 2023

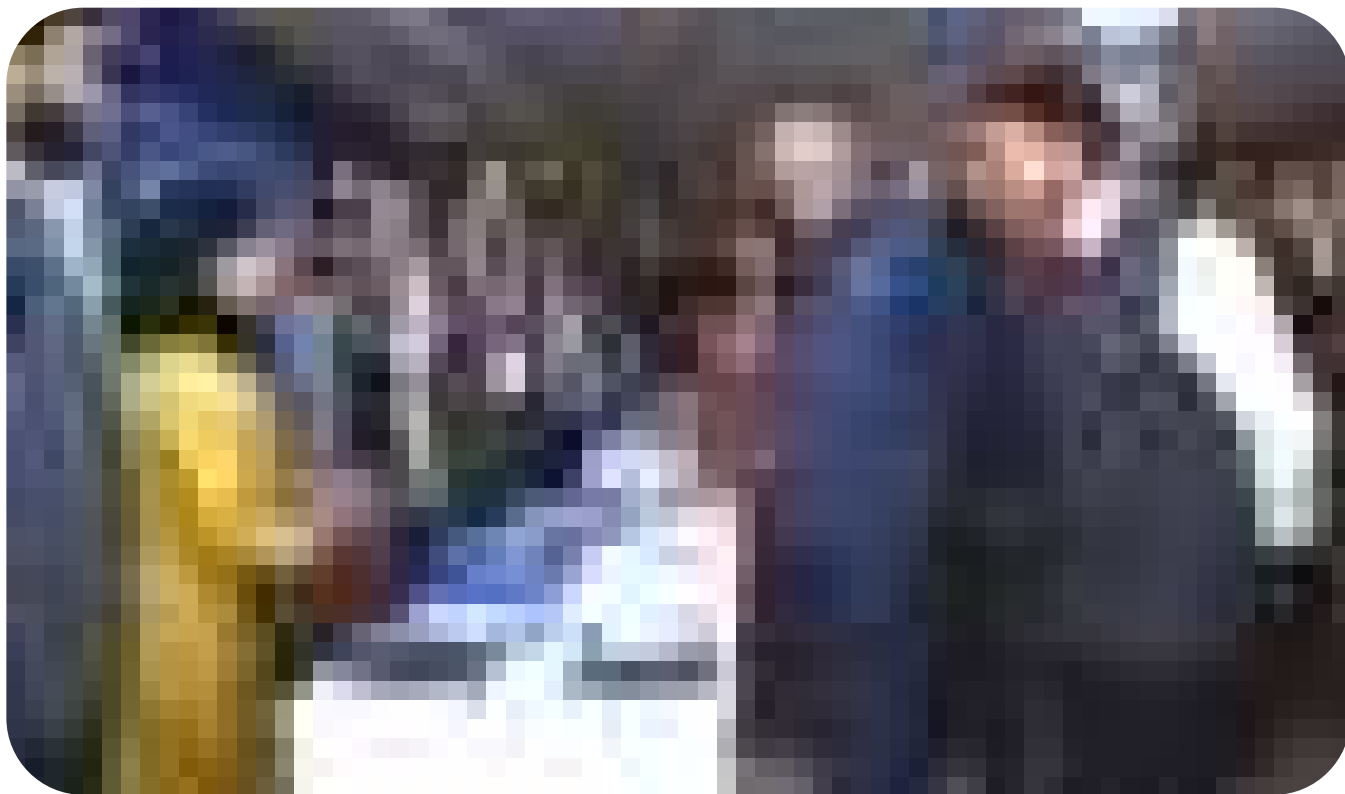
Health Technology Assessment in India, Department of Health Research, Ministry of Health and Family Welfare, GOI organized 2nd International Symposium on Health Technology Assessment (ISHTA) -2023 organized ISHTA-2023 on the theme of “*Availability, Affordability, and Accessibility through HTA for Universal Health Coverage*” on 10th March 2023 in collaboration with WHO and Centre for global Development Europe (CGDE).

On this occasion, the Chief guest of the event **Shri. Jagdeep Dhankhar**, Hon'ble Vice President of India and Guest of Honor **Dr Mansukh Mandaviya** Hon'ble Union Minister, Ministry of Health and Family Welfare, Ministry of Chemical and Fertilizers, GOI & Prof V. K. Paul Member, NITI Aayog, GOI inaugurated the Market Place and released a video on “Journey of HTA”. Later, Dr Rajiv Bahl, Sec DHR & DG ICMR, Smt. Roli Singh, AS & MD, NHM and Smt. Anu Nagar, JS, DHR, MoHFW has released Policy Briefs Volume-2

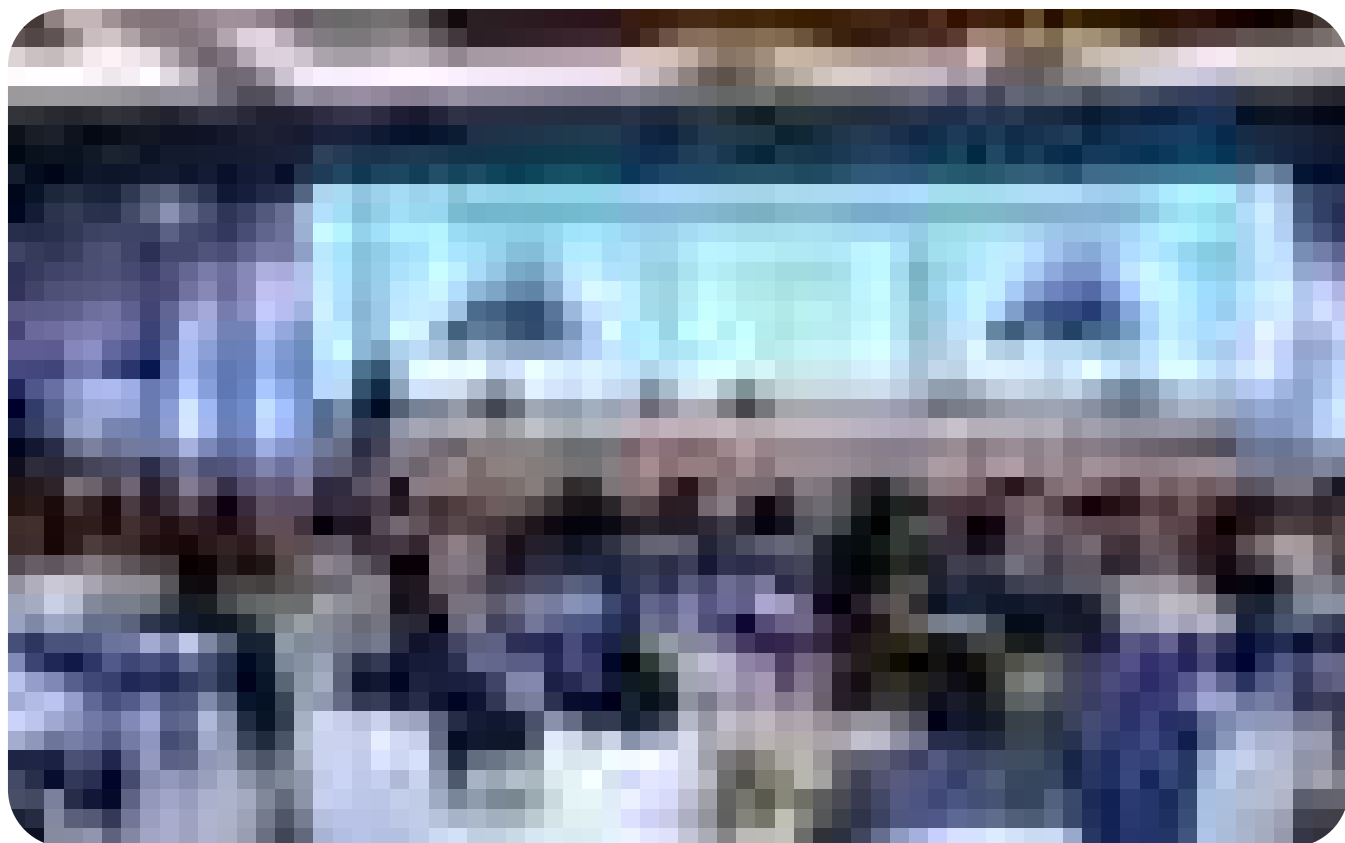
ISHTA-2023 provided a sublime platform to host the first-ever HTA Market Place which will not only benefit participants with the knowledge and product sharing but also brought various HTA stakeholders, such as academia, researchers, policy makers, industry, etc. to a common forum to share their views on the significance of HTA for accessibility, availability, and affordability of health technologies as a step towards Universal Health Coverage, and affordability of health technologies as a step towards Universal Health Coverage.



Inauguration of HTA Marketplace in ISHTA-2023



Visit to exhibits in HTA Marketplace



Address by Hon'ble Vice President in ISHTA-2023

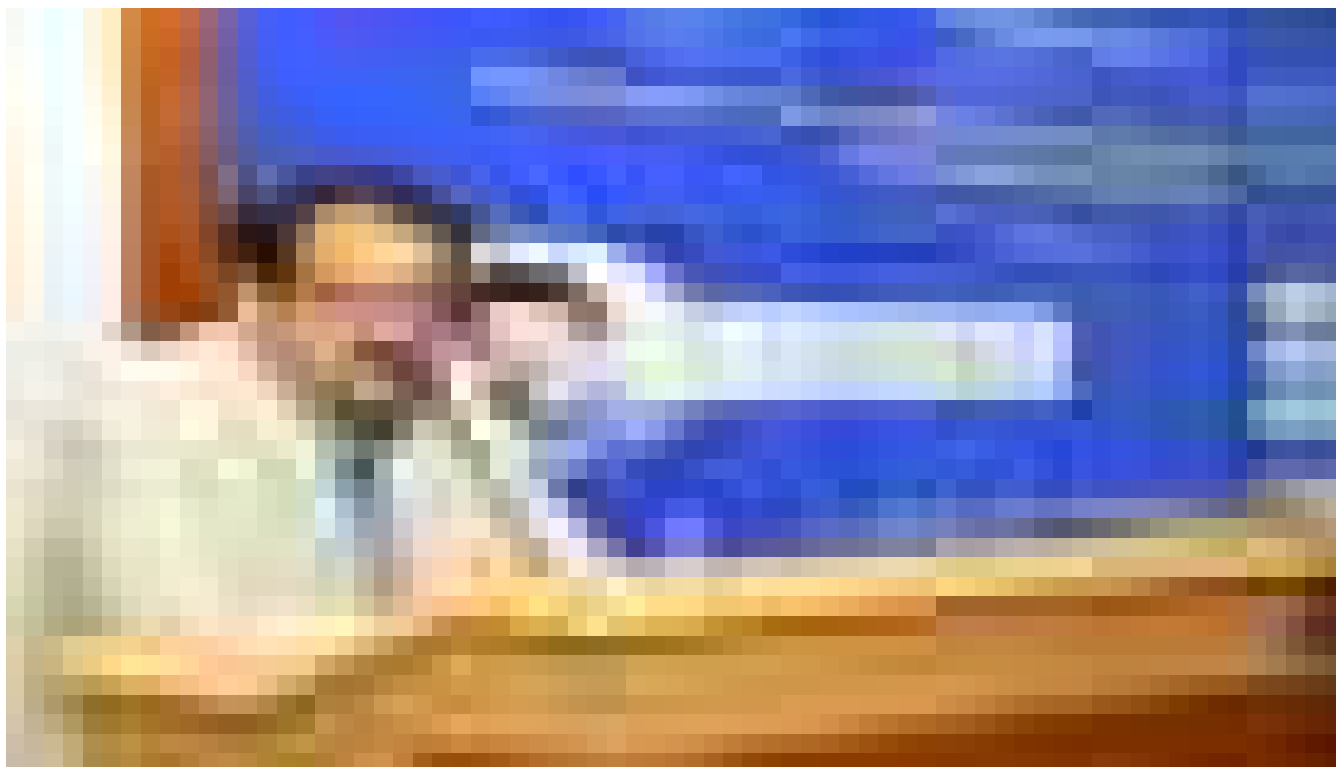
10.15 Consultative Workshop:

1. First TB Innovation workshop

HTAIn, Department of Health Research, MoHFW organized an Innovative TB Health Technologies sharing platform –An enabling Workshop on 15th and 16th June 2023 to assess the innovative TB health technologies and enable their adoption in the End TB program after Health Technology Assessment for TB innovation health Technologies which were displayed in the Stop TB Summit held in Varanasi. An expert committee categorized these technologies into Green, Light Green and Yellow.

On this occasion Hon'ble Minister of State of Health & Family Welfare, Government of India, Shri. S.P. Singh Baghel, Dr. Rajesh Bhushan, Secretary, DoHFW, MoHFW, Dr Rajiv Bahl, Secretary, DHR, and DG ICMR inaugurated the workshop and the assessment of Innovative health technologies of TB was performed under the chairmanship of Dr Soumya Swaminathan, Former Secretary DHR and Former Chief Scientist, WHO. The said-committee categorized eight innovations into Green category and HTA has been initiated on these eight innovations.

Inaugural address by Hon'ble Minister of State in First TB innovative workshop

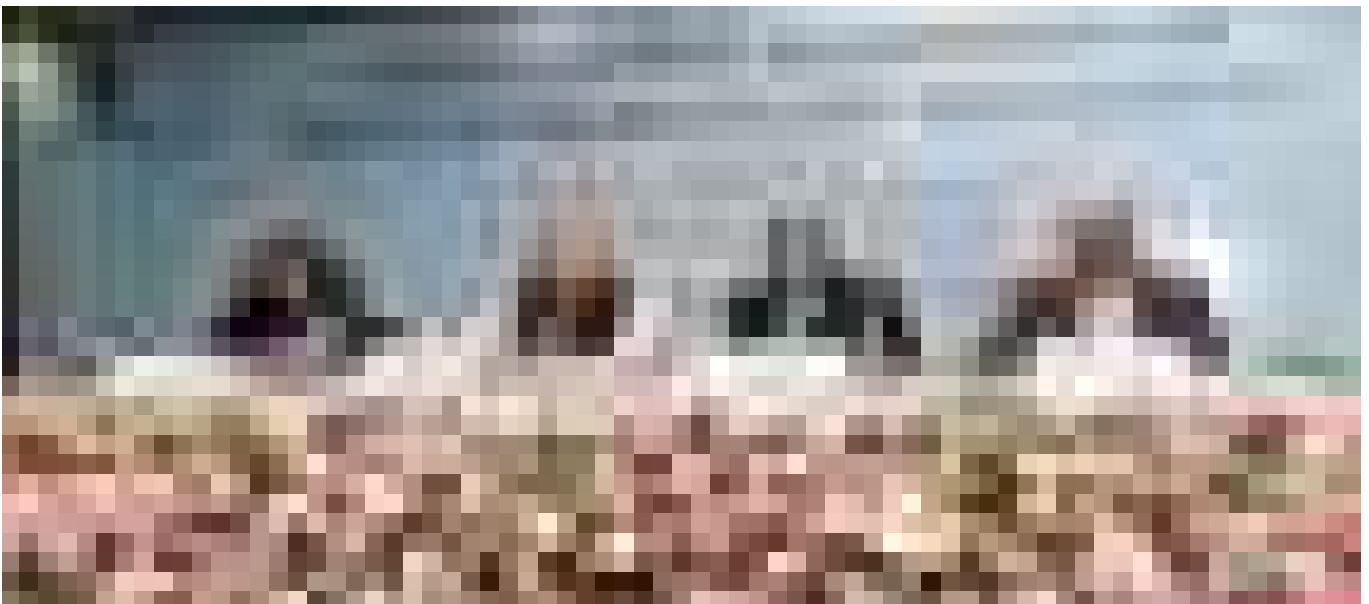


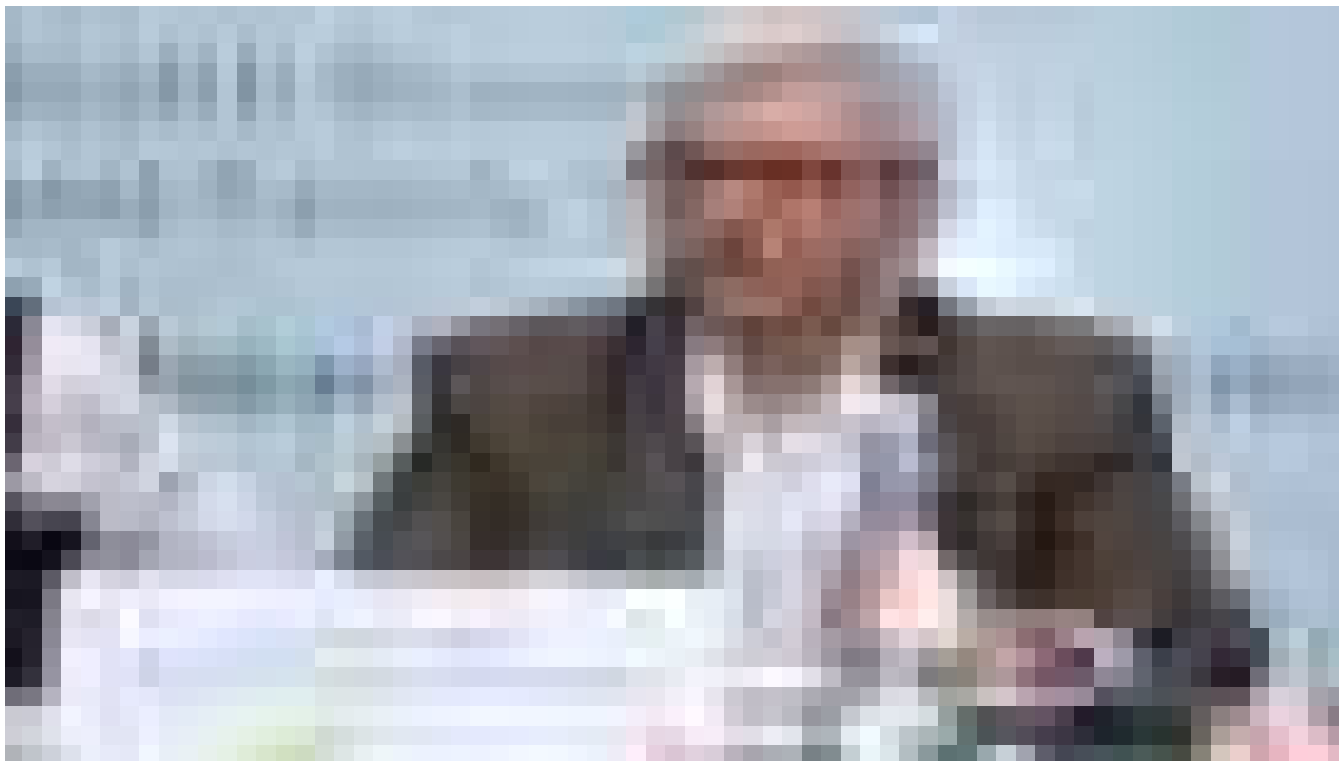


2. Consultative Workshop on Health Technology Assessment

HTAIn, Department of Health Research, MoHFW organized a consultative workshop to strengthen HTA ecosystem in India on 7th December 2023 at India Habitat Centre, Lodhi Road, New Delhi. Experts including Secretary DBT, DGHS, MD NHM, Board members, TAC members, members from HTAIn Regional Resource Centres and stakeholders were engaged in discussion. This consultative workshop provided a platform for knowledge exchange, and collaborative problem solving among experts, policymakers, healthcare professionals, and stakeholders.

On this occasion, more than 100 delegates and experts participated. Prof (Dr.) V K Paul, inaugurated the workshop along with Dr Rajiv Bahl, Secretary, Department of Health Research, and DG ICMR and Ms. Anu Nagar, Joint secretary, DHR, MoHFW





Consultative Workshop on Health Technology Assessment in New Delhi

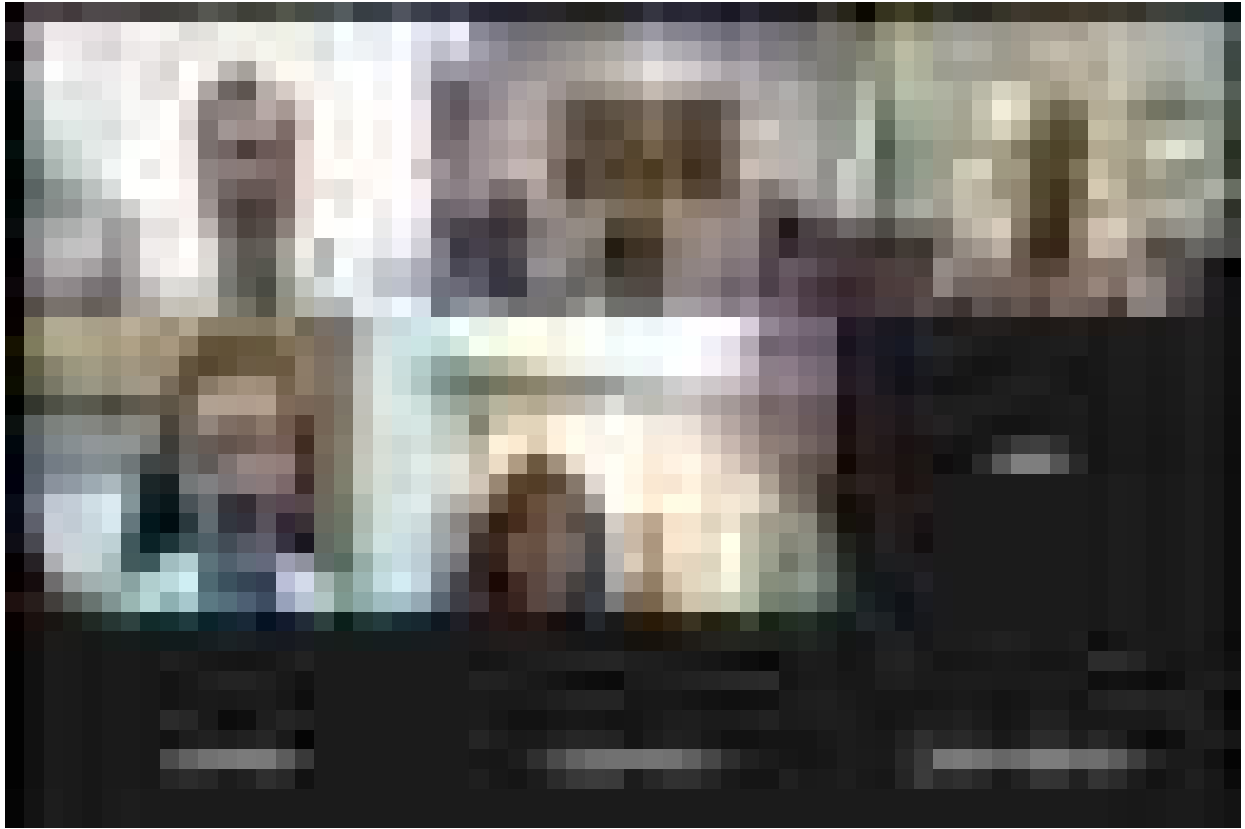
3. Second TB Innovation workshop:

HTAIn, Department of Health Research, MoHFW organized 2nd Innovative TB Health Technologies sharing platform –An enabling workshop on 16th February 2024 at Department of Health Research along with ICMR-NIRT Chennai, to assess the innovative TB health technologies and enable their adoption in the End TB program after Health Technology Assessment for TB innovation health Technologies that are received through EOI and shortlisted for presentation in the said-workshop. An expert committee categorized these technologies into Green, Light Green and Yellow.

On this occasion Dr. Soumya Swaminathan, Former Secretary, DHR, and Former Chief Scientist, WHO inaugurated the workshop and the assessment of Innovative health technologies of TB was

performed by committee experts. The said-committee assessed eight innovations including two vaccines candidates.

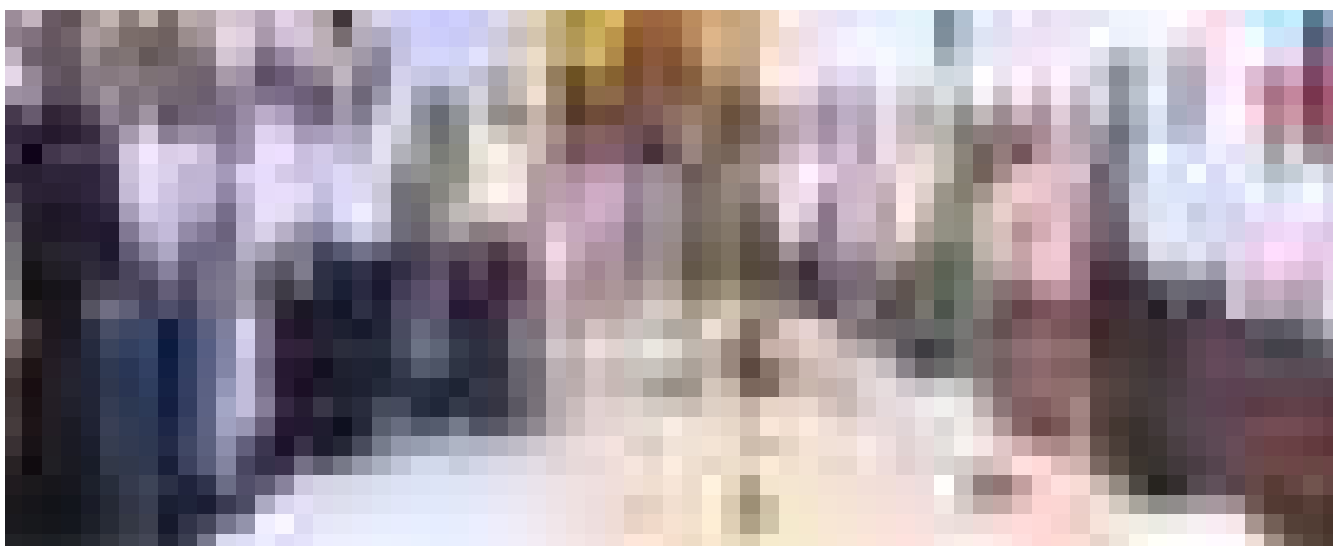
4. **A meeting was held with BIRAC officials** on the 5th of October 2023 for discussion on innovative products and prioritization for Health Technology Assessment.



Virtual meeting with BIRAC to sensitize on HTA

5. Meeting with Maharashtra state officials:

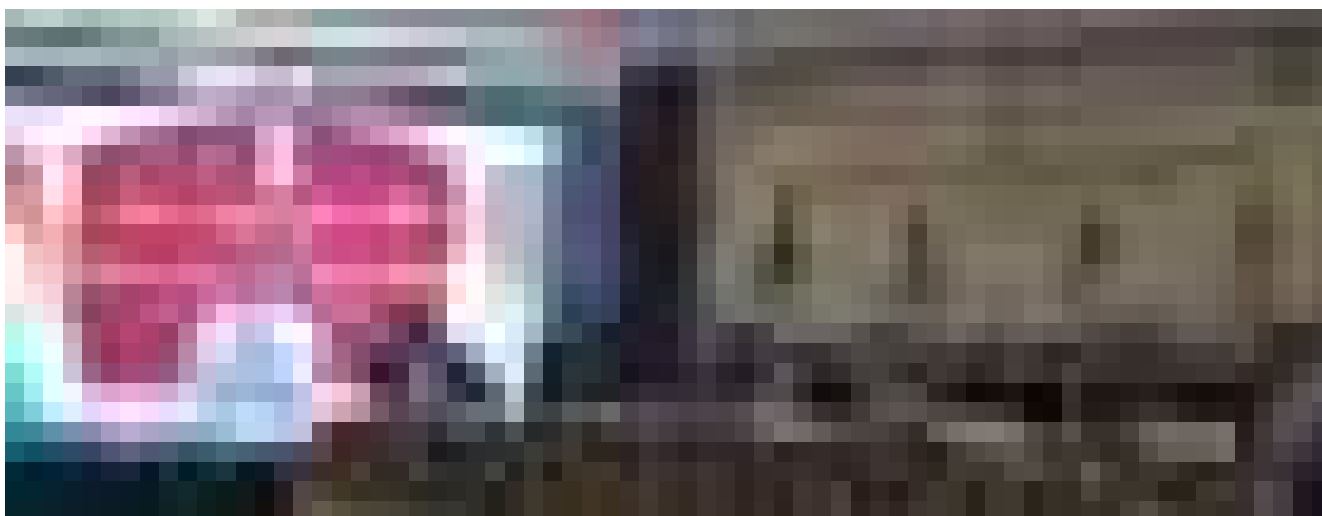
HTAIn resource centre, ICMR-National Institutes for Research in Reproductive and Child Health (ICMR-NIRRH) and ICMR-National Institute of Virology, Pune (ICMR-NIV) in collaboration with Department of Health Research jointly organized a regional consultative workshop on health technology assessment for evidence based health care decision making in India on the 16th of January 2024. In this workshop, Maharashtra state government officials were sensitized on Health Technology Assessment studies and discussed strategies for mainstreaming HTA activities.



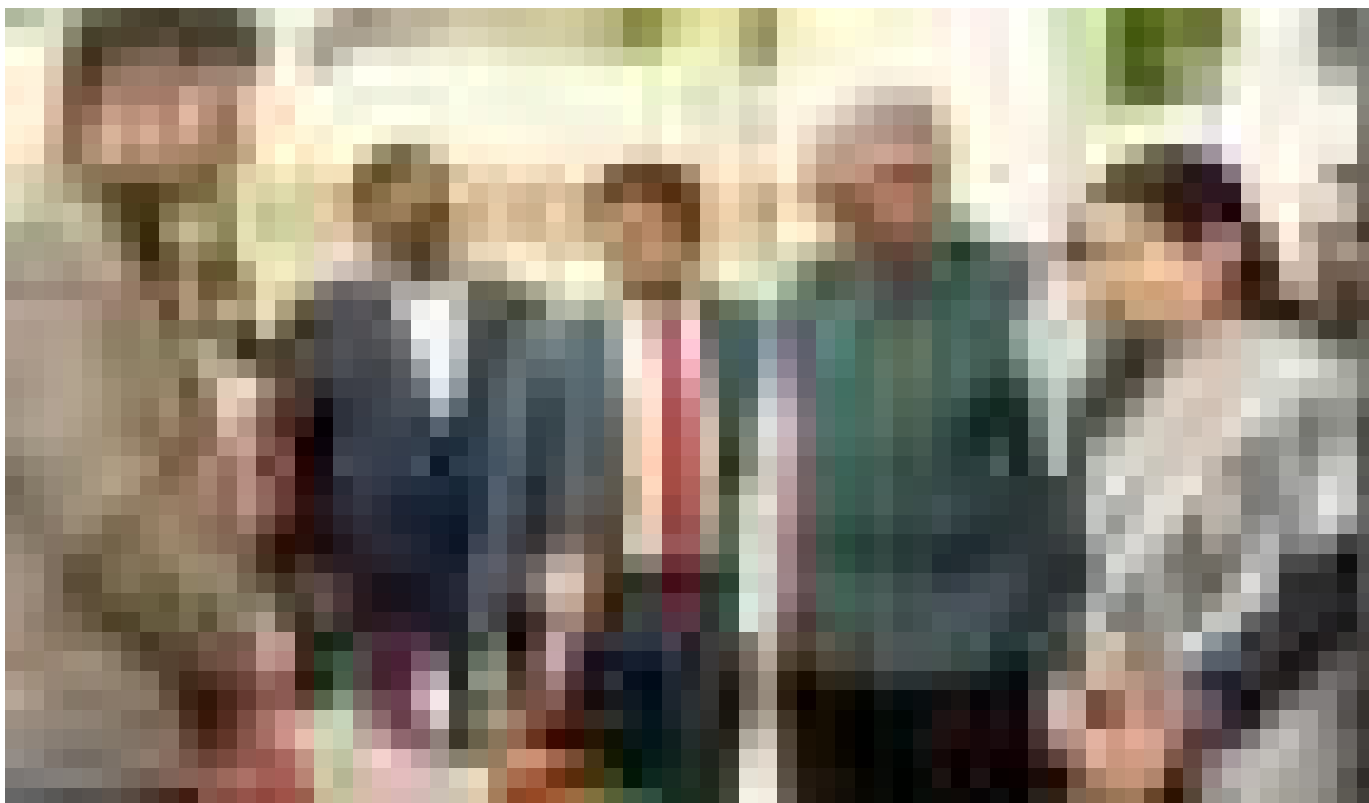
Sensitization meeting with Maharashtra Government state officials

6. Regional Consultative Workshop on Research Priority for Providing Accessible and Affordable Healthcare for North East States of India:

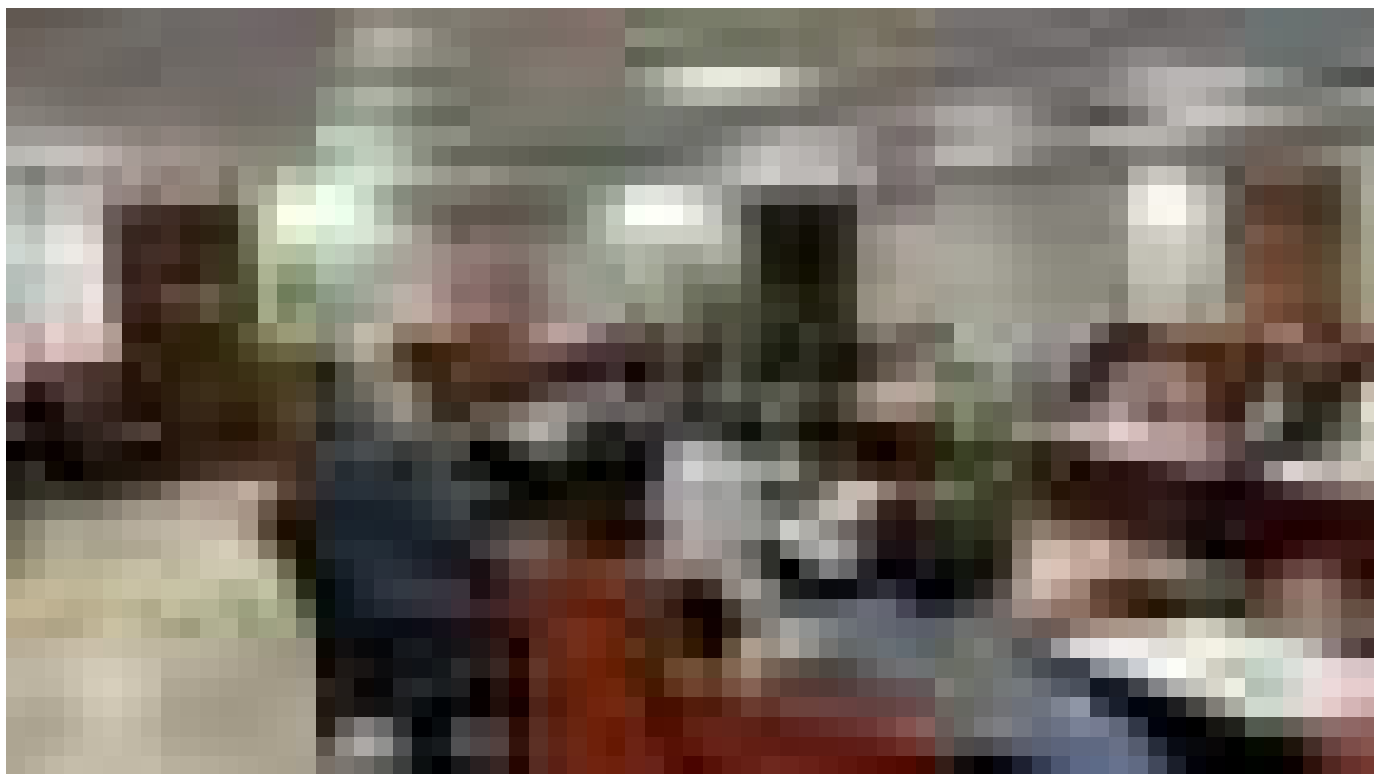
The Regional consultative workshop was held on the 21st and 22nd of February 2024 in Shillong, Meghalaya. The Workshop was inaugurated by the Hon'ble Union Minister of Health and Family Welfare Shri Mansukh Mandaviya. The Hon'ble Union Minister of Health and Family Welfare had launched a Maters program on Health Economics and Technology Assessment in IIPH Shillong. All eight Northeastern State representatives had participated in the said-workshop. A market place was also established displaying all technologies which have been assessed by HTAIn and implemented by States. The Market Place was inaugurated by Smt. Bharati Pravin Pawar, Hon'ble Minister of State for Health and Family Welfare at state convention centre, Shillong, Meghalaya.



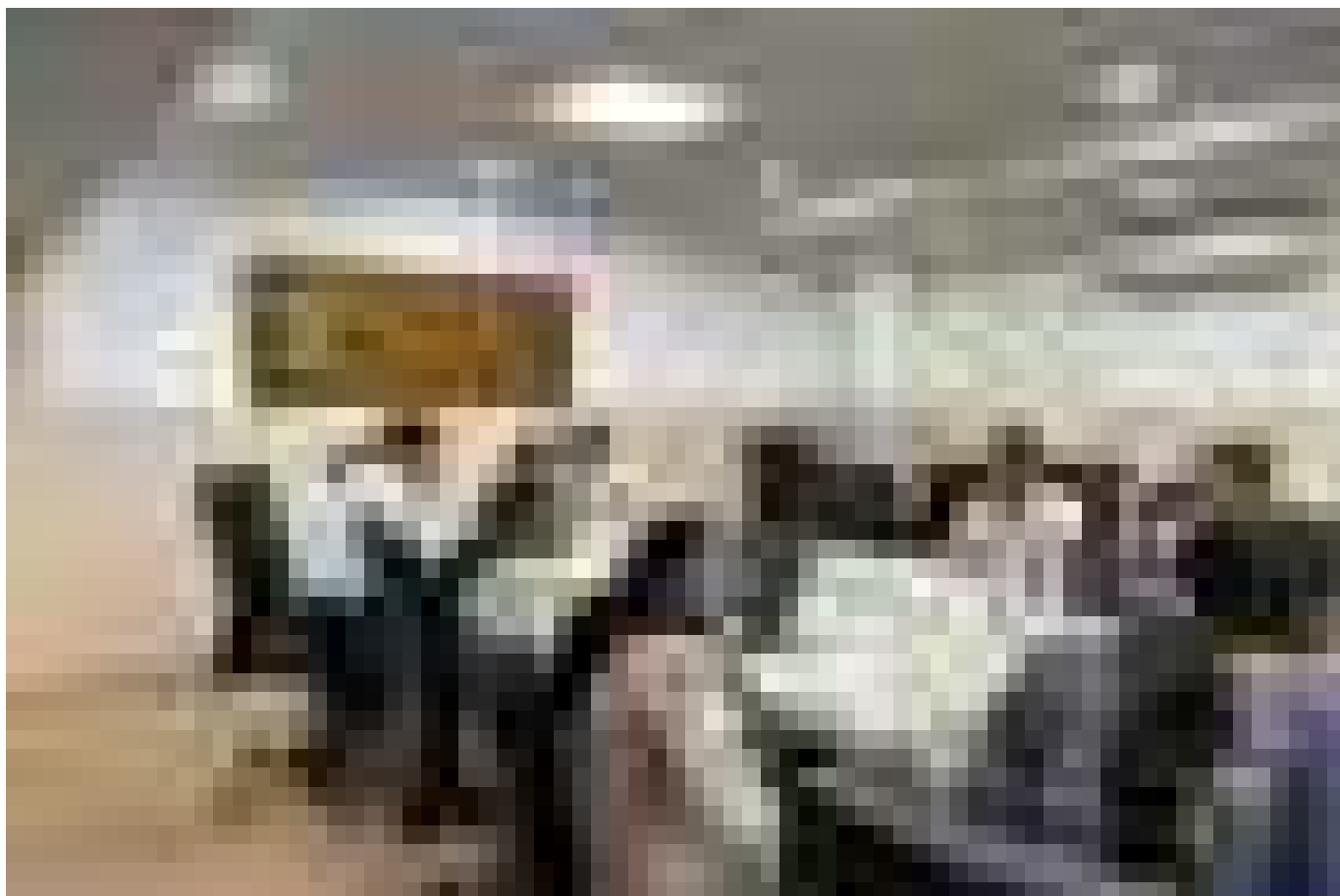
Inaugural Address by Hon'ble HFM in Regional Consultative Workshop at Shillong



Visit to exhibits in HTA Marketplace at Shillong



Medical Technology Assessment Board (MTAB) meeting



Technical Appraisal Committee Meeting (TAC) of HTAI

10.16 DHR-ICMR Advanced Molecular Oncology Diagnostic Services (DIAMOnDS) Scheme

DHR-ICMR Advanced Molecular Oncology Diagnostic Services (DIAMOnDS) is a sub-scheme established under the umbrella scheme of Human Resource and Capacity Development approved for the 15th Finance Commission period 2020-21 to 2025. This initiative aims to set up zonal oncopathology labs to provide basic as well as high-end advance diagnostic services to cancer patients and research facilities for basic, translational and clinical research.

The Department of Health Research initiated the DIAMOnDS as a pilot project in 2019, and implementing it as a Scheme since 2021-22, which is focussed on establishing labs for providing free of cost advanced molecular oncopathology diagnostic services for lung and breast cancers to the poor and needy patients. Till now, 20 DIAMOnDS centres have been established including one data management centre at ICMR-NCDIR (Bengaluru) and one quality assessment centre at ICMR-NIOP (Delhi). Moreover, the SFC has approved the establishment of 3 new DIAMOnDS centres every year till 2025-26, to ensure the geographical spread of the services and to bridge the gap in the infrastructure, ultimately improving the overall health status of the population.

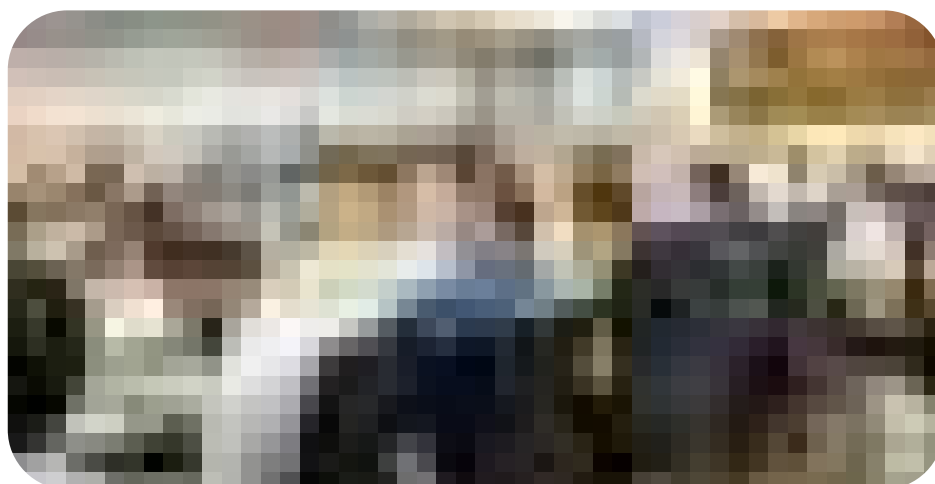
S No.	Zone	Established Centre (DIAMOnDS Regional Hub)	To be Established Centre (DIAMOnDS Centre)
1	North	AIIMS (New Delhi)	K.S.S.S.C.I. (Lucknow)
			Pt. B.D. Sharma P.G.I.M.S. (Rohtak)
			G.M.C. (Jammu)
			Dr. R.P. G.M.C. (Tanda)
2	South	CMC (Vellore)	J.I.P.M.E.R. (Puducherry)
			Cancer Institute (WIA) (Chennai)
			N.I.M.S. (Hyderabad)
			R.C.C. (Trivandrum)
3	North East	TMC (Kolkata)	A.I.I.M.S. (Bhubaneswar)
			R.I.M.S. (Imphal)
			C.C.H.R.C. (Silchar)
			A.I.I.M.S. (Patna)
4	West	TMH (Mumbai)	A.I.I.M.S. (Jodhpur)
			A.I.I.M.S. (Bhopal)



Map showing 18 Institutes having DIAMOnDS Labs

➤ Achievements

1. During FY 2023-24, three new DIAMOnDS centres were established, viz. All India Institute of Medical Sciences, Patna (Bihar); Government Medical College, Jammu; and Dr. R. P. Government Medical College, Tanda (H.P.)
2. The total number of patients benefitted by the scheme have been more than 10,261 (as on 31.03.2024), and the number of biomarker tests have crossed 51,000.
3. In terms of capacity building, a total of 308 people have been trained in the field of molecular pathology, and 95 in data management.
4. Three postdoctoral fellowship courses in the field of molecular pathology and cytogenetics are also being offered by the DIAMOnDS Hubs established at Mumbai, Vellore, and Kolkata.
5. The scheme currently provides employment to 89 people, and recruitment to some of the other posts are currently under process.
6. Under this scheme, 32 workshops and training programs have also been organized and conducted, and coordinated by the HTAIn division of DHR.
7. In addition, DIAMOnDS awareness and networking with other neighbouring institutes and the State Health Govt. officials is also being carried out by the DIAMOnDS centres, and is coordinated by the HTAIn division of DHR.
8. A total of 144 research papers have been published in various National and International journals. The establishment of the DIAMOnDS is also providing support to several research projects (both intramural and extramural) and M.D./Ph.D. theses work that are utilizing the DIAMOnDS laboratory facilities.
9. As study to evaluate the cost-effectiveness of the lung and breast cancer biomarkers currently included under the DIAMOnDS was also initiated where it was observed that the treatment following the diagnostic tests for lung cancer biomarkers (i.e. EGFR, PDL-1) and the breast cancer biomarkers (i.e. ER, PR) were cost-effective.



**Meeting of the DIAMOnDS Technical Evaluation Committee (TEC)
held on 22nd Aug 2023**

➤ **Monitoring of DIAMOnDS Hubs/Centres**

The evaluation of the services being offered by the DIAMOnDS Hubs and centres are regularly performed for assessment and improvements. Moreover, feedbacks from all the centres are also received in order to mitigate the challenges and issues being faced by the centres so as to provide hassle free services to the lung and breast cancer patients. To achieve this, DIAMOnDS centre visits are also undertaken by the DHR for elaborate discussion on key points with the Institute Director and the PI.

PGIMS Rohtak



Tissue processing area



FISH Lab

AIIMS Jodhpur



Sample preparation and embedding lab



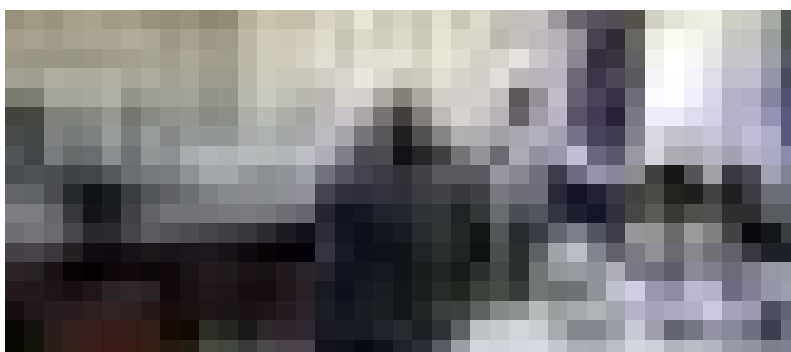
Sample processing and DNA extraction lab

AIIMS Jodhpur



PCR Lab

RCC Thiruvananthapuram



Tissue sectioning and fixation/staining lab



Immunohistochemistry (IHC) lab

Chapter 11

Development of Tools/ Support to Prevent Outbreaks & Epidemics

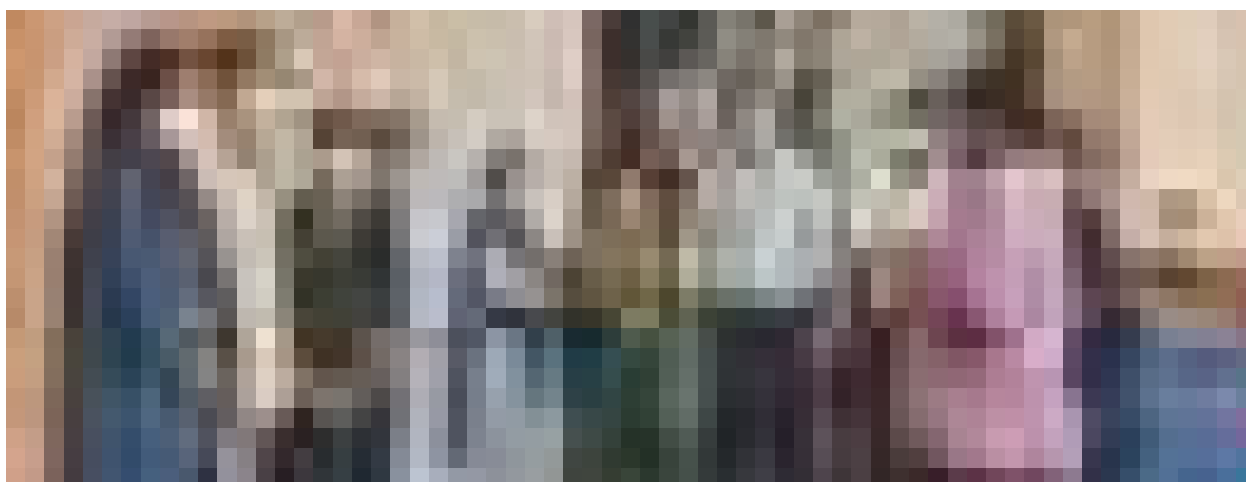
- 11.1 During the 12th Plan period, a provision for revolving fund of Rs. 85 crore for 5 years was approved to facilitate rapid mobilization in the event of outbreak/disaster response to infectious disease outbreaks or natural/man-made disasters. The purpose of this budget line was to provide support in outbreaks management in coordination with relevant departments of MoHFW.
- 11.2 In the year 2021, the said budget line was appraised as a central sector scheme entitled “DEVELOPMENT OF TOOLS/ SUPPORT TO PREVENT OUTBREAKS & EPIDEMICS” for implementation during 15th finance commission period (2021-22 to 2025-26), with the budget provision of Rs. 50.71 crores for five years.
- 11.3 The aim and objectives of the scheme is to specially facilitate focused research to assist in dealing with emerging and re-emerging diseases, development of diagnostics kits, formulation of case management modules and preventive strategies, to provide the labs with essential kits, diagnostics and training of the available staff in times of National crisis. A Resource Centre is also established at National Institute of Virology (NIV), Pune which is envisaged to provide training, capacity building, and quality control and to ensure quality assurance of functional VRDLs. The scheme is completely need based and funds are sanctioned to various Medical Colleges / Institute to cater any outbreak situation.
- 11.4 Budget to the tunes of Rs. 10.0 crores have been approved for this financial year 2023-2024.
- 11.5 **The financial achievements of the Scheme are given in the table below:**

Year	BE (Rs. In Cr.)	RE (Rs. In Cr.)	Actual Exp. (Rs. In Cr.)
2023-24	10.00	10.00	10.00

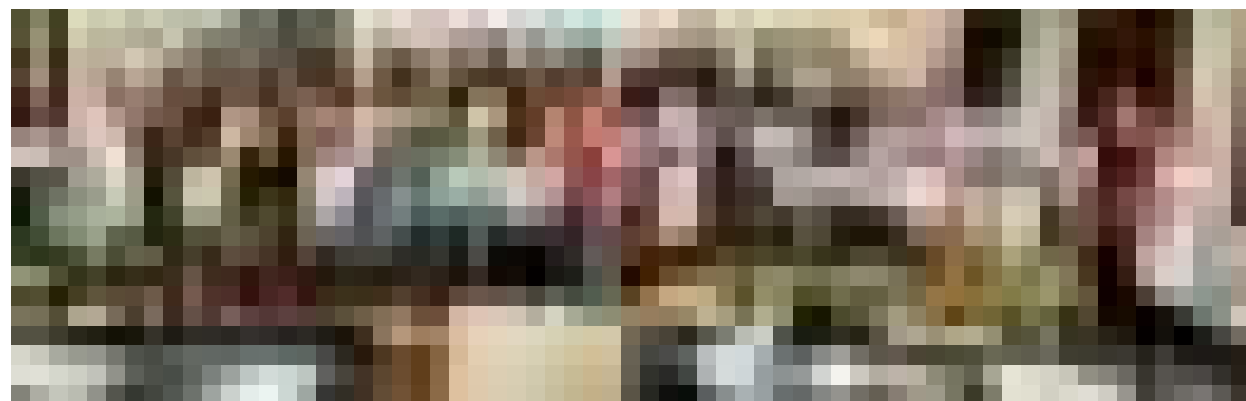
Pan India Remaining amount NIV Pune	0.7556
Model for Integrated Influenza Surveillance in Tamil Nadu (MIST) NIE Chennai	1.8360
NIE Chennai Data Mining Resource Center	0.6847
Strengthening of ILI/SARI surveillance for human respiratory viruses Influenza	2.1600
“Understanding the prevalence and characterization of atypical pneumonia pathogens among SARI cases” JIPMER Puducherry	0.3204
“Personalized Recommender System for Virus Research and Diagnosis Laboratory Network: Advancing Diagnostic Decision-Making through Artificial	0.6592
Sustaining the Measles Rubella Lab Network	2.0000
NIE Chennai Congenital Rubella Syndrome surveillance	1.5839
TOTAL	10.00



Mobile BSL-3 deployment at GMC Kozhikode during the Nipah virus outbreak in Sept 2023



Mobile BSL-3 deployment at GMC Kozhikode during the Nipah virus outbreak in Sept 2023



Training of 10 medical college technologists and microbiologists on Biosafety, BSL-3 PPE, and Nipah POCT during the outbreak

Chapter 12

Implementation of Schemes in North Eastern Region

I. Establishment of VRDLs in Government Medical Colleges:

(Rs.in lakh)

Sl. No.	Name of State	Name of VRDL	Funds Released	
			2013-14 to	2023-24 (till 31st Mar 2024)
1	Assam	RMRC Dibrugarh	2022-23	
		Gauhati Medical College, Guwahati	635.32	-
		Tezpur Medical College, Tezpur	297.25	-
		Jorhat Medical college, Jorhat	308.15	-
		Fakhruddin Ali Ahmed Medical College, Barpeta, Assam	311.33	17.1
		Silchar Medical College, Silchar	317.44	46.4
		Diphu Medical College & Hospital, Diphu, Assam(NEW)	197.10	-
		Lakhimpur Medical College & Hospital, Lakhimpur, Assam	-	197.1
		AIIMS Guwahati	94	103.2
2	Arunachal Pradesh	Tomo Riba Institute Health and Medical Sciences (TRIHMS), Naharlagun(NEW)	197	-
3	Manipur	Regional Institute of Medical Sciences (RIMS), Imphal	615.07	25
		Jawaharlal Nehru Institute of Medical Sciences(JNIMS), Imphal	329.03	-
4	Meghalaya	North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), Shillong	461.52	68.0
5	Mizoram	Zoram Medical College, Mizoram	264.45	46.4
6	Tripura	Government Medical College, Agartala	337.18	-
		Total	5,410.54	600.0

II. Establishment of MRUs in Government Medical Colleges:

(Rs. In Lakh)

Sl. No	Name of state	Name of the Medical College with sanctioned MRU	Funds released		
			2013-14 to 2020-21	2021-22 to 2022-23	2023-24
1	Assam	Silchar Medical College and Hospital, Silchar	459.90	58.20	28.65
		Fakhruddin Ali Ahmed Medical College, Barpeta	459.97	99.39	120.02
		Jorhat Medical College, Jorhat	308.73	57.65	33.12
		Assam Medical College & Hospital, Assam	-	85.80	262.67
		Gauhati Medical College & Hospital, Guwahati, Assam	-	273.00	15.00
		Tezpur Medical College, Tezpur, Assam	-	125.00	15.00
		Diphu Medical College & Hospital, Diphu, Assam	-	125.00	15.00
2	Arunachal Pradesh	Tomo Riba Institute of Health & Medical Sciences, Naharlagun, Arunachal Pradesh	-	27.5	47.5
3	Manipur	Regional Institute of Medical Sciences, Imphal	519.52	55.14	33
		Jawaharlal Nehru Institute of Medical Sciences (JNIMS), PoroMadhya Pradeshat, IMadhya Pradeshhal, Manipur	-	125	15
4	Mizoram	Zoram Medical College, Falkawn, Mizoram	-	46.0	26.6
5	Nagaland	Healthcare Laboratory & Research Centre, Naga Hosital Authority, Kohima, Nagaland	-	45.6	48.0
6	Tripura	Agartala Government Medical College, Agartala	652.29	57.2	43.12
Total			2,400.41	1180.5	702.65

III. Establishment of MRHRUs in North Eastern States:

(Rs. In Lakh)

S. No	State	Location of MRHRU	ICMR mentor institute	Funds released		
				2013-14 to 2020-21	2021-22 to 2022-23	2023-24
1	Assam	PHC Chabua	RMRC, Dibrugarh	492.49	104.42	16.00
2	Tripura	Kherengbar Hospital Khumulwung	RMRC, Dibrugarh	490.78	76.74	34.52
3	Nagaland	PHC, Niuland, Dist: Dimapur	RMRC, Dibrugarh	150.00	50.00	107.50
4	Meghalaya	CHC Sohra	RMRC, Dibrugarh	149.99	50.00	107.50
5	Arunachal Pradesh	CHC Sagalee	RMRC, Dibrugarh	150.00	50.00	107.50
6	Mizoram	PHC, Aizwal, Mizoram	RMRC, Dibrugarh,	150.00	50.00	107.50
Total				1583.26	381.16	480.52

IV. Implementation of HRD Scheme in North Eastern States:**(Rs. In Lakh)**

S.No	State	Name of the Institute	Funds Released (In Lakhs) FY 2023-24
1.	Sikkim	Sikkim Manipal Institute of Medical Sciences Manipal University Tadong Gargtol East Sikkim Pin -737102.	0.6
2.	Assam	ICMR Regional Medical Research Centre, Dibrugarh Assam – 786001	0.8
3.	Mizoram	Department of Biotechnology Mizoram University AIZAWL, - 796004 MIZORAM	0.4
4.	Assam	ICMR Regional Medical Research Centre, Dibrugarh DIBRUGARH, - 786001 ASSAM	34.15
5.	Assam	Dept. of Biotechnology, Gauhati University Guwahati ASSAM -781014	14.64
6.	Assam	Department of Animal Biotechnology, College of Veterinary Science, AAU, Khanapara, Guwahati-781022	26.4
7.	Assam	Department of Bioengineering & Technology Gauhati University, Guwahati, Assam -781014	49.08
8.	Assam	CSIR-North East Institute of Sciences and Technology Jorhat -785006 Assam.	33.41
9.	Assam	Department of Statistics Assam University, Silchar, CACHAR ASSAM -788011	11.64
10.	Assam	CSIR-North - East Institute of Science and Technology (CSIR-NEIST) JORHAT – 785006 ASSAM.	48.98
11.	Meghalaya	North Eastern Indira Gandhi Regional Instt. of Health and Medical Sciences, EAST KHASI HILLS, MEGHALAYA -793018.	54.6
12.	Meghalaya	North Eastern Indira Gandhi Regional Instt. of Health and Medical Sciences, EAST KHASI HILLS, MEGHALAYA -793018	19.3
13.	Assam	ICMR Regional Medical Research Centre (RMRC) North East Region, Dibrugarh, Assam-786010	6.56
14.	Assam	Community Medicine Department, Jorhat Medical College, Jorhat-785001, Assam	9.21
15.	Assam	Department of Microbiology, Gauhati Medical College and Hospital, Bhangagarh, Guwahati, Assam - 781032	13.47
16.	Meghalaya	Department of Bio Medical Engineering, North Eastern University, Shillong, Meghalaya- 793022	16.76
Total			340

V. Grant-in-aid Scheme for Inter-Sectoral Convergence and Coordination for Promotion and Guidance on Health Research in North Eastern States:-

Sl. No.	Name of the State	Name of the Institute	Funds Released (Rs. In Lakh)		
			2014-15 to 2021-22	2022-23	2023-24 (up to 31st March, 2024)
1	Assam	ICMR-Regional Medical Research Centre, Dibrugarh	46.48	41.54	15.26
2	Assam	Assam Medical College, Dibrugarh	-	9.51	-
3	Manipur	National Institute of Technology, Imphal	9.2	-	6.89
4	Meghalaya	North Eastern Hill University, Shillong	98.34	-	14.47
5	Mizoram	Mizoram University, Aizawl	-	41.07	12.52
Total			154.02	92.12	49.14

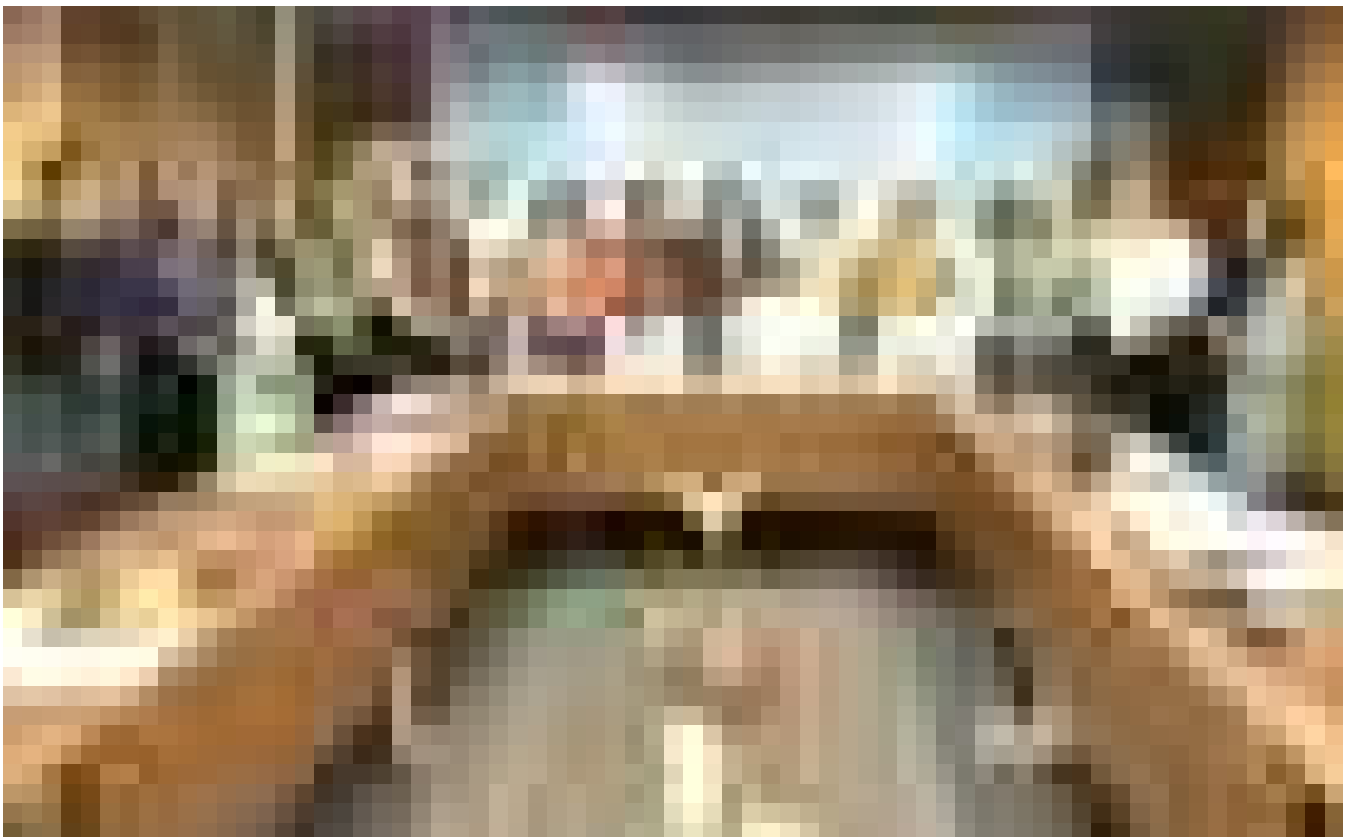
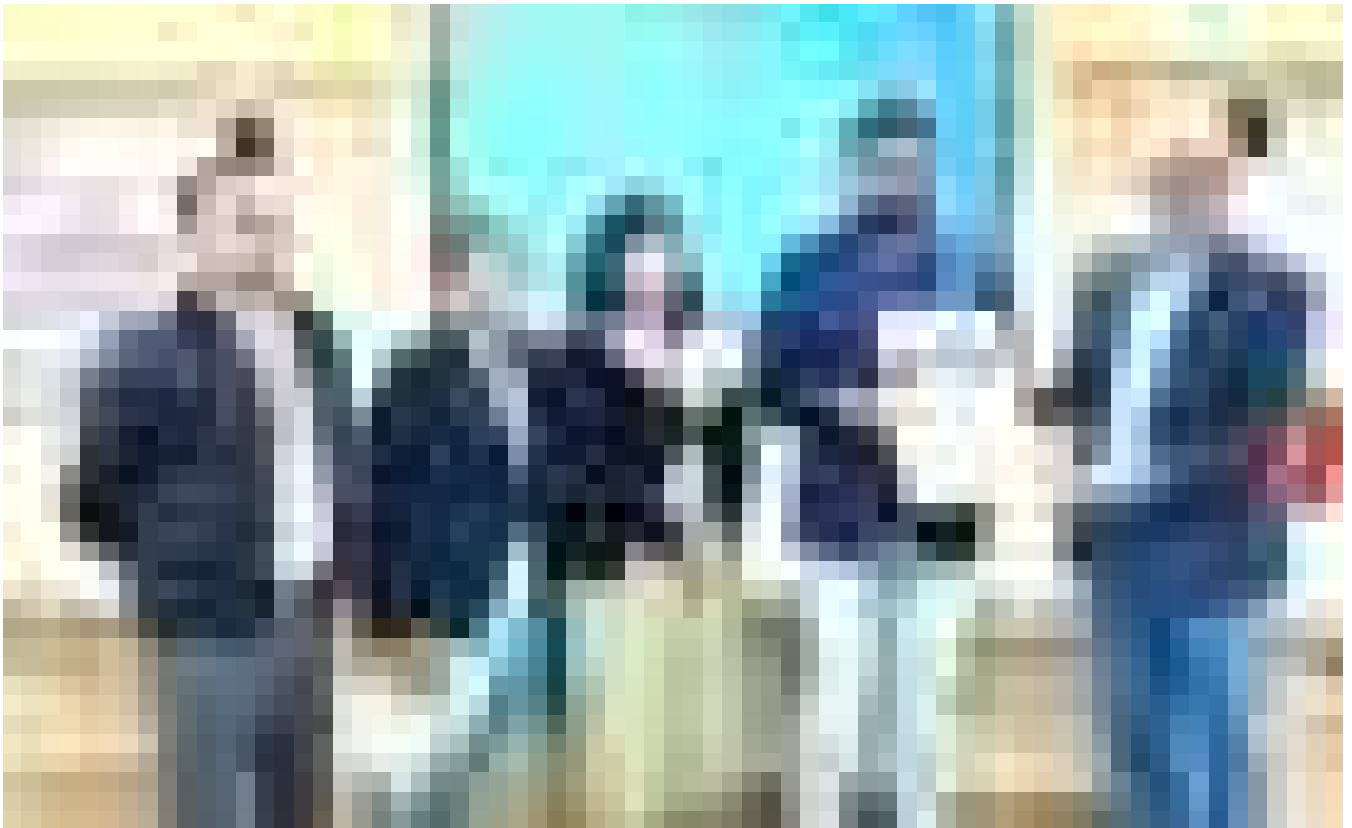
Chapter 13

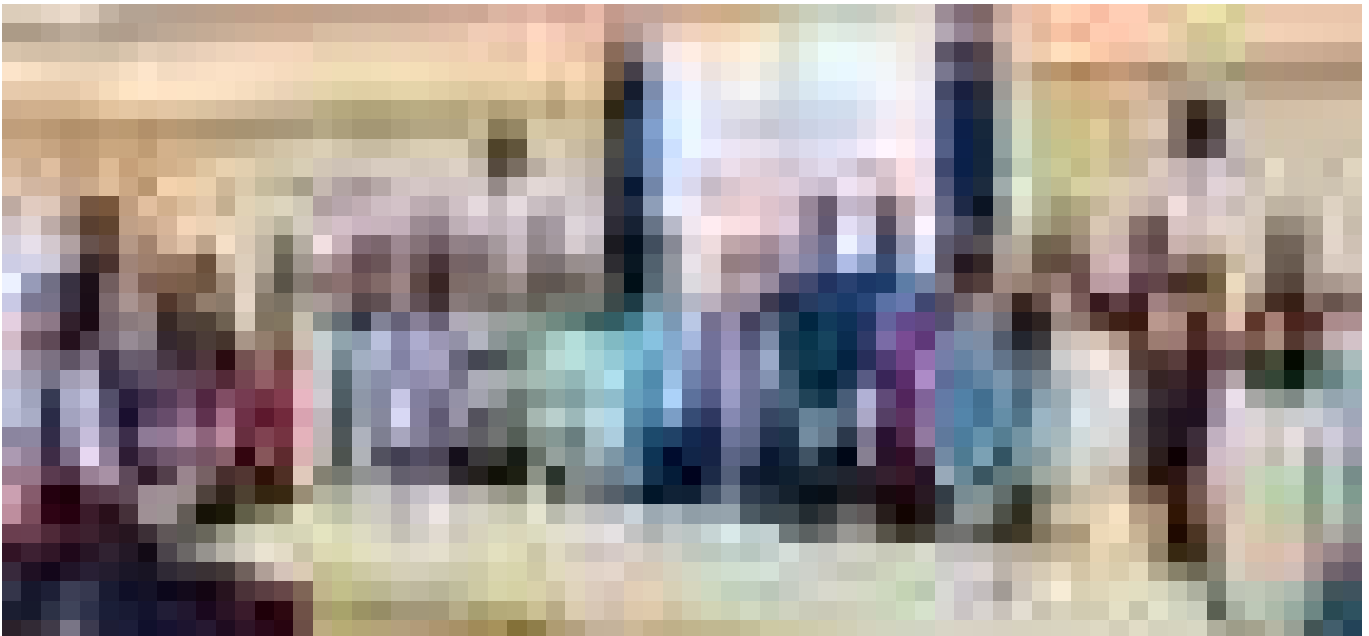
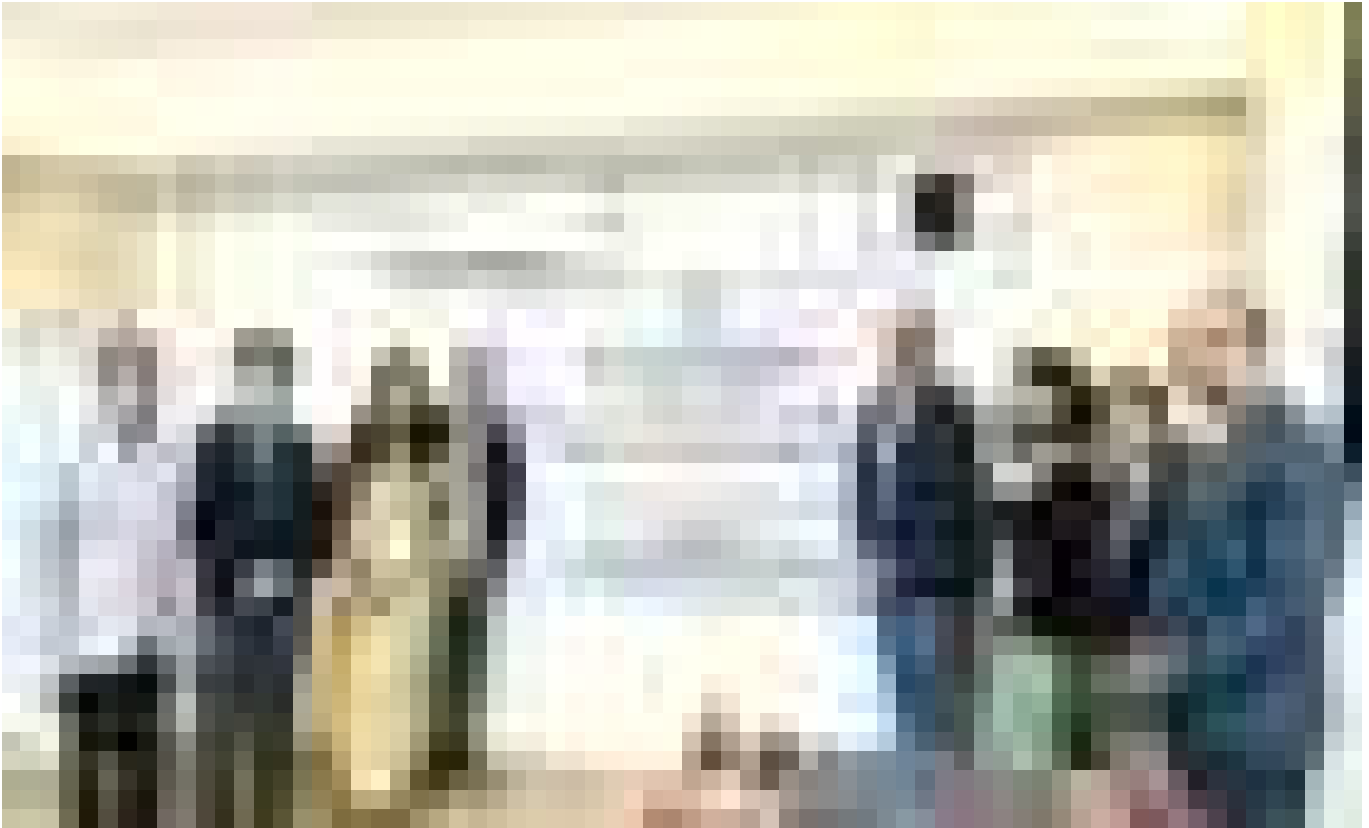
Centre For Evidence For Guidelines

- 13.1 As per World Health Organization, “Guidelines are documents containing recommendations for clinical practice and public health practice based upon best available evidence and aim to improve the quality of healthcare”. Guidelines address National Health Priorities, Improve the quality of diagnosis & care, help better utilization of available health resources & infrastructure, improve treatment adherence and curtail malpractice, and tailor-made guidelines suited to Indian population could stimulate evidence-based quality research in India in future.
- 13.2 Centre for Evidence for Guidelines Vertical has been established in Department of Health Research for coordinating the formulation of Evidence Based Guidelines. The Vertical is presently functioning with 6 scientists from DHR/ICMR.
- 13.3 The Centre will lead and coordinate evidence synthesis as outlined above in partnership with DoHFW program divisions, DGHS, NHSRC and other stakeholders under the umbrella of Ministry of Health & Family Welfare (MoHFW). The guidelines will be available on DHR Website and will be published in leading medical journals for uptake by health care professionals.
- 13.4 Status of various guidelines currently under making is as under:
- a) **Evidence based Guidelines on the Use of Stem Cell Therapy.**
Review questions formulated, systematic reviews commissioned and evidence profile received; recommendations have been prepared in 4 clinical conditions.
 - b) **Antibiotic Usage in different clinical conditions.**
Scoping of the available National & International Guidelines done and steering group meeting held, PICO questions have been formed all GDGs.
 - c) **Lung Cancer**
Scoping of the guidelines done along with Steering Group & Guidelines development group meeting held, PICO questions have been formed all GDGs.

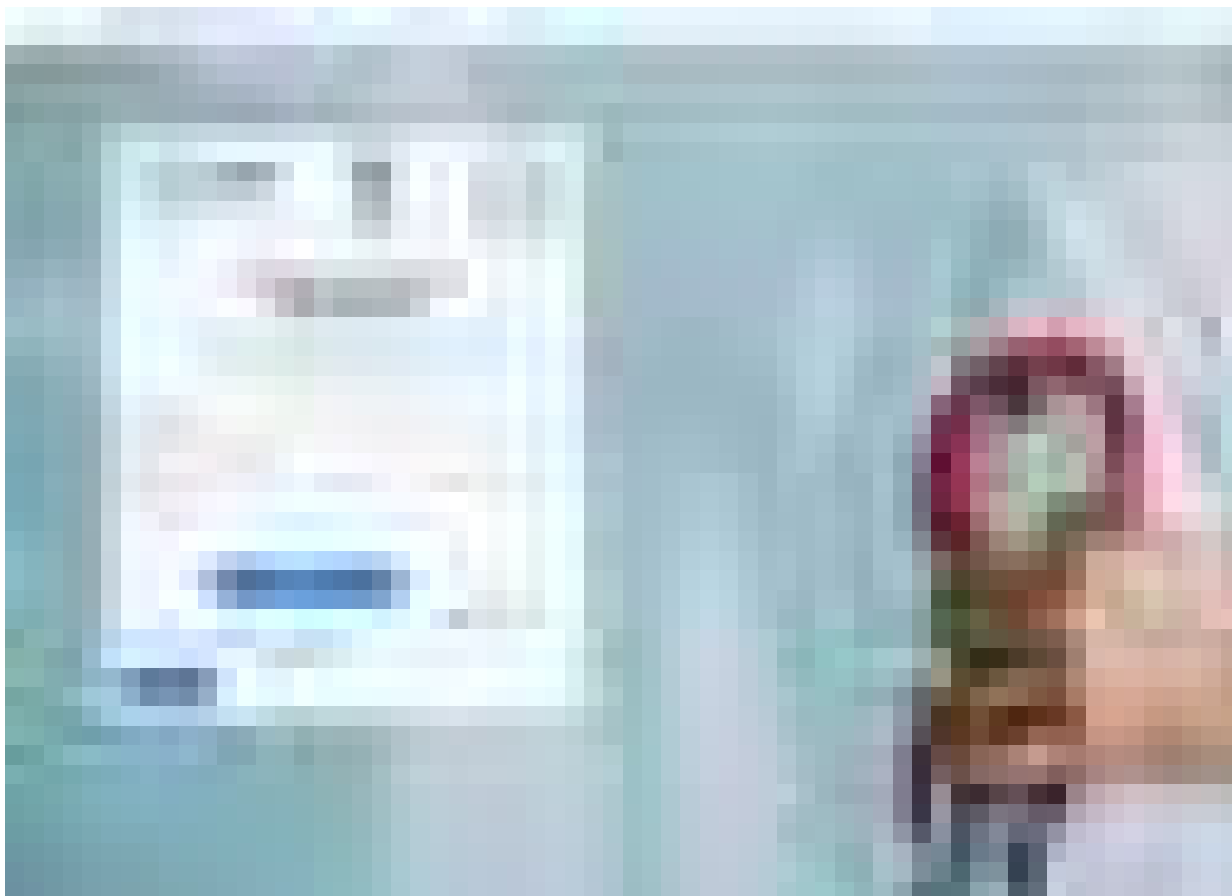
Capacity Building:

- d) *GRADE Methodology* workshop for systematic review and meta-analysis conducted in Oct 2023. *DHR Winter School* workshop on Systematic Reviews & Meta-analysis conducted in Dec 2023.
- e) Training of 6 postgraduate interns (Masters in Public Health) from All India Institute of Medical Sciences, Jodhpur (Rajasthan) in systematic reviews, evidence synthesis etc apart from other activities conducted in DHR e.g. Bioethics Registry, Health Technology Assessment etc.



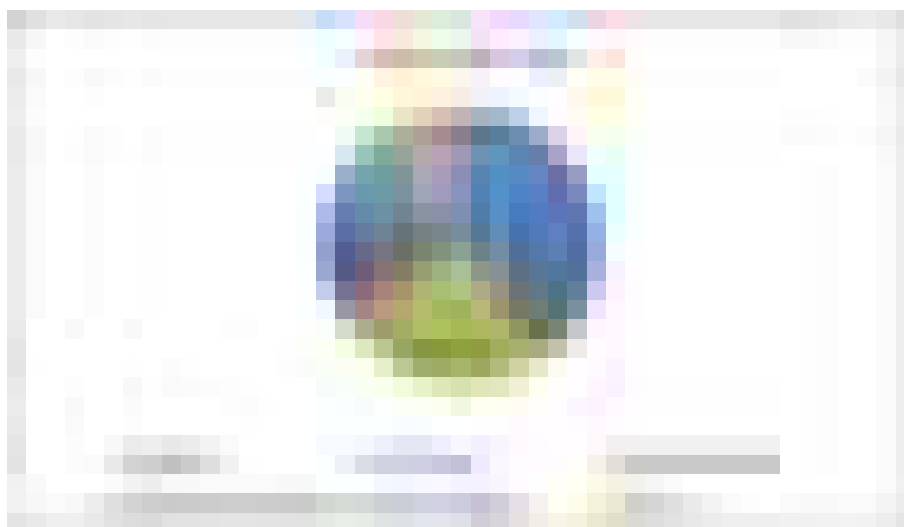


- 13.5 Medical Shodhganga (मेडिकल शोधगंगा)** is a post-graduate thesis repository for prospective MD/MS students prepared jointly by ICMR-DHR & National Medical Commission (<https://medshodh.icmr.org.in/>). Its presently started in the pilot mode. Once fully operationalised, Medical Shodhganga has potential to augment research capacity of 63000 medical postgraduates across India.



Chapter 14**National Ethics Committee Registry for Biomedical and Health Research (NECRBHR)**

- 14.1 NECRBHR under the Department of Health Research, Ministry of Health and Family Welfare is functional since September 2019 as notified in the 'New Drugs and Clinical Trials Rules, 2019'. Ethics Committees (ECs), reviewing biomedical and health research, involving human participants, shall register with DHR through a dedicated web portal (Naitik portal; <https://naitik.gov.in/>) enabling online submission, receipt and processing of applications for EC registration.
- 14.2 With time, continuous efforts have been made to improve the user-friendliness of the portal and reduce the compliance burden. In this regard, the requirement for submission of separate training undertaking for each member in case of untrained ethics committee members has been replaced by a single undertaking issued by the Head of the institute and member Secretary of the Ethics committee thus reducing the overall number of documents to be submitted by the applicant on the Naitik portal. 331 Ethics committees have received registration certificate on Naitik portal in the year 2023-24.



- 14.3 The ICMR-DHR outreach program is regularly held across the country to understand the challenges and practical difficulties faced by ethics committees and to provide practical solutions. It also includes discussing approaches to improve transparency, consistency, and quality in the review and decision-making for improved human protection. This program has also been used as a platform for training ethics committee members about relevant regulatory guidelines and updating them from time to time. Three ICMR-DHR outreach program has been held this year, and more than fifty ECs have participated in this program, which was held in Chennai (2) and Bengaluru (1). The officials of NECRBHR also invited sessions in various institutions related to the regulatory guidelines and visited ICMR institute (National Institute for Research in Tuberculosis, Chennai) to observe the ethics committee functioning.

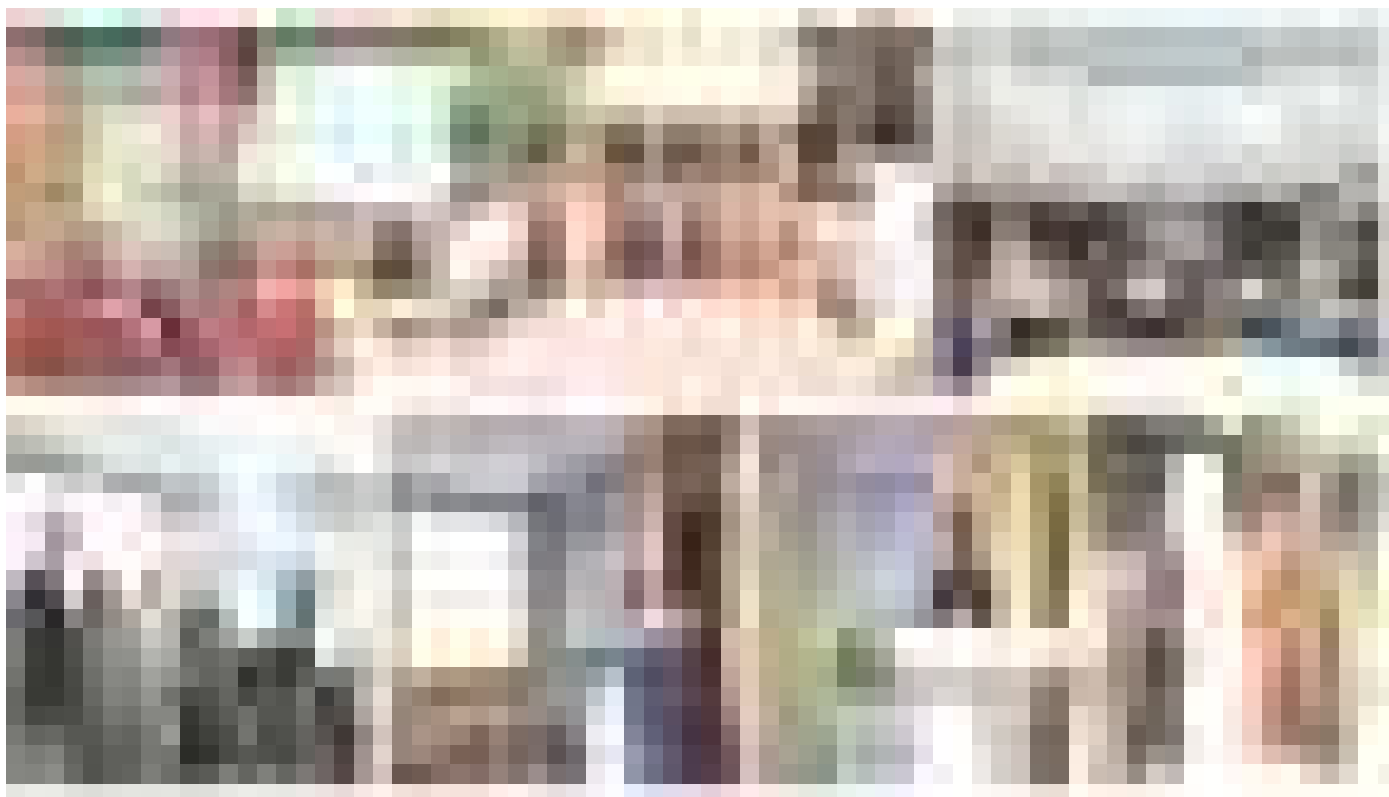


FIGURE: OUTREACH AND DISSEMINATION OF ETHICS COMMITTEE REGISTRATION AND NEW DRUGS AND CLINICAL TRIAL RULES 2019 ON VARIOUS PLATFORMS IN COLLABORATION WITH THE INDIAN COUNCIL OF MEDICAL RESEARCH

Chapter 15**Indian Council of Medical Research**

- 15.1 Indian Council of Medical Research (ICMR), New Delhi, is the apex body in India for the formulation, coordination and promotion of biomedical research and is one of the oldest medical research bodies in the world now under the Department of Health Research (DHR) in the Ministry of Health and Family Welfare, Govt of India.
- 15.2 The Council's research priorities coincide with the National health priorities such as control and management of communicable diseases, fertility control, maternal and child health, focusing on nutritional disorders, developing alternative strategies for health care delivery, containment within safety limits of environmental and occupational health problems; research on major non-communicable diseases like cancer, cardiovascular diseases, blindness, diabetes and other metabolic and haematological disorders; mental health and drug research (including traditional remedies). All these efforts are undertaken with a view to reduce the total burden of disease and to promote health and well-being of the population.
- 15.3 ICMR has also demonstrated its commitment to the future of medical research through its professional development training and capacity building. This includes training programs, workshops, and short-term research studentships for those preparing for a career in medicine and medical research. It also includes research fellowships and short-term visiting fellowships for upcoming researchers to expand their skills and knowledge early in their career. ICMR also offers Emeritus Scientist positions to enable retired medical scientists and teachers to continue to carry out research on specific topics.

The impact of ICMR spans across the globe with research collaborations spanning every continent. Through ICMR's Memoranda of Understandings (MoUs), ICMR has partnered with leading universities from around the world to concentrate efforts on leading health issues such as cancer, diabetes, infectious diseases, and vaccine development. These collaborations facilitate the exchange of scientific information, training, joint projects, and co-authorship of meetings, workshops, seminars, and symposia presentations.

15.4 Intramural Research

Intramural research is carried out through a countrywide network of 27 institutes/centres with multiple field stations, 14 ICMR Institutes work in the area of communicable diseases; 6 in Non-Communicable Diseases, 1 in diseases related to Reproductive and Child Health (RCH); 1 in nutrition and nutritional deficiencies, 3 in disease related to Basic Medical Sciences including haemoglobinopathies and traditional medicine, 1 in the area of animal breeding and research and 1 is patient care and research centre. ICMR calls proposals under Intramural Research Programme. It

intends to encourage high risk, high reward research from scientists. Each institute may be awarded between 3 to 30 crores for the projects on the priority areas based on need and quality of research proposals based on priority research areas.

15.5 Extramural Research

Indian Council of Medical Research (ICMR) provides financial assistance for Indian scientists working outside ICMR institutes to conduct research in the fields of medicine, public health, and allied disciplines aimed at improving health of Indians under its Description of Extramural Research Programme. Following types of Extramural Research Grants are there:-

- Investigator Initiated Research Proposals- Small Grant: Funding upto 2 crores per project for the entire duration. The project duration will be up to a maximum period of four years.
- Investigator Initiated Research Proposals- Intermediate Grant: Funding is between 2-8 crores for the entire duration. The duration of the project will be for 4 years.
- Centers for Advanced Research (CAR): Conducting decisive research that helps in solving an important healthcare problem by an experienced research team. It can have single or multiple linked research projects with clear deliverables. Current budgetary ceiling is 15 crores per CAR. Duration of project will be for five years.

15.6 Mission Mode Research in area of National Priority

To establish National Health Research Program in the country, ten priority areas have been identified for solution-based research – (1) One Health, (2) AMR, (3) TB, (4) Vector Borne Diseases (Communicable Diseases), (5) Cancer, (6) Ambulatory care for NCDs, (7) Acute emergency care (NCDs), (8) Anemia, (9) Stunting and wasting, (10) Neonatal mortality (RCH & Nutrition).

15.7 ICMR Collaborating Centre of Excellence (ICMR-CCoE) :

ICMR recognised the research groups that have conducted excellent research in the recent past as ICMR Collaborating Centre of Excellence. In order to foster collaboration between ICMR & its institutes and Centres of Excellence as well as amongst the Centres of Excellence. This shall strengthen resources of the country, in terms of information, services, research and training in support of national health development. Duration will be of 5 years.

25 centres selected as ICMR Collaborating Centre of Excellence against the call titled “Request for Expression of Interest for ICMR Collaborating Centre of Excellence (ICMR-CCoE) (July 31, 2023).

15.8 Achievements during the year:

The major activities and achievements of ICMR are given below:

1. Outbreak Response:

ICMR, with its Viral Research & Diagnostic Laboratories, including the BSL-4 facility in Pune, played a pivotal role in timely detection and containment of outbreaks like COVID-19, Nipah, Zika, and H1N1.

During recent Nipah Outbreak in Kerala, ICMR confirmed a Nipah virus outbreak in Kuttiyadi, Kozhikode, Kerala, on September 12, 2023. Three out of five suspected cases were positive. ICMR deployed immediate response teams for onsite diagnosis and a bat survey. A Mobile BSL-3 facility was set up within 24 hours, testing six confirmed cases with a 33.33% fatality rate. Biosafety measures were strictly followed, demonstrating a swift and effective response to manage the Nipah outbreak in Kerala.

During the COVID-19 pandemic, ICMR has tirelessly worked to provide multi-pronged solutions ranging from ramping up the testing infrastructure, monitoring the disease spread through sero-surveys and providing novel diagnostic methods to developing vaccines for ending this contagion.

2. National One Health Mission (NOHM):

Under NOHM, the National Institute of One Health (NIOH) is established in Nagpur, supported by a national network of BSL-3 & BSL-4 labs. The Union Cabinet approved the proposal of creation of one post at the level of Scientist H (in the pay level 15) as Director of National Institute of One Health, Nagpur who will also serve as the Mission Director for the multi-Ministerial and multi-sectoral National One Health Mission for integrated disease control and pandemic preparedness, by bringing human, animal, plant and environmental sectors together

3. Disease Surveillance& Monitoring:

- ICMR has initiated integrated surveillance for SARS-CoV-2 and Influenza at 30 Viral Research & Diagnostic Laboratories (VRDLs), having a total of 90 sub sites across the country. These sites regularly monitor the influenza strains (both A & B) in different parts of the country and depict the prevailing trends of Influenza A & B and their subtypes along with SARS-CoV-2. This continuous monitoring will yield important information related to new or evolving strains of Influenza, which has the greatest potential to cause outbreaks.
- National risk map with hotspots for zoonotic disease of human importance and appropriate preventive measure are under design.
- Surveillance for Hemorrhagic fevers like Kyasanur Forest Disease (KFD) and Crimean Congo Hemorrhagic Fever (CCHF) has been set up at 10 VRDLs along the states along the western ghats for KFD (Karnataka, Kerala, Goa and Maharashtra) and in the states of Gujarat, Rajasthan and Uttar Pradesh for CCHF.
- A total of 132 VRDLs have been trained and provided reagents to detect Zika virus disease in samples negative for Dengue and Chikungunya.

4. Combatting Communicable Diseases:

The Communicable Diseases are being tackled in mission mode. Initiatives like MERA India

(Malaria Elimination Research Alliance), India TB Research Consortium (ITRC) are bringing multiple stakeholders (national and international) under one umbrella to achieve the aim of disease elimination. DHR-ICMR has demonstrated successful implementation models for disease elimination. Comprehensive Case Management Programme (CCMP) model demonstrated that universal access to malaria diagnosis and treatment, follow-up of patients with enhanced surveillance can dramatically reduce the number of malaria cases (85%). CCMP learning experience and several best practices from CCMP have been incorporated into the existing NVBDCP programme. Vaishali Model reduced the incidence of Kala Azar to <1 case per 10,000 and is being replicated in Saran/Siwan district of Bihar on request of state government.

DHR-ICMR has been committed towards TB elimination. To assess the true burden of TB, the National TB Prevalence survey was conducted in all states/UTs. It is committed towards providing a cost-effective and PHC friendly diagnostics, a universal TB treatment and a vaccine to achieve the target of 'End TB 2025'. ICMR implemented the first state wise differentiated TB care model in India aimed at reducing TB deaths. The following industry technologies validated by ICMR have been recommended to National Programmes thereby promoting Make-in-India in the Pharmaceutical sector.

- ➔ PathoDetect TM MTB RIF & INH drug resistance kits
- ➔ PathoDetect TM MTB & NTM Detection Kits
- ➔ C-TB with QuantiFERONR-TB Gold Plus and 2.T.U Tuberculin PPD RT23 SSI for detection of TB infection in general and key population

5. Sick Cell Anaemia Elimination:

Realizing the PM's vision of Sick Cell Anaemia Elimination, ICMR has established NIIH-Centre for Research, Management and Control of Haemoglobinopathies at Chandrapur, Maharashtra to address the problem of sickle cell anaemia, a major health issue in this region. The centre screens the population for sickle cell disease, and counsel and trains various state healthcare providers for effective control of hemoglobinopathies.

6. Non-Communicable Diseases (NCDs):

DHR-ICMR is addressing the rising burden of Non-Communicable Diseases at top priority level through programs like India Hypertension Control Initiative (IHCI), Mission Delhi, India Cancer Research Consortium, Stroke network etc. IHCI is ICMR's collaborative initiative with MoHFW, WHO & state governments aimed to reduce deaths from heart attacks & strokes. It is playing a critical role in regularizing hypertension treatment across primary care facilities in 100 districts in 23 states by providing free drugs & quality treatment to 34 lakh patients. The tech driven innovations in the IHCI program allowed India to track over 2 million patients digitally, with minimal burden on human resources and on clinics. 50% patients tracked in real time achieved

BP control. The initiative was awarded 2022 UN Inter-Agency Task Force and the WHO special program on Primary Health Care Award during United Nation General Assembly on 21st September 2022.

7. Reproductive, Maternal & Child Health & Nutrition:

- A White Paper on "Efficacy and Safety of Iron Fortified Rice in India" has been published.
- Organized the National Conclave 'Maternal Nutrition at the Core of the Health Agenda in India; Reflecting on learnings from policy and nutrition research to strengthen women's nutrition' on May 29, 2023.
- Women and Infant Integrated Interventions for Growth (WINGS) study: An intervention package (Health, nutrition, psychosocial care and support, and WaSH interventions) delivered during preconception, pregnancy, and early childhood substantially reduced low birth weight and stunting at 24 months.

8. Revolutionizing Healthcare System through use of drones:

The i-Drone project has transformed the Indian healthcare system by using drones to transport vaccines and medical supplies in the challenging terrains of the North Eastern States and Himachal Pradesh. The medical supplies delivered under the i-Drone project included COVID-19 vaccines, vaccines used in routine immunization programs, antenatal care medicines, multi-vitamins, syringes and gloves. Apart from these, clinical samples for testing were also delivered from PHCs & sub centres to Regional Hospital. The drone delivery system focused on an end-to-end ecosystem for drone-based logistic transportation within the states and was the first successful example of delivering vaccines through drones from land to islands in South Asia. The longest drone flight under this project carried 3525 units of medical supplies from Mokochung to the district Tuensang in Nagaland (approx. 40 km). A total of 18,275 units of medical supplies were delivered. The drones covered a total of 735 km in terms of aerial distance in approximately 12 hours, whereas, the total road distance for all the sites would have been around 2000 km, which might have taken 50 hours and demanded several other logistic challenges. In Himachal Pradesh, deliveries were delivered at 14,000 ft and -10°C. Drones repeatedly and accurately delivered medical supplies faster than other methods deployed for delivery and without additional risks to personnel or manned airframe.

Leveraging upon the recent liberal regulation policies in India for low-altitude airspace for drones, the current feasibility study paved the path for using unmanned drones for the delivery of life-saving medical supplies in austere environments in the future.

9. Medical Device and Diagnostics Mission Secretariat:

Indian Council of Medical research (ICMR), has established a 'Medical Device and Diagnostics Mission Secretariat' (MDMS) at its headquarters to support and catalyze research, development and indigenous manufacturing of cost-effective medical devices and diagnostics in synergy with National

Health Mission (NHM), Ayushman Bharat Health and Wellness centers.

ICMR is following a multipronged approach for facilitating technology adoption for enabling accessibility, acceptability and availability of technologies in the medical device and diagnostic sector including drafting of effective policies for promoting innovation and entrepreneurship development by Medical doctors and Institutes. It has also set-up various Centers of Excellence (CoEs) at IITs in collaboration with medical institutes for fostering technology development, with focused approach of supporting technologies aligned with national health priorities. ICMR is also facilitating preclinical, clinical evaluation and Health Technology Assessment (HTA) of such frugal indigenous technologies for facilitating technology adoption for ensuring societal impact.

Multiple indigenous technologies have been developed:

- Launched a kit for detection of hemophilia A and von willebrand disease (VWD): Cost effective, Point of care.
- A rapid detection kit for Orientia tsutsugamushi diagnosis has been developed
- KFDV Point of Care Assay in collaboration with Mol Bio Diagnostics Pvt Ltd, Goa, for detection of KFD viral RNA from clinical samples was developed.
- Developed and standardized a onetube combo RT-qPCR kit for simultaneous detection of SARS-CoV-2 and influenza viruses and distributed to VRDL network

10. Artificial Intelligence in Healthcare:

- In a significant stride towards advancing medical diagnostics, the Division has partnered with the Indian Institute of Sciences (IISc), Bangalore, to establish thematic, disease-specific reference datasets for medical image analysis. This collaboration has led to the formation of the ICMR-IISc Centre for Medical Imaging at IISc, Bangalore, and the creation of thematic hubs focusing on oral and Dural lesions associated with brain tumours.
- AI TB: ICMR has uploaded 2128 Tb and 1147 non-TB annotated X-rays to train the software to diagnose TB through Artificial Intelligence. There were 1801 TB, 389 Non-TB, and 117 normal cases from our site in Phase-I to train the AI tool. The AI tool was validated in phase II mode, and 786 cases have been uploaded.

11. Sudden Deaths:

The Indian Council of Medical Research (ICMR) conducted a multicentric case-control study on sudden deaths among young adults in India, prompted by concerns about a potential link between COVID-19 infection or vaccination and such incidents. The study, spanning October 2021 to March 2023, involved 47 tertiary care hospitals and found that COVID-19 vaccination did not

increase the risk of sudden death in healthy young adults. In fact, vaccination was identified as a mitigating factor, reducing sudden deaths in the 18-45 age group. The study identified other risk factors, including a family history of sudden death, prior hospitalization due to COVID-19, binge drinking, and intense, unaccustomed physical activity shortly before the untimely demise. The findings were published in the Indian Journal of Medical Research.

12. International Collaborations

- Addendum to the MoU between African Union & ICMR (signed in March, 2019) on India - Africa Health Sciences Cooperation was signed on 29th September, 2023 and 18th October, 2023 respectively.
- Implementing Agreement between ICMR & National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) was signed in June, 2023 for research in the field of basic, clinical, and translational research in the areas of diabetes mellitus.
- A Letter of Intent between the ICMR and the Coalition for Epidemic Preparedness Innovations (CEPI), Norway for Cooperation on Vaccine Research, Development and Innovation was signed on 23rd February, 2023 at New Delhi to work together in furtherance of achieving shared goal of supporting the development and evaluation of accessible and affordable vaccines to prevent, treat and/or cure emerging and re-emerging infectious diseases.

13. Establishment of AcSIR-ICMR Faculty of Medical Research

The Indian Council of Medical Research (ICMR) and the Academy of Scientific and Innovative Research (AcSIR) have inked a transformative Memorandum of Agreement (MoA). This collaboration aims to bolster the nation's biomedical research efforts, foster innovation, and elevate the calibre of research professionals.

A new Faculty of Medical Research has been established in AcSIR to support multiple scientific disciplines of research in the country. All the current Institutes under ICMR and Department of Health Research (DHR), have been recognized as Associate Academic Centres of AcSIR providing avenues for Ph.D. and postgraduate students and can impart training to ~400 PhDs and ~270 postgraduate students. It will also encourage industry supported PhD programs and Multi-disciplinary innovation.

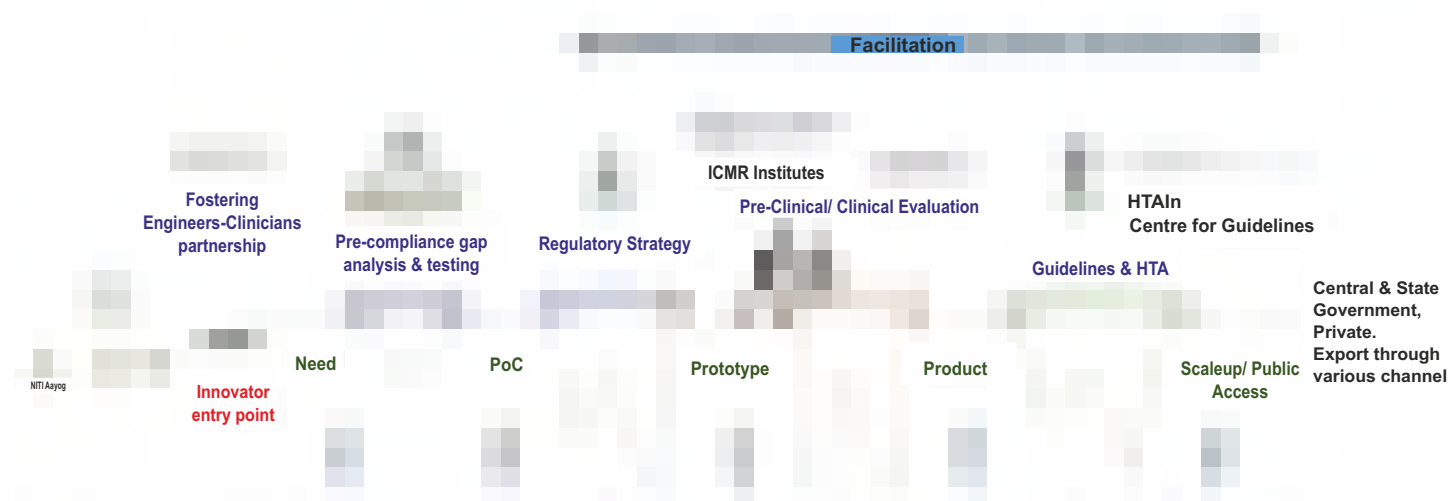
This presents an exciting opportunity to train a substantial number of Ph.D. and postgraduate students, especially creation of physician scientists, by creating opportunities for doing PhD to those with MD or MBBS degrees.

14. Launch of MedTech Mitra Platform:

In alignment with the vision set forth by NITI Aayog; Indian Council of Medical Research (ICMR) in collaboration with the Central Drugs Standard Control Organization (CDSCO), has launched the 'MedTech Mitra platform. This initiative aims to empower healthcare innovators across India by

providing them with comprehensive support. The core objective of MedTech Mitra is to extend assistance to innovators in development of prototypes, navigating regulatory processes, facilitating clinical evaluations, and fostering the adoption of novel healthcare products. This collaborative initiative facilitates indigenous development of affordable, quality MedTech devices and diagnostics leading to considerable reduction in the import dependence of this sector. Under this initiative, till now 131 innovators have been provided necessary guidance for taking the innovations to next level of development.

Hand-holding by MedTech MITRA during Innovation Development



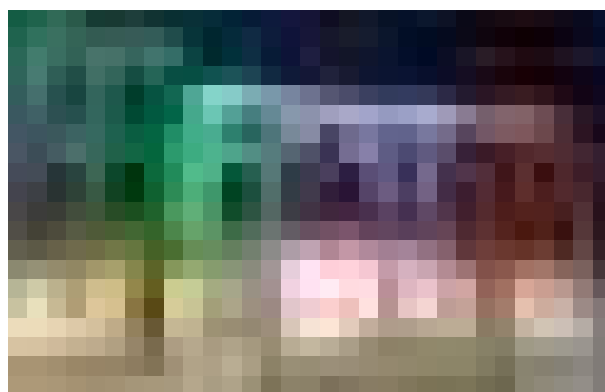
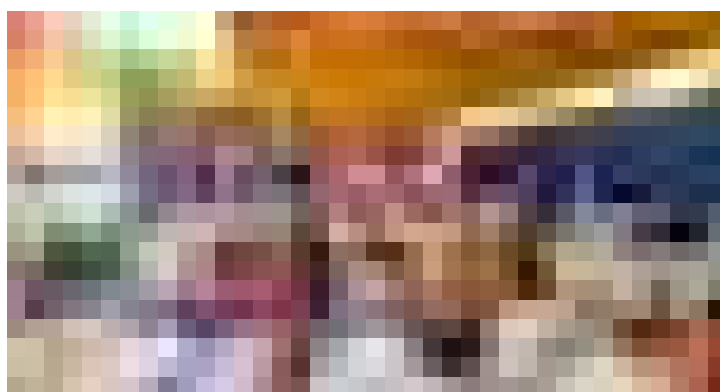
15. Infrastructure:

- Five new facilities at the ICMR National Institute of Malaria Research (ICMR-NIMR): a 300-seat Auditorium, Preclinical Testing Research Laboratory, an Innovation Complex, a Conference Hall Complex and a Guest House were inaugurated.
- New Building of ICMR-National Institute of Traditional Medicine (ICMR-NITM), Belagavi was inaugurated
- Foundation stone for BSL-3 Laboratory at ICMR- NARI was laid.

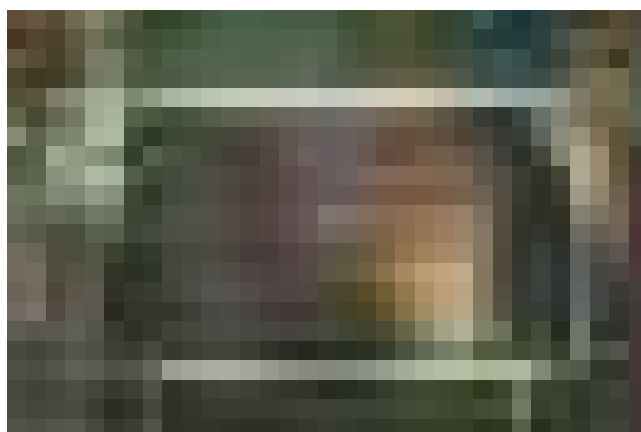
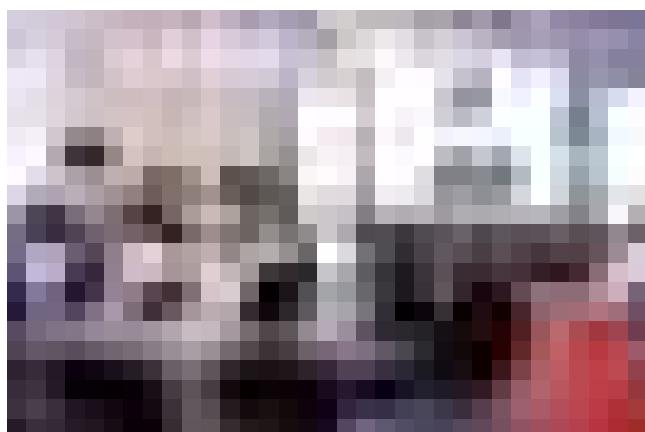
16. Digital Solutions in Governance: ICMR deployed the electronic Project Management System (ePMS) for centralized project submission and evaluation and the eBill system for managing institutional expenditures and grants. The ICMR Balance Finance Accounting Software ensures accurate and audited financial reporting to Parliament. Our division also leads the implementation and training for e-Office across ICMR, along with facilitating the implementation of PFMS and TSA.

17. The impact factor of Indian Journal of Medical Research (IJMR) is 4.2, with around 8000 citations and a H-index is 96, ranking second highest among Indian biomedical journals (the highest impact factor of a biomedical journal from India being IF-4.3).

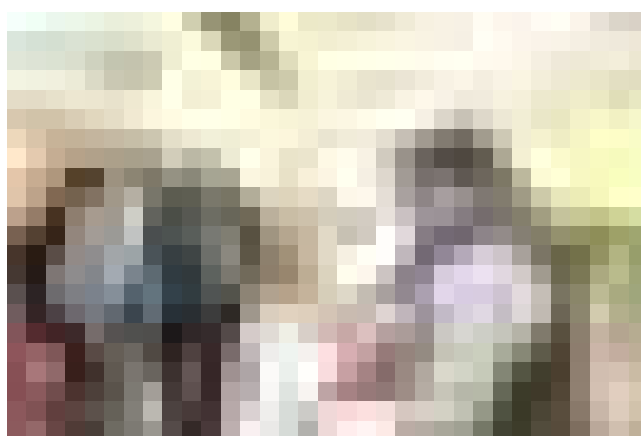
18. Since January 2023, HMSC meetings are being held every month for screening & approving the international collaborative proposals in the field of biomedical health research submitted by Private/ Non-Government organizations. A total of 179 proposals were considered by the HMSC during the period of January-December 2023.
19. Under HRD programme, a total of 1550 ICMR -Short Term Studentship (STS), 53 ICMR - MD/DM/MCh/MS/DNB/DrNB/MDS-Thesis Financial Support, 153 ICMR- Junior Research Fellowships (JRF), 04 ICMR -Centenary- Post Doctoral Fellow (PDF), 48 ICMR- International Travel Grant support for Non- ICMR scientists, 27 workshops on Clinical Training/Translational Research were funded. 4 Indian clinicians trained at the National Institute of Allergy and Infectious Diseases (NIAID), NIH, USA labs under the ICMR/NIH/BMGF Clinical Research Fellowships. Under the ICMR-DHR International fellowships for Indian biomedical scientists during 2022-23, 20 Young fellows and 24 Senior fellows were trained in foreign labs in emerging areas in clinical/medicine/health sciences.
20. During 2023, 567 Investigator-Initiated Research Proposals for Small Extramural Grants (IIRP-SG), 101 Investigator-Initiated Research Proposals for Intermediate Extramural Grants (IIRP-IG) and 69 grants under special calls were funded.
 - Inauguration of the New Composite TB Research Facility (BSL-3, ABSL-3 & Biorepository) at ICMR-NIRT, Tiruvallur by the Hon'ble Prime Minister of India (through video conferencing) on 25th February 2024.
 - The Biospecimen Repository is an extremely valuable asset to the nation and a much needed resource for the TB research community for supporting development of TB diagnostics and biomarker research. The BSL-3 TB containment laboratory is a fully equipped state-of-the-art facility for improving and scaling up detection of TB and MDR-TB.



- ICMR-NIV Kerala unit was inaugurated by the Hon'ble Prime Minister Shri. Narendra Modi on 25.02.2024. The event was graced by Dr. Mansukh Mandaviya (Hon'ble Minister, MoHFW), Prof. S.P.Singh Baghel, Dr.Bharati Pawar (Hon'ble MoS, MoHFW) and Dr. Rajiv Bahl (Sec.DHR & DG, ICMR).



- Regional Consultative Workshop on “Research Priority for providing accessible and affordable healthcare for North East States of India” was conducted in the august presence of Hon'ble HFM Dr. Mansukh Mandaviya and Hon'ble Minister of Health for State Dr. Bharati Pravin Pawar. This workshop was jointly organized by DHR, ICMR- RMRC- North East and IIPH, Shillong in Shillong, Meghalaya on 21.02.2024.



- Hon'ble Minister for Health and Family Welfare, Dr Mansukh Mandaviya launched Ayush-ICMR Advanced Centre for Integrative Health Research (AI-ACIHR) at 1.AIIMS Delhi: a) Advanced Centre for Integrative Health Research in Gastro-intestinal Disorders b) Advanced Centre for Integrative Health Research in Women and Child Health; 2. AIIMS- Jodhpur: a)Advanced Centre for Integrative Health Research in Geriatric Health ; 3. AIIMS Nagpur: a) Advanced Centre for Integrative Health Research in Cancer Care; 4. AIIMS Rishikesh: a) Advanced Centre for Integrative Health Research in Geriatric Health

Also, CCRAS under Ministry of AYUSH and ICMR has undertaken a research study on Anaemia entitled “Efficacy and safety of Punarnavadi Mandura alone and in combination with Drakshavaleha compared to iron folic acid in the treatment of moderate iron deficiency anaemia among non-pregnant women of reproductive age group”: a community-based three arm multicenter randomized

controlled trial. The study will be carried out at 8 different sites namely MGIMS Wardha, AIIMS Jodhpur, NITM Bengaluru, RIMS Ranchi, KEM Hospital Research Centre, AIIMS New Delhi, AIIMS Bhopal, and AIIMS Bibinagar.

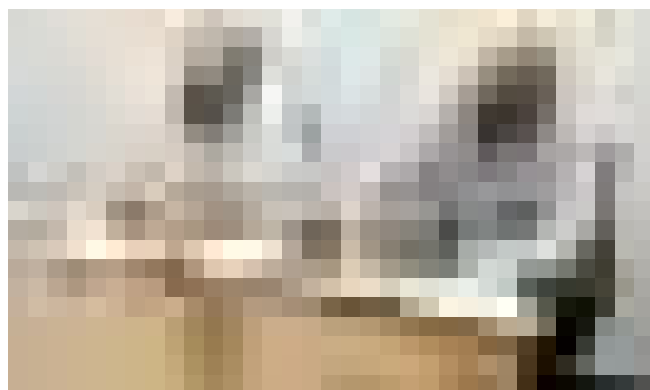
The launches happened on 04.03.2024



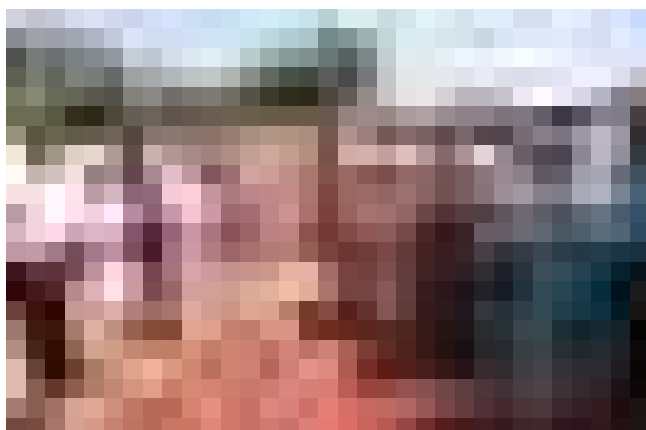
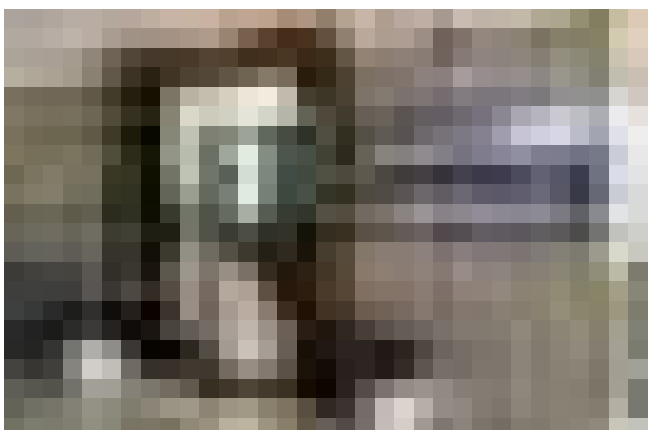
- DHR-ICMR mPRAGATI's Metal Additive Manufacturing (M-AM) Facility inaugurated by Dr Rajiv Bahl, Secretary & DG, ICMR & Dr Rangan Banerjee, Director, IIT Delhi on 24.03.2024 & will transform production, ensuring near-net shape products with top-notch quality & material integrity. By streamlining processes, the M-AM facility opens doors to limitless design possibilities for intricate structures, fostering indigenous device development and affordable implants.



- Union Cabinet, under the leadership of PM, approved the creation of Director Position at National Institute of One Health, Nagpur.
- ICMR has signed a Letter of Agreement with Gates Foundation fostering cooperation to advance vital health research on India priorities identified by ICMR. Together, we're committed to making impactful strides for healthier futures. The LoA was signed on 14.03.2024.



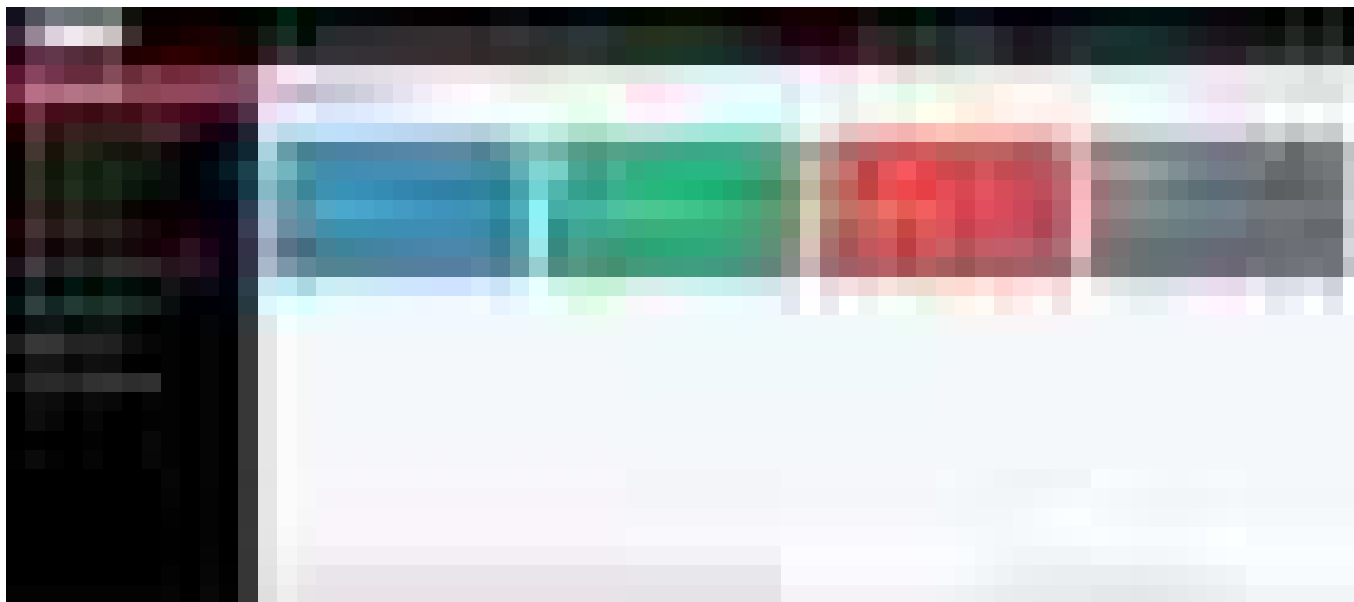
- In a significant step towards strengthening healthcare infrastructure, Union Health Minister of State Dr Bharati Pravin Pawar virtually laid the Foundation Stone of Model Rural Health Research Unit (MRHRU) at Vani under ICMR-NIRRH. Also, inauguration of new Haematology & Nutrition clinics at the existing facility on 14.03.2024. This is a significant step towards strengthening healthcare infrastructure.



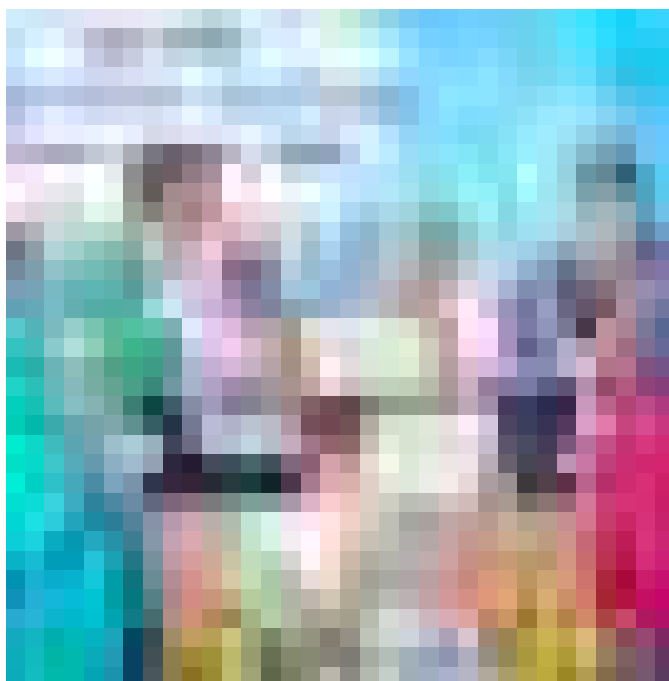
- ICMR-NIV, Pune became one of the reference laboratories under the CoViNet Reference Laboratory Network of the WHO Emerging Diseases and Zoonoses Unit Epidemic & Pandemic Preparedness and Prevention.
- ICMR & NIHF join hands for Strengthening Healthcare: Signing of MoU between ICMR and NIHF on 15.03.2024 at the ICMR Hqs, on Standard Treatment Workflows (STWs) and other Academic & Research Collaboration.



- Revamped VRDLN 2.0 Data Entry Portal, which is aimed at enhancing the efficiency of data capture.



- ICMR RMRC-Bhubaneswar honoured with Chief Minister's Healthcare Excellence Award for their outstanding Covid-19 efforts by Shri Naveen Patnaik.



Annexure-I

Budget Estimate (BE)/Revised Estimate (RE)/Expenditure for 2022-23 and 2023-24 and Budget Estimate (BE) for 2024-25 in respect of Demand no. 47- Department of Health Research

(Rs. in crores)

S. No.	Scheme/ Programme	2022-23			2023-24			2024-25
		BE	RE	Expenditure	BE	RE	Expenditure (Provisional)	BE
1	Secretariat Expenditure	48	43.35	35.92	54	45.55	38.47	52.35
2	Health Technology Assessment - attached office	0	0	0	0	0	0	10
3	Establishment of Network of Viral Diagnostic & Research Laboratories for Managing Epidemics. (VRDL)	82	70	69.98	60	60	60	60
4	Development of Tools to prevent outbreaks of epidemics” (New Tools)	15	15	14.24	10	10	10	8
5	Development of Infrastructure for Promotion of Health Research							
(a)	Establishment of Multidisciplinary Research Units (MRUs) in Govt. Medical Colleges.	60	48	44.86	60	50	50	60
(b)	Establishment of Model Rural Health Research Units (MRHRUs) in the States	20	19	12.78	20	20	19.12	20
	Sub-total 5 (a to b)	80	67	57.64	80	70	69.12	80
6	Human Resource and Capacity Development							
(a)	Human Resource Development for Health Research (HRD)	30	30	26.27	33.86	29.8	29.79	81
(b)	Grant-in-aid Scheme for inter-sectoral convergence and Coordination for Promotion & Guidance on Health Research (GIA)	27	24	22.43	27	31.8	29.17	39.29
(c)	Health Technology Assessment in India	23.65	23.65	23.64	24.2	24.2	24.2	24.75
(d)	International Cooperation	7	7	0.1	7	2	0.36	2
	Sub-total 6 (a to d)	87.65	84.65	72.44	92.06	87.8	83.52	147.04
7	Prime Minister's Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)							
(a)	Prime Minister's Ayushman Bharat Health Infrastructure Mission - Main	690	378.27	125.84	324.36	254.39	250.78	137.21
(b)	Programme for strengthening Research & Development towards integrated disease control and pandemic preparedness for the National One Health Mission	0	0	0	0	8.47	5.9	75
	Sub-Total 7 (a to b)	690	378.27	125.84	324.36	262.86	256.68	212.21
	Sub-total DHR Schemes (3 to 7)	954.65	614.92	340.1444	566.42	490.66	479.32	507.25
8	Indian Council of Medical Research (ICMR)	2198	2116.7	2056.044	2359.6	2356.6	2350.12	2732.13
	Grand Total	3200.7	2775	2432.108	2980	2892.8	2867.91	3301.73