

**PART 2**

**DEPARTMENT OF HEALTH RESEARCH**

**(OUTCOME BUDGET 2016-17)**

**GRANT NO. 43**

**MINISTRY OF HEALTH & FAMILY WELFARE**

## Part-2

### DEPARTMENT OF HEALTH RESEARCH

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## EXECUTIVE SUMMARY

Department of Health Research was created on 18<sup>th</sup> September 2007 to provide focused attention on the promotion and co-ordination of basic, applied and clinical research with the objective to bring modern health technology to the people through innovations related to diagnostic, treatment methods and vaccines for prevention, to translate them into products and processes in synergy with concerned organisations and introducing these innovations into the public health system. The responsibilities of the Department include research support to achieve the goals listed in National Health Policy 2002, targets indicated in the National Health Mission and Millennium Development Goals. Another aim of the Department is to transform the country's health system into one which is evidence-based and research-driven.

The BE for plan and non-plan for the last three years and current financial year are as under:

(□in crores)

	2014-15	2015-16	2016-17
Plan	726.00	713.17	750.00
Non-plan	291.67	305.00	394.80
<b>Total</b>	<b>1017.67</b>	<b>1018.17</b>	<b>1144.80</b>

The following important activities are proposed by the Department for this year:

- 1) Support research towards the development of new health products viz., diagnostics, vaccines and other biological as also other tools to promote affordable health care through cost-effective therapies;
- 2) Increased understanding of both the molecular and biological mechanisms underlying diseases as well as the psychosocial, economic and environmental determinants of health;
- 3) Strengthening Human Resources in the field of Health Research, especially in newer areas
- 4) Translate knowledge into products/processes in coordination with concerned organizations
- 5) Strengthening health research in medical colleges and other institutes;
- 6) Address the new emerging causes of morbidity and mortality, viz., new and emerging diseases; Life style diseases (cardiovascular diseases, diabetes, injuries etc.) Maternal and child health concerns; Reproductive health; Nutritional problems; Environmental and Occupational health; Health issues of under privileged sections of society and tribal populations.
- 7) Development and use of modern biology tools;
- 8) Create new infrastructure for Health Research.
- 9) Establishment of Medical/Health Technology Board for technology choice.
- 10) Finalisation of three Bills for introduction in the Parliament:
  - i. **Surrogacy (Regulation) Bill**
  - ii. **Recognition of New Systems of Medicine Bill**
  - iii. **The Biomedical and Health Research Regulation Bill**

## CHAPTER I INTRODUCTION

The Department of Health Research was established in the Ministry of Health & Family Welfare on 18<sup>th</sup> September 2007. The broad objectives/goals of the Department are as follows:

- 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.
- Promote and provide guidance on research governance issues, including ethical issues in medical and health research.
- Inter-sectoral coordination and promotion of public-private partnership in medical, bio-medical and health research related areas.
- Advanced training in research areas concerning medicine and health including grant of fellowships for such training in India and abroad.
- International cooperation in medical and health research including work related to international conferences in related areas in India and abroad.
- Technical support for dealing with epidemics and natural calamities.
- Investigation of outbreaks due to new and exotic agents and development of tools for prevention.
- Matters relating to scientific societies and associations, charitable and religious endowments in medicine and health research areas.
- Coordination between organisations and institutes under the Central and State Governments in areas related to the subjects entrusted to the Department and for the promotion of special studies in medicine and health.
- Indian Council of Medical Research.

The Department is headed by a Secretary to the Govt. of India, who assumed charge in November 2008. The Secretary is assisted by two Joint Secretaries and one Director, one Deputy Secretary, two Under Secretaries & three Section Officers and few support staff.

Apart from looking after the work of Indian Council of Medical Research (ICMR), the Department has rolled out the following major Central Sector Schemes in 2013-14 and are being implemented since then to fulfil its mandate under the Allocation of Business Rules:

- (1) Human Resource Development for Health Research
- (2) Grants in Aid scheme for inter- sectoral convergence & promotion and guidance on health research.
- (3) Development of Infrastructure for Promotion, Coordination & Development of Health Research Involving Establishment/Strengthening of Multi-disciplinary Research Units in State Medical Colleges and the Research Institutions.
- (4) Infrastructure Development for Promotion, Coordination & Development of Health Research Involving 'Establishment of Model Rural Health Research Units in the States'
- (5) Establishment of a Network of Laboratories for Managing Epidemics and Natural Calamities.

**CHAPTER-II**  
**FINANCIAL OUTLAYS & OUTCOME BUDGET 2016-17**

Table-1 gives a summary statement of Plan and Non-Plan allocation in respect of Department of Health Research under the various schemes and programmes.

Table-2 highlights the objectives/outcomes, quantifiable deliverables and outlay for 2016-17. It provides an overview of the critical organisational structure that have been created/strengthened for promoting health research. Wherever possible, a one-to-one correspondence has been attempted between financial and outcome budget. **In accordance with the instructions of Ministry of Finance, the schemes/programmes of the Department of Health Research have been merged/rationalised as reflected in the information given in Table-2.**

**Table-1**

Outcome Budget 2016-17 for Department of Health Research

Rs. in crores

Name of the Scheme	Approved Outlay (2016-17)		
	Department of Health Research		
	Plan	Non-Plan	Total
Department of Health Research	100.00	10.80	110.80
Indian Council of Medical Research	610.00	284.00	894.00
Bhopal Memorial Hospital & Research Centre(BMHRC), Bhopal	40.00	100.00	140.00
<b>Total</b>	<b>750.00</b>	<b>394.80</b>	<b>1144.80</b>

Department of Health Research

Table-2

(Rs.In crores)

Sl No.	Name of Scheme/ Programme	Outlay 2016-17 (□ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
		Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7
1.	Secretariat Social Services	10.80	0.00	Secretariat Social Services	The funds are spent on specific items related to administrative/establishment expenditure during the year.	Efficient management of the HQ of the Department of Health Research
2.	Medical & Public Health  Human Resource & capacity Development	-	28.25	(i) Human Resource Development for Health Research (ii) Grant-in-aid scheme for Inter-sectoral Convergence for Health Research (iii) International Cooperation in Medical and Health Research	To initiate / continue implementation of the approved schemes under -  <b>(i) Advanced training in research in medicine and Health under the scheme of Human Resource Development for Health Research (HRD).</b> The Scheme for Development of Human Resources rolled out in March 2014 with the objective of augmenting the availability of trained human resource for Health Research, both in terms of quantity as well as quality will ensure:- <ul style="list-style-type: none"> <li>To increase the availability of personnel for health research through scholarships, fellowships and career advancement scheme etc. thereby providing an incentive for people to take up medical and health research</li> <li>To assist in the creation of a cadre of skilful researchers in fields such as clinical trials; Toxicology; Good Clinical Practices (GCP); Good Laboratory Practices (GLP); Quality Control (QC) &amp; QA; Genomics; Proteomics; Geriatrics; Modern Biology; Biotechnology; Stem cells; Genetics; Drugs chemistry; operational research and any other area identified to be of national importance.</li> </ul> <b>(ii) Inter-sectoral co-ordination in medical, biomedical and health research</b> The scheme is to provide grant-in-aid for carrying out	(i) Advanced training in research in medicine and Health under the scheme of Human Resource Development for Health Research (HRD). Target for 2016-17 is to fund 80 Fellowships, 50 start-up projects and support to 5 Institutes besides supports to 10 conferences.  (ii) Inter-sectoral co-ordination in medical, biomedical and health research. Target for 2016-17 is to fund 100 research projects.

Sl No.	Name of Scheme/ Programme	Outlay 2016-17 (□ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
		Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7
					<p>research studies on encouraging innovation, to bridge the existing knowledge gap, to translate the existing health leads into products &amp; processes through collaboration and cooperation with other agencies by laying special emphasis on delivering cost effective technologies for health care for the benefit of common man at an affordable price. The scheme would also focus on creating synergy among various science agencies/ departments –involved in basic science and or innovation on one hand and those with major application on epidemiology and public health.</p> <p>(iii) International cooperation in medical and health research:</p> <p>(a) To strengthen international cooperation in medical and health research, including research governance issues and establishment of Medical Technology Assessment Board (MTAB). This will ensure better regulation of Health Research, and ensure that marginalised and disadvantaged sections of society are not exploited for the purpose.</p>	
3.	<b>Infrastructure Development for Health Research</b>	-	71.75	<p>(i) Setting up of Nation-wide Network of Laboratories for Managing Epidemics &amp; Natural Calamities.</p> <p>(ii) Development of Tools to prevent outbreaks of epidemics.</p> <p>(iii) Development of Infrastructure for Promotion of Health Research</p>	<p><b>(1) Matter relating to epidemics, natural calamities and development of tools to prevent outbreaks</b></p> <p>(i) Establishment of Viral Diagnostic &amp; Research Laboratories (VDRL) across the country to:</p> <ul style="list-style-type: none"> <li>• Create infrastructures for timely identification of viruses and other agents causing morbidity significant at public health level and specifically agents causing epidemics and/or potential agents for bioterrorism.</li> <li>• Develop capacity for identification of novel and unknown viruses and other organisms &amp; emerging-</li> </ul>	<p>(i) Establishment of Viral Diagnostic &amp; Research Laboratories (VDRL) across the country for timely diagnosis of viruses. Target for 2016-17 is to establish 5 Regional Labs, 5 State level labs and 24 medical college level labs.</p> <p>ii) Establishment of Multidisciplinary Research Units (MRUs) in Govt. medical colleges. Target for 2016-17 is operationalization of already sanctioned MRUs and sanctioning of new MRUs in 10 medical colleges, which could not be funded in 2014-15 and 2015-16.</p>

Sl No.	Name of Scheme/ Programme	Outlay 2016-17 (₹ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
		Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7
					<p>remerging viral strains and develop diagnostic kits</p> <ul style="list-style-type: none"> <li>• Provide training to health professionals.</li> <li>• Undertake research for identification of emerging and newer genetically active/ modified agents.</li> </ul> <p><b>Promotion, co-ordination and development of basic, applied and clinical research</b></p> <p>(ii) Establishment of Multidisciplinary Research Units (MRUs) in Govt. medical colleges by upgrading facilities in Medical colleges to promote quality health Research on Non-Communicable Diseases.</p>	
					<p>(ii) Establishment of Model Rural Health Research Units (MRHRUs) in the States. To establish Model Rural Health Research Units in States which would enable transfer of new technology to the end users in rural areas, which would ensure an interface between the new technologies developers (Researchers in the Medical Institutions; State or Centre), health systems operators (Centre or state health services) and the beneficiaries (community Rural, Urban slums).</p>	<p>(iii) Operationalization of already sanctioned 12 Establishment of Model Rural Health Research Units (MRHRUs) in the States.</p>
4.	<b>Bhopal Memorial Hospital &amp; Research Centre (BMHRC), Bhopal</b>	<b>100.00</b>	<b>40.00</b>		<p>Bhopal Memorial Hospital &amp; Research Centre (BMHRC) was set up in 1998 under the Bhopal Memorial Hospital Trust (BMHT) under the directions of the Supreme Court for treatment of Bhopal Gas Victims. The Supreme Court vide its Order dated 19.7.2010 directed winding up of the Trust and taking over of the Hospital by the Govt. of India for running it through the Department of Biotechnology and Department of Atomic Energy. Subsequently the Union Cabinet in its meeting held on 4th January, 2012 decided transfer of administrative control of BMHRC to the Department of Health Research, Ministry of Health &amp; Family Welfare.</p>	<p>Grant in aid for payment of salary, creation of assets, procurement of consumables, drugs, and instruments for providing health care facilities to the Bhopal Gas affected patients.</p>

Sl No.	Name of Scheme/ Programme	Outlay 2016-17 (□ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
		Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7
					Accordingly, a separate budget provision for BMHRC has been made for meeting the expenditure of BMHRC for treatment of Bhopal Gas affected patients.	
	<b>Indian Council of Medical Research</b>	<b>284.00</b>	<b>610.00</b>		Formulation, coordination and promotion of biomedical research, through its network of 32 research institutes/centres and funding of extramural research through Medical Colleges, Universities, Non-ICMR Institutes, etc.	The following important scientific activities will receive priority: <b>A. Translational Programmes</b> Action will continue for further development, evaluation of the identified leads and also commercialization of the diagnostic kits and vaccine in the area of vector borne disease, hepatitis, diarrhoeal diseases, tuberculosis, leprosy, HIV-AIDS, other sexually transmitted diseases etc. and in addition information on epidemiological aspects of non-communicable diseases like diabetes and cancer etc. is being analyzed to improve their diagnosis and management. Action for the development of around 15 of the previously identified technologies from the research programmes carried out of ICMR's Institute/Centre will be completed during this year to facilitate their production and commercialization for the benefit of the community. Technologies targeted for 2016-17 include like use of gloves to prevent green tobacco syndrome, dot blot assay for <i>C. trachomatis</i> , Multiplex RT-PCR for Dengue & Chikungunya, KFDV, CHPV, CCHFV in sheep and goat and quadruplex PCR to identify different serogroups of <i>V. Cholerae</i> etc.

Sl No.	Name of Scheme/ Programme	Outlay 2016-17 (□ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
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1	2	3	4	5	6	7
						<p><b>B. Programmes on Health Systems Research and Social &amp; Behavioural Research</b></p> <p>Issues required for equity on axes of gender and ST status  Evidences through intervention for improving health care access for ST population  Health systems preparedness for preventing some of the NCDs (hypertension and diabetes)  Inputs on health system related issues on functioning of national disease control programmes.</p> <p><b>C. Programmes on reproductive and child health</b></p> <p>Projects on maternal &amp; perinatal health including stillbirths, reproductive biology including effect of electromagnetic radiation on human health, reproductive tract infections, early detection and management of cervical cancer, development of new safe, effective and reversible male and female contraceptives are planned for 2016-17.</p> <p><b>D. Programme on communicable diseases</b></p> <ul style="list-style-type: none"> <li><b>AMRSN:</b> The surveillance of antimicrobial resistance a National Anti-Microbial Resistance Surveillance Network (AMRSN) will be continued during 2016-17 to enable compilation of National Data of AMR at different levels of Health Care.  The standard treatment guidelines (STG) for both hospitals and community will be developed based on the antimicrobial resistance patterns obtained through the AMRSN.</li> </ul> <p><b>Research-cum-Intervention on JE/AES:</b> Inter-</p>

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1	2	3	4	5	6	7
						<p>ministerial Research-cum-Intervention (initiated in 2012). Seven ICMR institutes and ICMR VRDL at Manipal are involved in the study:</p> <p>Following activities will be undertaken :</p> <p>Emergence of scrub typhus as a possible etiological agent in AES/JE.</p> <p><b>Vector Borne Disease Science Forum:</b></p> <ul style="list-style-type: none"> <li>• VBDSF aims to continue its effort toward the elimination of Filariasis and Leishmaniasis and continue to provide support to the GOI endeavour of malaria pre elimination. A task force project on insecticide resistance monitoring in malaria and visceral leishmaniasis vectors is planned to be undertaken. Various studies on biology and bionomics of malarial and leishmania vectors will be undertaken.</li> <li>• 12 studies on various aspects of vector borne diseases area awaiting funding.</li> <li>• A study for triple drug therapy (DEC+ Albendazole+ Ivermectin) as against the two drug therapy (DEC+ Albendazole) to strengthen elimination of Lymphatic Filariasis has been planned and the proposal is under approval.</li> <li>• Studies will be undertaken to find out the prevalence of drug resistant TB, RTI and HIV/STDs infections and activities will be done to reduce the under-five child mortality.</li> </ul> <p><b>Leprosy :</b> It is proposed to initiate the following TF studies:</p> <ul style="list-style-type: none"> <li>• To give a thrust towards eradication of leprosy, a Research cum intervention project using Mw (MIP)</li> </ul>

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1	2	3	4	5	6	7
						<p>vaccination as an adjunct in cases of leprosy as well as its household contacts in high endemic areas of leprosy would be undertaken in collaboration of the NLEP and the NJIL&amp;OMD, Agra along with comparative study with chemoprophylaxis. It is proposed to initiate the study after approval.</p> <ul style="list-style-type: none"> <li>• A multi-centric proposal on prevalence of drug resistance in <i>Mycobacterium leprae</i> strains in clinically and/or bacteriologically positive leprosy patients has been developed.</li> <li>• <b>A Task Force on Rickettsial Infections</b> ICMR initiated a study at MGIMS, Wardha and CIIMS, Nagpur. on select zoonotic diseases which includes : epidemiology, molecular biology, novel biomarkers and other aspects of Tuberculosis, Listeriosis, Brucellosis, Rotavirus infection Rickettsial diseases and Leptospirosis will be studied in Wardha and Nagpur districts.</li> </ul> <p><b>Other Proposed activities of ECD:</b></p> <ul style="list-style-type: none"> <li>• <b>Congenital Rubella Surveillance:</b> Multi-centric study to monitor the rubella sero-prevalence among the pregnant women over the time.</li> <li>• <b>Non-Polio AFP:</b> Multicentric study on aetiology and transmission dynamics of non-polio enteroviruses causing AFP.</li> <li>• <b>Dengue Task Force:</b> Multicentric study to validate the diagnostic kits used for diagnosis of dengue. Assess the disease burden in the country.</li> <li>• <b>Leptospirosis:</b> ICMR will fund projects to facilitate development clinical algorithms and diagnostics to facilitate early diagnosis and</li> </ul>

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1	2	3	4	5	6	7
						<p>treatment of Leptospirosis.</p> <ul style="list-style-type: none"> <li>• <b>Other microbial infections:</b> ICMR will continue to fund the proposals to address the understanding of pathogenesis of microbial and fungal infections and to address the gap in diagnostics.</li> </ul> <p><b>Other Studies to be initiated:</b></p> <ul style="list-style-type: none"> <li>• The task force studies on insecticide resistance.</li> <li>• Training courses in ticks and mites</li> <li>• Approved, pending funding studies will be taken up.</li> <li>• Task Force studies on rickettsial infections to be expanded</li> <li>• Burden studies in other parts of the country will be taken up.</li> <li>• Studies on zoonotic infections of public health importance viz. brucellosis, leptospirosis, CCHF, KFD etc will also be planned.</li> <li>• A multicentric study using MIP vaccine in leprosy cases and contacts towards leprosy eradication.</li> <li>• Laboratory Containment of wild/vaccine Polioviruses in India.</li> <li>• Establish a Research Unit for evidence generation and enabling informed Policy making for Vaccine preventable Diseases.</li> <li>• Initiating surveillance on Congenital Rubella Syndrome in 8-10 States of the country.</li> <li>• Evaluating the sensitivity and specificity of dengue rapid diagnostic kits.</li> </ul> <p><b>All pending projects will also need to be funded.</b></p> <p>Following <b>SFC</b> has been approved in the Division of</p>

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1	2	3	4	5	6	7
						<p>ECD during 2015-16:</p> <ul style="list-style-type: none"> <li>• Proposal for Creation of posts for BSL – IV Lab for NIV, Pune at MCC, Pashan (32 posts approved).</li> <li>• Proposal for Creation of posts for Samrat Ashoka Tropical Diseases Research Centre at RMRIMS, Patna (Rs. 13.85 crore) in pipeline.</li> <li>• SFC of CRME, Madurai for establishment of field station at Vridhachalam, South Arcot, Tamil Nadu (Rs. 68.31 crore) in pipeline.</li> <li>• EFC document for upgrading ICMR School of Public Health at NIE, Chennai in pipeline. (Rs. 102,39,51,000/-)</li> </ul> <p><b>Northeast Studies:</b> The ongoing studies including the ones initiated during 2014-15 and in the current financial year will be continued over next 2-3 years. Further, efforts will be made to start some important studies in task force mode in the northeast during 2016-17.</p> <p><b>Fellowships:</b> Apart from the ongoing Fellowship projects, spilled over from the current financial year will be funded during 2016-17, 20 fellowships which stand approved in the current financial year, but pending funding, in addition to 11 projects under review, which, if approved, will also be funded during 2016-17.</p> <p><b>E. Non Communicable Diseases</b> <b>Cancer</b></p> <p><b>Cardiovascular Diseases</b> An online data collection and reporting system is being</p>

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1	2	3	4	5	6	7
						<p>used to collect data from 11 public and private hospitals covering different geographical areas around the country as part of a pilot study on Management of Acute Coronary Event (MACE) Registry. An online quality of care report is being provided to registries. Two sub registries under each of these centres without cath lab facility and one with facility have been identified. These will be initiated in next 3-4 months.</p> <p><b>Diabetes</b> Young Diabetes Registry provides information on most prevalent diabetes type, treatment pattern, and commonest complication and associated morbidities in young diabetics among the different geographic regions of the country. The programme has been scaled up to phase II with revised objectives. Determine the prevalence of diabetes and pre-diabetes in India by conducting a nationwide study (INDIAB) on a representative sample of India in eight states of North East and remaining states of India.</p> <p><b>Neurology</b> Urban population based stroke registry models has been developed at Ludhiana. The rural Bangalore stroke registry through PHC and CHC model has been completed. A rural Ludhiana stroke registry through NHRM is ongoing. Neuropsychological batteries for detection of vascular cognitive impairments have been developed in 5 languages for literate and illiterate population and are being validated at 4 centres. A Centre for Advanced Research for Innovations in Mental Health and Neurosciences: Manpower Development and Translational Research at NIMHANS, Bangalore is</p>

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1	2	3	4	5	6	7
						<p>ongoing.</p> <p><b>Mental Health</b> Task Force on “Burden of Substance Use in Punjab” Task force project on “Suicide Behaviour”</p> <p><b>Gastroenterology</b> Development of guidelines for diagnosis and management of Celiac Disease. To be completed soon.</p> <p><b>Chronic Kidney Disease</b> Project of Chronic Kidney Disease (CKD )is continuing at 8 centres .The study at the centres is being carried out at all centres. Project is due for sanctioning at Chennai Centre.</p> <p><b>Geriatrics</b> A multicentric project on assessment of nutritional status in elderly and access to health care facilities has been initiated for two years. This project will provide data on nutritional indices on the elderly population.</p> <p><b>Hearing Impairment</b> A multi centric study to assess hearing impairment covering all six regions of the country has been sanctioned for initiation at centres representing six broad geographical regions of India with Technical Coordinating Unit at AIIMS Delhi. ICMR’s task force project Congenital Deafness in Dadhkai village of Doda district of Jammu &amp; Kashmir has been initiated at two different centres.</p> <p><b>Oral Health</b> Scale up of the implementation research under Task Force on Cleft Anomalies at Five identified centres in India.</p> <p><b>F. Basic Medical Sciences</b> Following newer areas will be taken up: Virtual centre for Molecular Medicine, clinical pharmacology,</p>

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1	2	3	4	5	6	7
						<p>pharmacoepidemiology; Study of the Clinical, Biochemical and Molecular Characterization of Lysosomal Storage Disorders in India; excellence in research in physiological sciences &amp; capacity building. drug utilization studies, translational neurosciences, translational immunology, proteomics in health and disease venom research .</p> <p>Enactment of the biomedical and Health Research Regulation Bill 2015 . Establishment of Biomedical and Health research Authority.</p> <p>Preparation of guidance document on nanopharmaceuticals and nanomedicine. Revision of the ethical guidelines for biomedical research involving human participants.</p> <p><b>F. Programmes on Health Systems Research and Social &amp; Behavioural Research</b></p> <p>Projects on Social &amp; Behavioural Research initiated to address implementation issues particularly on Gender &amp; Health will be continued. Joint projects between ICMR &amp; ICSSR on identified priorities which are under review will be taken up.</p> <p><b>G. Publication, Information &amp; Extension Activities:</b></p> <p>To continue the ongoing e-journal Subscription and expansion of e-journal and databases.</p> <p>Setting up of ICMR e-consortia of Science Direct Full Text Databases in Health Science in consortia mode to all ICMR Library &amp; Information Centres.</p> <p>Participation in Science Congress or in other Exhibitions requires payments to the Event Manager towards providing the required space as well as extending support towards electricity, furniture and</p>

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1	2	3	4	5	6	7
						<p>other facilities. For Exhibitions payments are also made to an agency for preparation, designing and lamination of posters as well as their transportation and displaying at the designated place.</p> <p>For participation in World Book Fairs payments are needed to organizing agency for the space and other facilities. Funds are also required for designing and printing advertisements in case of the launch of new technologies/devices/kits etc as well as advt related to ICMR achievements on other occasions Funding will also be required for bringing out IJMR, Annual Report, News Letters &amp; other documents/books etc.</p> <p><b>H .Strengthening Infrastructure</b></p> <p>National Animal Resource Facility for Biomedical Research (NARF) at Genome Valley, Hyderabad, Andhra Pradesh for breeding various types of pathogen-free laboratory animals including large animals (rodents, canines, primates, horses, etc.) and also developing transgenic and knockout animal models.</p> <p>National Centre for Primate Breeding &amp; Research (NCPBR) at Sasunavghar, Mumbai for breeding pathogen-free rhesus monkey only for undertaking biomedical research and evaluating various drugs and devices.</p> <ul style="list-style-type: none"> <li>Specialized Centre on Impact of climate change on Human Health.</li> </ul> <p><b>I. Strengthening international cooperation</b> (These will be complementary to the new programme planned in DHR)</p> <ul style="list-style-type: none"> <li>Financial assistance will be provided to young/senior</li> </ul>

SI N o.	Name of Scheme/ Programme	Outlay 2016-17 (□ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
		Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7
						<p>bio-medical scientists for presenting research papers, chairing Session or delivering a keynote address in international scientific events (conferences/ seminars/ symposia/ workshops).</p> <ul style="list-style-type: none"> <li>• Financial support will be provided for organising international conferences in India.</li> <li>• Hosting/ Participation in bilateral/ multilateral discussions and Joint Working Groups (JWGs) in India and abroad</li> <li>• Supporting Indian component of research studies under bilateral/multilateral programmes with foreign agencies.</li> <li>• Hosting foreign delegations.</li> </ul> <p>-ICMR-MRC: 3 Ongoing projects -INDO-CANADA: Grand Challenges -INDO-US: ROCK-ON, -ICMR-GACD: Collaborative projects on Diabetes: 1 project approved for funding - ICMR-MRC:3 projects completed; 2 granted HMSC approval for extension till 2016 &amp; 2017 respectively, - ICMR-CIHR: 3 projects completed.</p> <p><b>Obesity &amp; Metabolic syndrome</b> Establishment of potassium counter facility for studies on body composition of infants and young children at NIN, Hyderabad.</p> <p><b>J .Tribal health</b> Adolescent health and reproductive research related to tribal population and disability will also be supported.</p> <p>Assessment of Non communicable Diseases and their risk factors in Tribal areas will be scaled up in various parts of the country. Health systems preparedness for</p>

Sl No.	Name of Scheme/ Programme	Outlay 2016-17 (□ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
		Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7
						<p>interventions for diabetes, hypertension, chronic respiratory diseases and cardiovascular disease and deaths due to non-communicable diseases among the tribal population in India.</p> <p><b>K. Human Resources Development</b></p> <p>Strengthen and expansion of the Human Resource Development programme by starting specialized training programmes / fellowships in cutting edge areas and operational research, restarting supernumerary cadre to harness new talent.</p> <p><b>New initiatives in HRD</b></p> <p>Middle age women to re-start their carrier on contract basis at the level of Scientist B or C at different Institutes of ICMR – for maximum of five years – 25 slots per year.</p> <p>Provide financial assistance to the candidates who have not qualified any national exam but registered for Ph.D. on a consolidated amount of Rs.16000/-p.m. (50 slots per year).</p> <p><b>L. Establishment of new Centres</b></p> <p>Work will be initiated for setting up new centres/field units in deficit and un-served areas including Regional Medical Research centres at Gorakhpur, Raipur, and Kakinada etc. as well as strengthening the field unit of RMRC, Jabalpur in tribal areas of Himachal Pradesh.</p> <p>Cell for Climate change and Health is proposed at National Institute of Malaria Research, New Delhi.</p> <p>Partnership Institute for Ageing and Tribal Health (PARTH) between ICMR, DST and Government of Kerala , Deptt of HFW under the aegis of MOHFW is proposed to be initiated in Wayanad. High level meetings and Apex committee meetings held during</p>

Sl No.	Name of Scheme/ Programme	Outlay 2016-17 (□ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
		Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7
						<p>this year.</p> <p><b>M. Outbreak/Disaster Response</b> A revolving fund will be created to enable ICMR to provide support for research leadership when confronted with outbreaks and other disasters, by developing, acquiring materials and mobilization.</p> <p><b>N. Medicinal Plants Divisions</b> New volumes of the books on Medicinal Plants such as.</p> <ul style="list-style-type: none"> <li>• Review Monographs on Medicinal Plants.</li> <li>• Phytochemical Reference . Standards of Medicinal Plants &amp;</li> <li>• Quality stands or Indo-Medicinal Plants etc. Will also brought out.</li> </ul>
3.	North-Eastern Areas	-	75.00	DHR&ICMR	To oversee the promotion, co-ordination and development of health research in and including specific projects relating to the North-Eastern Areas	<p><b>Department of Health Research:</b> Continuation of support in respect of already sanctioned MRUs, MRHRUs and Viral Research &amp; Diagnostic Labs in the NE States.</p> <p><b>ICMR:</b> Ongoing intramural and extra mural projects will be supported. New proposals which will be received in the area of maternal &amp; perinatal health including stillbirths, reproductive biology including effect of electromagnetic radiation on human health, reproductive tract infections, early detection and management of cervical cancer, development of new safe, effective and reversible male and female contraceptives from Medical Colleges/ Institutes in the NE States for funding.</p> <p>a. On-going intramural and extra mural projects will be supported. Fifty one (51) new proposals have been received from Medical Colleges/ Institutes in the NE</p>

Sl No.	Name of Scheme/ Programme	Outlay 2016-17 (□ crore)		Rationalised sub-head	Objective/Outcome	Quantifiable Deliverables
		Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7
						<p>States for funding.</p> <p>b. Initiation of new research projects will be taken up as in the past.</p> <p>c. Initiation of Construction of Research Units at Guwahati and Agartala.</p> <p>d. A Joint Working Group Meeting between ICMR and DBT to identify new proposals.</p> <p>e. Other new initiatives include new research centres on Communicable and Non-communicable diseases, health system research, etc.</p> <p>Assessment of Non communicable Diseases and their risk factors in Tribal areas of North East will be initiated. Health systems preparedness for interventions for diabetes, hypertension, chronic respiratory diseases and cardiovascular disease and deaths due to non-communicable diseases among the tribal population in India</p>
	<b>Total</b>	<b>394.80</b>	<b>750.00</b>			

### CHAPTER III REFORM MEASURES & POLICY INITIATIVES

**The Department has also taken all necessary steps for the implementation of the following five new schemes, approved in 2013-14 for the 12<sup>th</sup> Plan period, to enable the new Department to fulfil its mandate.**

- (1) Establishment of Multi-Disciplinary Research Units in Government Medical Colleges under the initiative of Infrastructure Development
- (2) Establishment of Model Rural Health Research Units in States, under the initiative of Infrastructure Development for Health Research
- (3) Establishment of Viral Diagnostic & Research Laboratories under the scheme for Establishment of Network of Labs for Managing Epidemics and Natural Calamities.
- (4) Human Resource Development for Health Research
- (5) Grants in Aid scheme for inter- sectoral convergence & promotion and guidance on health research.

**The seamless integration of activities between the ICMR (generation of new knowledge) and the DHR (Putting the new knowledge into the public health system) which began in the recent past, has been progressing well in the right direction.**

**In accordance with the directions of the Ministry of Finance, Department of Economic Affairs (Budget Division), merger/rationalisation of the schemes being implemented by the Department of Health Research has been made as follows and the details of the schemes and programmes for the year 2016-17 are given below:**

#### **(1) HUMAN RESOURCE & CAPACITY DEVELOPMENT:**

##### **(i) HUMAN RESOURCES DEVELOPMENT FOR HEALTH RESEARCH**

**Outlay:**           □ 13.00 crore, including □ 1.25 crores for NE region (FOR 2016-17)

The scheme aims to provide advanced training to medical and health research personnel in India and abroad in cutting edge research areas concerning medicine and health to create trained human resource for carrying out research activities with main goal of improving patient management and public health in the country. This scheme has following components:

1. Short Term Fellowships for 1-3 months (In India and Abroad, Age: upto 55 years)
2. Long Term Fellowships for 6-12 months (In India and Abroad, Age: upto 45 years)
3. Programme specifically for Women who have had a break in their career
4. Scholarships /fellowships to young scientists (medical /non-medical students) in newer areas.
5. Programme 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.
6. Support to Indian Institutes for imparting training to the Faculty of Medical Colleges/ Research Institutes.

7. Strengthening of research through the establishment of online courses and web portal on health research for students, faculty and other researchers.
8. Support to Scientific/Professionals/Associations/Bodies.

The 12th Plan target involves award of 2585 fellowships and development of 1694 research projects by the trainees. However, award of actual number of fellowships is dependent upon the budgetary allocations.

- **Achievement upto 2015-16:** 132 Fellowships including start-up grants & support to 10 conferences and support to 8 Institutes sanctioned upto December, 2015.
- **Target 2016-17:** 80 Fellowships, 50 projects and support to 10 Institutes besides supports to 10 conferences.

## (ii) GRANT IN AID SCHEME FOR INTER-SECTORAL CONVERGENCE & PROMOTION AND GUIDANCE ON HEALTH RESEARCH

**OUTLAY:**      □ **14.25** crores including □ 1.50 crore for NE region (FOR 2016-17)

The objective of Scheme is to bring modern health technology to the people through innovations related to diagnostic, treatment methods and vaccines for prevention; to translate them into products and processes and, in synergy with concerned organizations, introduce these innovations into public health service. The main components of the scheme are:

1. Research studies with emphasis on public health
2. Translational Research Projects
3. Joint Projects involving Inter-sectoral co-ordination/partnerships
4. Assessment of comparative/ Cost effectiveness of health technologies for public health choice
5. Support for participation in conferences abroad and conduct of national & international seminars & conferences etc.

**Achievement upto 2015-16 (Upto December, 2015): 168 research projects.**

**Target 2016-17: About 100 projects.**

## (iii) INTERNATIONAL COOPERATION IN MEDICAL AND HEALTH RESEARCH:

**Outlay:**      □ **1.00 Crores (FOR 2016-17)**

(a) DHR has started working on the mechanisms to facilitate and accelerate international cooperation in medical and health research by providing contributions to international organizations, participations abroad, organizing international conferences in India, and sending DHR delegations to international bodies, hosting foreign delegations and supporting Indian component of Indian studies under bilateral programme. Under this scheme, international cooperation in medical and health research will be strengthened.

## (b) RESEARCH GOVERNANCE

- 1) The DHR is in the process of establishing a Medical Technology Assessment Board (MTAB) consisting of economists, social scientists, public health professionals and other specialists (similar to the Offices of Health. /Medical Technology Assessment systems in some countries) whereby new technologies can be scientifically assessed for cost efficacy before introduction / procurement for affordable health care. Schemes to promote development of indigenous products by the Indian pharma industry would be established on the lines of DST/CSIR model in areas where there are public health implications.

2) Department of Health Research (DHR) is also proposing enactment of the following three Bills :

- i. Assisted Reproductive Technology (Regulation) Bill, 2014: The Bill aims at establishing a National Advisory Board, State Advisory Boards and a National Registry for the accreditation, regulation and supervision of assisted reproductive technology (ART) clinics and ART banks, for prevention of misuse of assisted reproductive technology, including surrogacy, for safe and ethical practice of ART services in the country.
- ii. The Biomedical and Health Research (Regulation) Bill, 2014: The Bill seeks to provide for a national framework for the promotion, regulation and monitoring of ethical issues of biomedical and health research on human participants.
- iii. The Recognition of New Systems of Medicine Bill, 2014: This Bill aims at providing for a mechanism for consideration of proposals, seeking recognition as system of medicine, and to prevent practice of unrecognized system of medicine or imparting education and training therein.

## **(2) INFRASTRUCTURE DEVELOPMENT FOR HEALTH RESEARCH**

(i) Setting up of Nation-wide Network of Laboratories for Managing Epidemics & Natural Calamities.

**Outlay:**     □ **39.00 crores** including □ **4.00 crores for NE region (FOR 2016-17)**

India continues to have outbreaks/ epidemics due to various infectious pathogens. Currently national apex institutes like NCDC, New Delhi and NIV, Pune are mandated to undertake the investigations that results in heavy burden affecting their real referral role. The resultant delay in diagnosis/detection and adequate/incomplete data about these outbreaks significantly impacts the response time for interventions. The Department has planned to establish about 160 Viral Diagnostic Research Laboratories of three grades (10 Regional Labs, 30 State level labs and 120 medical college level labs) on infectious pathogens.

- **Achievement upto 2015-16:** 12 Viral Research & Diagnostic Labs (3 State Level Labs and 9 Medical College level labs) were approved during the year 2015-16 (Till January 31, 2016). With the aforesaid addition, the cumulative coverage has reached 63 VRDLS (5 Regional Labs, 14 State Level Labs and 44 Medical College Level Labs).
- However, funds have been released in respect of 36 VRDLs only (5 Regional Labs, 10 State level labs and 21 Medical College level labs) upto January, 2016.
- As many as 18 Viral Diagnostic & Research Laboratories are functional upto 31 December, 2015 for carrying out diagnosis.
- **Target for 2016-17:** 5 Regional Labs, 5 State level labs and 24 medical college level labs.

**(ii) Development of Tools/Support to prevent outbreaks of epidemics:**

Viral diagnosis today is a major health problem and repeated outbreaks of new viral agents have become common phenomena. All countries, including India are at the threshold of such unpredictable viral attacks, resulting in large number of casualties. The inadequacy of specialized laboratories equipped with latest equipment in the country, especially at secondary and tertiary level has severely affected the response time in identification of the viruses and quick mobilization in the event of out-breaks/ response to infectious disease out-breaks or natural or man-made disasters. This was noticed during the H1N1 viruses that gripped the nation in 2010 and during the Swine flu outbreak in 2015.

Accordingly, the Department of Health Research has taken action to provide for separate budget provision to meet the requirements for supply of diagnostic kits, transport of samples, hiring of additional manpower, etc. during such outbreaks.

**Outlay:**             □ **2.50 crore** including □ **0.25 crores for NE region (FOR 2016-17)**

### **(III) DEVELOPMENT OF INFRASTRUCTURE FOR PROMOTION OF HEALTH RESEARCH:**

Development of infrastructure for research has been taken up as a major activity of Department of Health Research. Under the approved schemes, it is proposed to establish about 80 Multidisciplinary Research Units (MRU) in the Government medical colleges and 15 Model Rural Health Research Units (MRHRU) during the 12<sup>th</sup> Plan period.

#### **(a) ESTABLISHMENT OF MULTI-DISCIPLINARY RESEARCH UNITS IN GOVERNMENT MEDICAL COLLEGES UNDER THE INITIATIVE OF INFRASTRUCTURE DEVELOPMENT FOR HEALTH RESEARCH**

**Outlay:**           □ **24.25 crores** including □ **2.50 crores for NE region (FOR 2016-17)**

#### **Special support to the Medical Colleges:**

- Medical colleges are the backbone of both teaching as well as providing specialized services to patients in India. It is also expected that medical colleges will also set the trends in thinking process and innovation to improve our understanding of the disease(s) and their management.
- The Department of Health Research plans to pay special attention to development of infrastructure in medical colleges by establishing multi-disciplinary research units (around 80 units during the 12<sup>th</sup> Plan period) in the Government medical colleges, focussed on research in Non-communicable Diseases. These units will provide the modern technology infrastructure which will improve the quality of the specialized care, training of doctors and other health care professionals and then research as per the needs of the population.

**Achievement upto 2015-16:** Against the total target of covering 80 medical colleges, 70 MRUs have been approved. (36 in 2013-14 and 13 in 2014-15 and 21 in 2015-16). 19 medical colleges have initiated research activities.

- Funds have been released to 52 MRUs (29 in 2013-14 and 15 in 2014-15 and 10 in 2015-16). Release of funds to another 5 Medical colleges approved in 2015-16 will be made on completion of requisite codal formalities.
- Funds to 13 medical colleges could not be released since UCs are pending in respect of other schemes of Ministry of Healthy & Family Welfare.

**Target for 2016-17:** Operationalization of already sanctioned MRUs and sanctioning of MRUs in 10 medical colleges, which could not be funded in 2014-15 and 2015-16.

#### **(b) Establishment of Model Rural Health Research Units (MRHRU):**

**Outlay:**           □ **6.00 crore** including □ **0.50 crores for NE region (FOR 2016-17)**

- There is a wide gap between the available specialized health care technology and the technology being developed vis-a-vis their utilization in the State health systems. This is particularly true for rural health settings. It is generally felt that technology application needs specialized infra-structure and can be done only in urban settings. In order to develop models for transfer of such technology to the end care users, the Department has planned to establish 15 Model Rural Health Research Units in the States where technology transfer and the research targeting health interventions will be done in partnership with the States, ICMR mentor institutes and the nearby medical college.
- **Achievement upto 2015-16:** 12 MRHRUs have already been sanctioned upto December, 2015. Another 3 are expected to be approved by the end of 2015-16. 8 MRHRUs have initiated research activities.
- **Target 2016-17:** Completion of infrastructure and operationalization of the already approved 12 MRHRUs for undertaking the research activities.

### **(3) Bhopal Memorial Hospital & Research Centre (BMHRC), Bhopal**

Bhopal Memorial Hospital & Research Centre (BMHRC) was set up in 1998 under the Bhopal Memorial Hospital Trust (BMHT) under the directions of the Supreme Court for treatment of Bhopal Gas Victims. The Supreme Court vide its Order dated 19.7.2010 directed winding up of the Trust and taking over of the Hospital by the Govt. of India for running it through the Department of Biotechnology and Department of Atomic Energy. Subsequently the Union Cabinet in its meeting held on 4th January, 2012 decided transfer of administrative control of BMHRC to the Department of Health Research, Ministry of Health & Family Welfare. Accordingly, a separate budget provision for BMHRC has been made for meeting the expenditure of BMHRC for treatment of Bhopal Gas affected patients.

**Outlay: Plan:  40.00 crores+ Non Plan  100.00 crore (Total: 140.00 crores for 2016-17)**

Outlay is meant for providing grant in aid for payment of salary, creation of assets, procurement of consumables, drugs, and instruments for providing health care facilities to the Bhopal Gas affected patients.

### **(4) INDIAN COUNCIL OF MEDICAL RESEARCH**

The Indian Council of Medical Research continued to serve as the fulcrum of the Department of Health Research (DHR) and further intensified its research programmes and development of newer technologies for the benefit of the public at large.

**Outlay: Plan:  610.00 crores+ Non Plan  284.00 crore (Total: 894.00 crores for 2016-17)**

The Department will continue to oversee the activities of the Indian Council of Medical Research and assist it in strengthening and modernising its existing infrastructure, setting up new institutes, expand its scientific and other manpower base and increase the quantum of support for extramural research.

### **(5) DHR SECRETARIAT, DIRECTION & ADMINISTRATION:**

**Outlay: Non Plan  10.80 crore (for 2016-17)**

As per instructions of Ministry of Finance, the Secretariat Expenditure is to be provided under Non Plan only from the Financial Year 2016-17. The provision is to meet the secretariat expenditure for establishment/office expenses etc for efficient management of the HQ of the Department.

### **(6) FOR SCHEME IN NORTH EASTERN AREAS:**

**Outlay:  75.00 crore for 2016-17 out of  750.00 crores for Plan Schemes ( 10.00 Crore for DHR Schemes and  65.00 crore for ICMR)**

## CHAPTER – IV

### REVIEW OF PERFORMANCE

#### SCHEME WISE PHYSICAL PERFORMANCE

##### (A) CENTRAL SECTOR SCHEMES

Following five schemes for the 12<sup>th</sup> Plan period have been approved and have been continued in 2015-16 so as to fulfil the mandate and work entrusted to the Department.

- (1) Human Resource Development for Health Research.
- (2) Grants in Aid scheme for inter- sectoral convergence & promotion and guidance on health research.
- (3) Establishment of Multi-Disciplinary Research Units in Government Medical Colleges under the initiative of Infrastructure Development.
- (4) Establishment of Model Rural Health Research Units in the States under the initiative of Infrastructure Development for Health Research.
- (5) Establishment of a network of Viral Diagnostic & Research Laboratories for Managing Epidemics and Natural Calamities.

All the five schemes have been reviewed and it is observed that the same are under implementation as per the physical and financial performance indicated in Chapter-IV.

The schemes have now been merged into following two schemes during the year 2016-17:-

- (1) Human Resource & Capacity Development.
- (2) Infrastructure Development for Health Research.

Besides this, the Indian Council of Medical Research (ICMR) continued to serve as the fulcrum of the Department of Health Research. ICMR is an autonomous organisation funded by the Ministry of Health & Family Welfare and is the apex organisation in the country to formulate, conduct, coordinate and promote biomedical research. The ICMR established in 1911 as the Indian Research Fund Association has 33 national and regional institutes as well as more than 100 field stations/units.

Some of the major initiatives during 2015-16: funded extramural 241 Research Projects in various areas of health research, training programme, development of reagents, equipment, diagnostic tests, etc. ICMR's new flagship programmes on tribal health research, vector science forum and special programmes for medical colleges have made steady progress which led to the development of new research programme on Environmental and Occupational health to monitor the effects of pesticides on human and animal health. Developed a conceptual framework for joint research with the Ministry of Environment and Forests, ICAR and other institutions to find solutions to water, soil and air pollution. Developed a blueprint for research-com-action on disabilities prevention and management. ICMR scientists published a total of 596 research papers in various national and international journals. A total of 8 patents were filed. 27 new MOUs for joint research projects & 12 new projects were launched in uncovered States/backward areas. Total 12 Studies/Projects were sanctioned related to women health. During the year 29, new outbreaks were successfully investigated & 18 international fellowships were sanctioned.

##### The brief of achievements are given:

- a) The main emphasis of (DHR) is to generate and apply new knowledge through its autonomous organisation, the Indian Council of Medical Research, other partners (Govt. and non-Govt.) and various support systems for creation of products, processes and other tools for an affordable health care system in India. This is being done through dedicated Translational Research Units set up in all the ICMR institutes/centres as also a central coordinating system at the ICMR Headquarters to identify potential leads that could be translated into products, processes and other tools. This strategy has already resulted in the indigenous development of diagnostic reagents and indigenous production of vaccines for the H1N1 and the newly diagnosed Zika Virus.
- b) Translational programme is focusing on leads emerged from the research for further development, testing and validation. Non-invasive methods for Kalaazar detection were launched by RMRI (ICMR) Patna, that will help in kalaazar examination. Kit for detection of lung fluke disease (Paragonimiasis) has been developed by RMRC Dibrugarh & is ready for launch. Cooling jacket for person working Heat stress environment has been developed, tested & validated by NIOH Ahmedabad & will be launched soon. Validation of some of the 20 identified technologies

will be completed within 1-2 years before introduction into clinical/ public health use. An indigenous Japanese encephalitis vaccine developed in public private partnership mode by the collaboration of NIV, Pune with the Bharat Biotech India Private Ltd. Hyderabad is now available for public use. Kit for molecular diagnosis of thalassaemia, a major hereditary blood disease is also available now.

- c) To augment local capacity for the identification and control of emerging and re-emerging infectious viral diseases currently mostly being handled at two laboratories based in Pune and New Delhi. The DHR/ICMR is setting up a Network of Viral Research & Diagnostic Laboratories for Viral and other Infectious Diseases across the country.
- d) MD/Ph.D. Programme is continuing in 3 universities. More than 500 Non-ICMR Scientists were given financial assistance to attend conferences abroad.
- e) The DHR is also embarking upon massive programme for promoting health research in the country through the implementation of the five schemes developed for the 12<sup>th</sup> plan period focusing on infrastructure development in medical colleges and states; human resource development; development of network of laboratories for management of epidemics/ outbreaks due to viruses and grant-in-aid to support projects involving inter-sectoral coordination and translational / implementation research. The DHR has taken up these new schemes in view of the major gap in programmes and infrastructure that exists today with respect to health research. Further, to augment the transfer of technology for better health care facilities in rural India, Model Rural Health Research Units are being set up in various States. The units launched earlier, were made functional.
- f) The five central sector schemes being implementation by the Department have since been clubbed under two major schemes from the year 2016-17 for better co-ordination.

**(B) CENTRALLY SPONSORED SCHEMES**

This Department does not have any such scheme.

**REVIEW OF PERFORMANCE -2014-15  
(Objective/ Outcomes/ Achievements)**

**CHAPTER -IV**

**Department of Health Research**

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
1.	<b>Secretariat Social Services</b>	To provide policy support and direction for the promotion and co-ordination of basic, applied and clinical research in the country.	<b>10.00</b>	<b>5.00</b>	This estimate is basically for running the administration of the Department. As such the physical outputs cannot be quantified. The budgeted funds are utilized for the items like salaries, wages O.E. etc.	Expenditure: ₹ 4.95 crore under Non-Plan and ₹ 1.24 crore under Plan.	The expenditure on rental/property tax and payment of electricity bill for the rented premises at IRCS building could not be made due to certain administrative issues.

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
2.	<b>Medical &amp; Public Health</b>	<p>To initiate/continue implementation of the approved schemes and oversee -</p> <p>Promotion, co-ordination and development of basic, applied and clinical research</p> <p>(i) Multi-disciplinary Research Units (MRUs) in Govt. medical colleges</p> <p>(ii) Establishment of Model Rural Health Research Units In the States</p>		<p><b>72.00</b></p> <p><b>18.00</b></p>	<p>1. Approving the programme for providing Special support to the Medical Colleges for Health Research focused on Non-Communicable Diseases (NCD)- Establishment of Multidisciplinary Research Units (MRUs)</p> <p>2. Establishment of Model Rural Health Research Units.</p> <p><b>Physical Targets:</b></p> <ul style="list-style-type: none"> <li>Establishment of 51 MRUs Medical Colleges across the country</li> <li>Establishment of 7 MRHRUs in the country.</li> </ul>	<p>1. Establishment of 25 new Multidisciplinary Research Units (MRUs) approved in medical colleges. Sanction issued for 12 MRUs &amp; release of 2<sup>nd</sup> instalment for 7 already sanctioned MRUs.</p> <p>Expenditure: ₹ 31.00 .crores</p> <p>2. Sanctioning of Model Rural Health Research Units (MRHRUs) in 4 States Andhra Pradesh, Madhya Pradesh, Chhattisgarh and Odisha &amp; release of 2<sup>nd</sup> instalment for 4 MRHRUs</p> <p>Expenditure: ₹ 13.00 crores (Plan)</p>	<p><b>1. MRUs:</b> Shortfall is due to non-receipt of sufficient and complete proposals from the concerned State Governments/Medical Colleges.</p> <p><b>2. MRHRUs:</b> Shortfall is due to non-receipt of sufficient and complete proposals from the concerned State Governments.</p>

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
		(i)Promotion and guidance on research governance issues		3.00	<p>To build mechanisms, systems &amp; administrative structures for improving the research governance in health sector of the country, through the following:</p> <ol style="list-style-type: none"> <li>1. Enactment of an Ethics Bill and the establishment of the National Bioethics Authority</li> <li>2. Enactment of a Bill for Regulation of Assisted Reproductive Technology</li> <li>3. Enactment of a Bill on alternate systems of medicine</li> <li>4. Establishing mechanisms for mapping &amp; accreditation of health research institutions.</li> <li>5. Knowledge Management Policy</li> <li>6. Health Technology Assessment Boards for putting in place the appropriate regulatory authorities and structures to evaluate and recommend technologies, programmes, studies etc. for introduction into the public health.</li> <li>7. National Health Research Policy</li> </ol>	<p>Status of pending Bills are as under:-</p> <ol style="list-style-type: none"> <li>a) Recognition of New Systems of Medicine Bill, 2014. The Cabinet Note for seeking approval of the Cabinet has been sent in December, 2014.</li> <li>b) The Biomedical and Health Research Regulation Bill, 2014. The draft Bill is being finalised in consultation with Ministry of Law and Justice.</li> <li>c) Assisted Reproductive Technology (Regulation) Bill, 2014. Cabinet note is being finalized for approval of Cabinet.</li> </ol> <p>Other areas where there has been tangible progress include the setting up of data repositories on medical and health research for wide public access as part of the national knowledge policy and other areas like Mapping of Health Research Institutions, Knowledge Management Policy, Health Research Policy, etc.</p> <p>Expenditure: Nil</p>	It has been decided that Ministry of Science & Technology being the Nodal Ministry for Accreditation of Research Institutes, this subject should not be handled by the Department of Health Research.

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
		(ii) Inter-sectoral co-ordination in medical, biomedical and health research		26.00		Sanctioning of 100 projects at an estimated cost of ₹23.26 crores	
		(iii)Matters relating to scientific societies and associations, charitable and religious endowments in medicine and health research areas		1.00			
		(iv) Coordination in the field of health research with governments, organization and institutes		1.00			
		(i) Advanced training in research in medicine and health (HRD)		17.00	To commence the following programmes: <ul style="list-style-type: none"> <li>•Programme to augment/ create researchers in high focus, high skill areas.</li> <li>•Programme to promote medical research as a career among young scientists and medical students.</li> <li>•Programme to promote research in young and mid-career faculty of medical colleges.</li> </ul>	Sanctioning of 30 Fellows for training in India/abroad. Support to 5 Institutes for imparting training besides 6 startup grants and 1 support to conference. RE was reduced to ₹5.00 crores.  Expenditure: ₹4.98 crores	Due to approval of the scheme by EFC/CCEA at the fag end of 2013-14, less number of applications received and due to budgetary constraints..

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<ul style="list-style-type: none"> <li>• Creation of a national initiative in partnership with relevant stakeholders to attract and retain the young to a career in health research and Development of human resource policy with focus on career development scheme for young researchers</li> <li>• Strengthening research through the establishment of online courses and web portal on health research for students, faculty and other researchers</li> </ul> <p><b>Physical targets:</b></p> <p>To provide about 900 fellowships/trainings/ scholarships at the institutions in India and abroad.</p> <p>To provide assistance to 17 domestic medical colleges/ institutions for providing training in the focused areas of research through specially designed courses. However, number of fellowships will depend upon the number of applications received and the availability of funds.</p>		
		(ii) International cooperation in medical and health research		<b>2.00</b>	<ul style="list-style-type: none"> <li>▪ Contributions to international organisations</li> <li>▪ Participation in conferences in India and abroad (Non-ICMR)</li> <li>▪ Organising international conferences in India</li> <li>▪ DHR delegations to international bodies</li> </ul>	Financial assistance was given to six institutions/organisations for holding conferences/workshop in the research fields. Expenditure incurred is ₹42.00 lakhs.	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<ul style="list-style-type: none"> <li>▪ Supporting Indian component of research studies under bilateral programmes</li> <li>▪ Hosting foreign delegations</li> </ul>		
		<p>Matter relating to epidemics, natural calamities and development of tools to prevent outbreaks</p> <p>-Establishment of Viral Diagnostic Laboratories (VDL)</p>		<b>31.00</b>	<p>1. Establishing a net-work of laboratories for diagnosis of the viral and other infections ; and</p> <p>2. Setting up of revolving fund for facilitating a rapid mobilization of out-breaks/ disaster response (technology component) to infectious disease out-breaks or natural or man-made disaster.</p> <p><b>Physical Targets:</b> Establishment of 3 Regional Labs, 10 State level labs and 40 district level labs in different parts of the country in 2014-15.</p>	<p>Proposals approved for 3 Regional Labs, 3 State level labs and 16 Medical College level labs. However, funds released for 3 Regional Labs, 2 State level Labs and 11 Medical College level labs on completion of requisite codal formalities.</p> <p>Expenditure: □30.00 crores</p>	Due to less number of proposals received from the States and non-completion of requisite administrative and technical formalities under the scheme guidelines by certain States.
		Indian Council of Medical Research	<b>281.67</b>	<b>477.40</b>	<p>The following important scientific activities received priority during the year:</p> <p><b>A. Translational Programmes</b> Action continued for further development and evaluation of the identified leads in the area of vector borne diseases, hepatitis, diarrhoeal diseases, tuberculosis, leprosy, HIV-AIDS, other sexually transmitted diseases etc. Information on epidemiological aspects of non-communicable diseases (hypertension, diabetes, cancer etc) has been analysed to focus on research to improve their diagnosis and management. Action for the development of twenty of the previously identified seventy five new products/</p>	<p>ICMR Institute/ Centre continued to provide research support to National Programme in disease specific areas.</p> <p>i) A total of 872 research papers were published.</p> <p>ii) 499 extra-mural research projects and Fellowships in various areas of health research were funded.</p> <p>iii) 18 New applications including (11 Intra-mural) for patents were filed. 3 Patents were granted.</p> <p>Evaluation trials for 14 technologies have been completed and 8 of them have been launched. These are:</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<p>technologies from the work carried over in ICMR Institutes/ Centres is being completed during the year to facilitate their movement into production/ implementation stage.</p> <p>Technologies launched include the Development of PCR based diagnosis procedure for visceral leishmaniasis from urine samples and non-invasive method for diagnosis of VL by rk 39 testing of sputum samples.</p> <p>Technologies ready for launch include kit for paragonimiasis, Leptospirosis, diagnosis of chlamydial infection, kit for hormone assays and cooling jacket for persons exposed to hot atmosphere.</p> <p><b>B. Programmes on Health Systems Research and Social &amp; Behavioural Research</b></p> <p>Already initiated projects and progressing satisfactorily will be continued. In addition, some Social and Behavioural Research projects in areas of health will be taken up on various areas including for NE and other Tribal populations in collaboration with ICSSR.</p> <p><b>C. Programmes on reproductive and child health</b></p> <p>Projects on maternal and child health, reproductive tract infections, development of new safe, effective and reversible male and female contraceptives are planned for</p>	<p>i) Development of Killed Vaccine for Japanese Encephalitis <b>(Technology released)</b></p> <p>ii) Reverse dot blot hybridization (RDB) diagnostic kit for detection of B-thalassaemia syndromes <b>(Technology released).</b></p> <p>iii) Development of magnifying device for screening of cervical cancer <b>(Technology released).</b></p> <p>iv) Monitoring device and test reagent strips for diabetes-two technologies <b>(Technology released).</b></p> <p>v) Indigenous ELISA kit for ferretin to screen serum iron status in population <b>(Technology released).</b></p> <p>vi) Dried blood spot (DBS) collection kits for vitamin A analysis <b>(Technology released).</b></p> <p>vii) Development of PCR based method to detect food borne pathogen <b>(Technology released).</b></p> <p>viii) Test Reagent for differential diagnosis lung fluke from lung TD <b>(Evaluation trial completed).</b></p> <p>ix) Latex based agglutination technique for detection of leptospiral antibodies during acute stage of disease</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<p>2014-15. Adolescent health and reproductive research related issues will continue to get priority.</p> <p><b>D. Programme on communicable diseases</b> Strengthening and expansion of programmes on various communicable and vector borne diseases like JE/ AES, other water borne diseases, drug resistance, rotavirus surveillance, gastrointestinal pathogen repository, leprosy, tuberculosis, and HIV/AIDS will continue.</p> <p><b>E. Programme on non-communicable diseases and basic medical Sciences</b> Further scaling up of research programmes on non-communicable diseases especially diabetes, cardiovascular diseases, stroke, cancer, obesity; mental health, oral health, disability environmental &amp; occupational health, chronic kidney disease etc. Newer areas like genomic and proteomic applications; molecular medicine, stem cell therapy, bioethics, and gender issues pertaining to health are also being taken care off.</p> <p><b>F. Other areas:</b> Efforts are being made to improve the content and production quality of ICMR Publications like ICMR Patrika, Annual Report and IJMR. ICMR is also</p>	<p><b>(Evaluation trial completed).</b> x) Recombinant IgM based ELISA for diagnosis of Leptospirosis <b>(Evaluation trial completed).</b> xi) Urine based diagnostic kits to measure estrogenglucuronide (E2) for fertility assessment. <b>(Evaluation trial completed).</b> xii) Urine based diagnostic kit to measure pregnanrdiolglucuronide (P) for fertility assessment <b>(Evaluation trial completed).</b> xiii) Urine based diagnostic kit to measure Lutenizing Hormone (LH) for fertility assessment (Evaluation trial completed). xiv) Urine based diagnostic kit to measure Follicular stimulating Hormone (FSH) for fertility assessment (Evaluation trial completed).</p> <p>Twelve projects addressing implementation and access issues were completed. Five projects continued and four projects in the area of Gender &amp; Health were funded and another eight projects are in the process. Further nine projects are being processed for completing Codal Formalities. A Joint Call for Proposal with ICSSR has been planned.</p>	

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			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<p>participating in various exhibitions of National importance and in Book Fairs. Books on Medicinal Plants are also being brought out.</p> <p><b>G.</b> Process will continue and will be accelerated for strengthening the existing ICMR infrastructure to enable the Institutes/Regional Centres/Units to enable them to handle the challenges of the ongoing epidemiological and demographic transition as emerging and new areas of research. Infrastructural development projects currently underway will be pursued during the year which includes-Building works in NIMS, NIOP and ICMR Hqrs., Diagnostic and animal research complex at NJILOMD; Agra, Hospital complex of ICPO, Science Centre,, Animal House of RMRCT, Jabalpur; Primate Centre of NIRRH, Mumbai ,etc.</p> <p><b>H. Strengthening international cooperation</b> (These will be complementary to the new programme planned in DHR)</p> <ul style="list-style-type: none"> <li>• Financial assistance will be provided to young/senior bio-medical scientists for presenting research papers, chairing Session or delivering a keynote address in international scientific events (conferences/ seminars/ symposia/ workshops).</li> <li>• Financial support will be provided for</li> </ul>	<p>i) 17 ad-hoc projects on various aspects of vector borne diseases like malaria, filarial, Leishmania, JE, dengue and chikungunya were sanctioned.</p> <p>ii) Two Task force studies i.e. on insecticide resistance monitoring and vector biology and bionics of disease causing vectors were initiated.</p> <p>Insecticide impregnated papers for supply to NVBDCP papers have been successfully prepared by VCRC. Validation is in process. VCRC conducted an independent appraisal of the LF elimination programme. The Appraisal was completed and Final Report was reviewed &amp; provided to the Programme.</p> <p>5Tribal Health Research Units funded in various ICMR Institutes.</p> <p>Task Force studies in hemoglobinopathies initiated with NIIH, Mumbai as coordinator.</p> <p>DHR-ICMR Guidelines on diagnosis and management of Rickettsial Infections developed and published.</p> <p>iii) 6 national centres on the common bacterial infections i.e. diarrheogenic, enteric fever, entero-bacteria, gram negative non-fermenters MRSA have been</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<p>organising international conferences in India.</p> <ul style="list-style-type: none"> <li>• Hosting/ Participation in bilateral/multilateral discussions and Joint Working Groups (JWGs) in India and abroad</li> <li>• Supporting Indian component of research studies under bilateral/multilateral programmes with foreign agencies.</li> <li>• Hosting foreign delegations.</li> </ul> <p><b>I. Tribal health</b> Further strengthening and expansion of the programmes of Tribal Health Research Forum and increased research inputs to tackle specific health related issues of the tribal and marginalised population with focus on translation &amp; implementation research.</p> <p><b>J. Human Resources Development</b> Strengthen and expand the Human Resource Development programme by starting specialized training programmes / fellowships in cutting edge areas and operational research, restarting supernumerary cadre to harness new talent.</p> <p><b>K. New research programme</b> New research areas considered for support will includes mental health, CVD,</p>	<p>established.</p> <p>iv) Establishment of web based portal at National Institute of Epidemiology, Chennai for collection, monitoring and analysis of bacterial infection.</p> <p>v) Two new Centres / facilities i.e. data mining of viral infection at NIE, Chennai and training of personnel's on viral diseases at NIV Pune has been established.</p> <p>vi) A task force project on Hospital base Rotavirus Surveillance Network involving 4 referral, 7 regional and 30 peripheral hospitals was initiated to collect monthly clinical data on rotaviral infections.</p> <p>vii) A national facility on Gastrointestinal Tract Pathogen Repository was established at NICED, Kolkatta.</p> <p>viii) A research cum intervention project on multipronged strategy for prevention, case management and rehabilitation measures of AES/ JE has been initiated in Gorakhpur, UP.</p> <p>ix) Based on the findings of multi-centric research project on N. gonorrhoea a surveillance centre has been established to prevent HIV/AIDS and STD.</p> <p>x) Two indigenous laboratory tests</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<p>diabetes, oral health, bone health, transplantation immunology, allergies/immune deficiency disorders etc., disease burden studies on diseases where vaccine can be a potential strategy through among others, a task force approach wherever there are potential promising leads. At the ICMR Hqrs e-office will commence in the proposed year.</p> <p><b>L. New initiatives in HRD</b> Middle age women to re-start their carrier on contract basis at the level of Scientist B or C at different Institutes of ICMR – for maximum of five years – 25 slots per year. Provide financial assistance to the candidates who have not qualified any national exam but registered for Ph.D. on a consolidated amount of Rs.16000/-p.m. (50 slots per year).</p> <p><b>M. Specialised centres</b> Specialised centres are proposed to be set-up in a project mode on zoonoses, pesticides, food safety, clinical research, mental health and other gap areas identified in XII Plan.</p> <p><b>N. Establishment of new Centres</b> Work will be initiated for setting up new centres/field units in deficit and un-served areas including Regional Medical Research centres.</p>	<p>for diagnosis of Tuberculosis (TB) and multi-drug resistance (MDR) TB were developed and taken up for external validation.</p> <p>xi) A bio-safety level 4 (BSL-IV) lab at National Institute of Virology, Pune has been commissioned and evaluated externally to carryout research on highly hazardous viruses like, Nipah, Crimean Congo Hemorrhagic Fever, Hanta, SARS etc.</p> <p><b>Scaling up of Research Programme on Non-Communicable Diseases</b> Young Diabetes Registry will provide information on most prevalent diabetes type, treatment pattern, commonest complication and associated morbidities in young diabetics among the different geographic regions of the country.</p> <p>Consensus Documents on <b>cancer management guidelines</b> under Indian conditions for cancers of Buccal Mucosa, Colorectal, Stomach and Gall Bladder have been formulated .</p> <p>An online data collection and reporting system for Management of</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<p><b>O. Outbreak/Disaster Response</b> A revolving fund will be created to enable ICMR to provide support for research leadership when confronted with outbreaks and other disasters, by developing, acquiring materials and mobilization.</p>	<p>Acute coronary Event (MACE) has been designed and validated in 13 public and private hospitals covering different geographical areas around the country.</p> <p><b>New Research Programme</b> Projects for Autism and Common Mental Disorder with focus on Anxiety and Panic disorder and burden on care givers of severe mental disorders .Project of Chronic Kidney Disease (CKD)will be expanded to two more centres at Kolkatta and Chennai</p> <p><b>Establishment of new Centres</b></p> <p><i>Institute for Research in Ageing</i></p> <p><i>Cell for Climate change and Health</i></p> <p><i>Centre for Advance Research on Paediatric Urology</i></p> <p><b>North East Initiatives</b></p> <p>i) A cohort study on the effect of indoor pollution on mother and children in rural and urban setting has been initiated.</p> <p>ii) Phase II clinical trial with an intravasal injectable mala contraceptive - 'RISUG' is under</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>progress.</p> <p>iii) A Task Force project on identification of causative agent of neonatal sepsis and their anibiogram is under progress.</p> <p>iv) 14 ad-hoc research projects on various aspects of reproductive and child health were sanctioned.</p> <p>i) A scale / index for grading the dental fluorosis developed.</p> <p>ii) 7 projects on malnutrition in identified blocks/ districts were completed.</p> <p>iii) An interventional study to improve health and nutritional status has been initiated in 45 high burden districts.</p> <p>iv) Taskforce studies on childhood obesity celiac disease and non-alcoholic fatty liver disease has been initiated.</p> <p>v) National Nutrition Monitoring Bureau Units were established in Assam, Andaman &amp; Nicobar and Puducherry.</p> <p>Activities continued at 3 Centres for excellence in Molecular Medicine which include- Advanced Program in</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>Basic and Applied Immunogenetics at AIIMS, New Delhi; Centre for Molecular Medicine at SGPGIMS, Lucknow; Centre for Molecular Medicine on "Emerging areas in Molecular Medicine" at JNU, New Delhi; Centre for Advanced Research on Hepatocyte Progenitor Cells, isolation from various sources, characterization expansion and transplantation at Deptt. of Gastroenterology, Stanley Medical College, Chennai and Center for Advanced Research in DNA fingerprinting and diagnostics of Medicinal plants from Eastern and North-Eastern India at Bose Institute, Kolkata in collaboration with Manipur University and Botanical Survey of India, Kolkata.</p> <p>Task Force on lysosomal disorders was initiated.</p> <p>Validation of non codified herbal medicine-a Task Force study was initiated.</p> <p>Task Force on Stem Cell Research, pharmacogenomics and nanomedicine continued.</p> <p>113 adhoc projects and 110 fellowship projects were completed and in different Biomedical Subjects viz. Allergy, Anatomy, anthropology, Biochemistry, Cellular and Molecular Biology, Genomics, Haematology,</p>	

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			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>Human Genetics, Immunology, Nano-Medicine, Organ Transplantation, Pharmacology, Physiology, Stem Cell Research, Traditional Medicine, Toxicology etc. 262 adhoc projects 322 fellowship projects were continued.</p> <p>7- projects prepared under mentor mentee program for advancement of physiological sciences.125 adhoc projects and 98 fellowships were sanctioned in these subjects..</p> <p>Sanctioned 1032 Short Term Studentships projects of undergraduate medical and dental students from 28 States/ UT. Of India.</p> <p>A total number of 996 concept projects and 185 full length projects were evaluated by the division .</p> <p>i) Three New Volumes (Vol. 11-13) of covering monographs on 1100 medicinal plants species with botanical names with alphabet F to K, were published.</p> <p>ii) Quality Standards on 35medicinal plants were developed and monographs were published.</p> <p>iii) Herb drug interaction studied of selected herbs and allopathic drugs for treatment of type-II</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>diabetes, rheumatoid arthritis and epilepsy is under progress.</p> <p>iv) Online submission and evaluation of extra-mural research project in time bound manner is being carried out in ICMR.</p> <p>v) A task Force on the Biomedical Informatics Centres of ICMR (for nine Centres in Phase I) has been established.</p> <p>vi) Publication of Indian Journal of Medical Research (IJMR), Annual Report of ICMR and DHR, books on nutrition and other information Education and communication related activities were continued. IJMR Celebrated Centenary year and to mark the occasion special centenary articles, Review articles and IJMR Classics were brought out.</p> <p>i) ICMR awards 150 Junior Research Fellowships, through competitive examination, and 25 MD-Ph.D. programme every year.</p> <p>ii) Awarded financial support for MD/MS thesis work and Short term Training Scholarships to undergraduate students on merit basis.</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>iii) Supported/organized the international conferences /symposium/ workshops.</p> <p>i) International Health Division has awarded 18 Fellowships to Senior and young Biomedical Scientist for study abroad.</p> <p>ii) Financial assistance to 34 scientists under ICMR-INSERM and ICMR-BMBF collaborative projects was given.</p> <p>iii) 3 Joint Workshops with Norway, UK and Finland were held during the year.</p> <p>iv) 3 Joint Working Group / Joint Steering Committee Meetings were held.</p> <p>v) Two Memorandum of Understandings, between DHR and NICE UK and Addendum-two for GACD at UCL, London were signed.</p> <p>i) 41 projects related to tribals and marginalized populations were sanctioned.</p> <p>ii) Six Tribal Health Centre under Tribal Health Forum has been</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>initiated. New born Screening for Sickle cell Disease was initiated at NIIH, Mumbai.</p> <ul style="list-style-type: none"> <li>• New infra-structural development of the following institutes / Centres were initiated: Tropical Disease Research Centre, Patna, National AIDS Research Institute, Pune, Animal House at RMRCT, Jabalpur, Lab building at National Institute for Occupational Health, Ahmedabad and BSLIII level Lab at NJIL&amp;OMD, Agra.</li> <li>• A bio-safety level 4 (BSL-IV) lab at National Institute of Virology, Pune has been commissioned and evaluated externally to carryout research on highly hazardous viruses like, Nipah, Crimean Congo Hemorrhagic Fever, Hanta, SARS etc.</li> </ul> <p>ICMR is responding to Viral and bacterial outbreaks reported by various states health organization through its 32 Institutes (e.g. NIV, Pune) and other centres / 13 Viral Diagnostic Laboratories.</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
3.	<b>North-Eastern Areas</b>	To oversee the promotion, co-ordination and development of health research in and including specific projects relating to the North-Eastern Areas, through the Indian Council of Medical Research.		<b>72.60</b>	<p>a) To take up schemes for Human Resources Development for Health Research in North East.</p> <p>b) To take up projects for Research including in coordination with other agencies.</p> <p>c) To take up schemes for infrastructure development in Medical Colleges and Model Rural Health Research Units.</p> <p>d) To take up the scheme for managing epidemics and natural calamities</p> <p>e) Development of infrastructure.</p> <p><b>ICMR:</b></p> <p>f) Support to research through Intramural and extramural projects;</p> <p>g) Undertake specific studies and projects specific to and these areas</p>	<p><b>DHR</b></p> <p>(a) 3 Multi- Disciplinary Research Units set up and funds released.</p> <p>(b) 2 Model Health Rural Research Units set up and funds released.</p> <p>(c) 1 Regional level lab and 1 State level labs approved and funds released. (b) Continuation of Implementation of already sanctioned 2 Model Rural Health Research Units in Assam &amp; Tripura.</p> <p>(c) One State level lab approved in Assam and funds released.</p> <p><b>Expenditure : Re-appropriated to relevant heads</b></p> <p><b>ICMR:</b></p> <ul style="list-style-type: none"> <li>▪ Ongoing intramural and extra mural projects will be supported. Fifty one (51) new proposals have been received from Medical Colleges/ Institutes in the NE States for funding.</li> <li>▪ Initiation of new research projects will be taken up as in the past.</li> <li>▪ Initiation of Construction of</li> </ul>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6)	Remarks/Risk Factors
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>Research Units at Guwahati and Agartala.</p> <ul style="list-style-type: none"> <li>▪ A Joint Working Group Meeting between ICMR and DBT to identify new proposals.</li> <li>▪ Other new initiatives include new research centres on Communicable and Non-communicable diseases, health system research, etc.</li> </ul> <p>Expenditure: ₹ 11.75 crores.</p>	
		<b>TOTAL</b>	<b>291.67</b>	<b>726.00</b>			

**REVIEW OF PERFORMANCE 2015-16**  
**(Objectives/Outcomes/Achievements)**  
**CHAPTER -IV**

**Department of Health Research**

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
1.	<b>Secretariat Social Services</b>	To provide policy support and direction for the promotion and co-ordination of basic, applied and clinical research in the country.	<b>08.00</b>	<b>02.00</b>	This estimate is basically for running the administration of the Department. As such the physical outputs cannot be quantified. The budgeted funds are utilized for the items like salaries, wages office expenses etc.	Expenditure: ₹94.50 lakhs under Plan and ₹ 95.35 under Non-Plan.	Payment of rental/property tax and payment of electricity bill amounting to ₹ 6.00 crores is in the pipeline
2.	<b>Medical &amp; Public Health</b>	To initiate/continue implementation of the approved schemes and oversee -  Promotion, co-ordination and development of basic, applied and clinical research  (i) Multidisciplinary Research Units (MRUs) in Govt. medical colleges  (ii) Establishment		<b>40.50</b>         <b>9.00</b>	1. Approving the programme for providing Special support to the Medical Colleges for Health Research focused on Non-Communicable Diseases (NCD)- Establishment of Multidisciplinary Research Units (MRUs)  2. Establishment of Model Rural Health Research Units. <b>Physical Targets:</b> <ul style="list-style-type: none"> <li>• Establishment of 10 MRUs Medical Colleges across the country</li> <li>• Establishment of 3 MRHRUs in the country.</li> </ul>	1. Approval for 21 new Multidisciplinary Research Units (MRUs) in medical colleges. Funds released to 9 MRUs & release of 2 <sup>nd</sup> instalment for 4 already sanctioned MRUs  Expenditure: ₹ 20.51 .crores  2. Release of 2 <sup>nd</sup> instalment for 6 MRHRUs already sanctioned.  Expenditure: ₹ 3.00 crores	Proposals for establishment of three MRHRUs approved by the Technical Evaluation Committee (TEC). Final approval is in the pipeline.

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
		of Model Rural Health Research Units In the States					

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
		(i)Promotion and guidance on research governance issues		2.00	<p>To build mechanisms, systems &amp; administrative structures for improving the research governance in health sector of the country, through the following:</p> <ol style="list-style-type: none"> <li>1. Enactment of an Ethics Bill and the establishment of the National Bioethics Authority</li> <li>2. Enactment of a Bill for Regulation of Assisted Reproductive Technology</li> <li>3. Enactment of a Bill on alternate systems of medicine</li> <li>4. Establishing mechanisms for mapping &amp; accreditation of health research institutions.</li> <li>5. Knowledge Management Policy</li> <li>6. Health Technology Assessment Boards for putting in place the appropriate regulatory authorities and structures to evaluate and recommend technologies, programmes, studies etc. for introduction into the public health.</li> <li>7. National Health Research Policy</li> </ol>	<p>Status of pending Bills are as under:-</p> <ol style="list-style-type: none"> <li>a) Recognition of New Systems of Medicine Bill, 2014. The Cabinet Note for seeking approval of the Cabinet has been sent in December, 2014.</li> <li>b) The Biomedical and Health Research Regulation Bill, 2014. The draft Bill is being finalised in consultation with Ministry of Law and Justice.</li> <li>c) Assisted Reproductive Technology (Regulation) Bill, 2014. Cabinet note is being finalized for approval of Cabinet.</li> </ol> <p>Other areas where there has been tangible progress include the setting up of data repositories on medical and health research for wide public access as part of the national knowledge policy and other areas like Mapping of Health Research Institutions, Knowledge Management Policy, Health Research Policy, etc.</p> <p>Expenditure: Nil</p>	It has been decided that Ministry of Science & Technology being the Nodal Ministry for Accreditation of Research Institutes, this subject should not be handled by the Department of Health Research.

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1	2	3	4	5	6	7	8
		(ii) Inter-sectoral co-ordination in medical, biomedical and health research		28.30	Implementation of the scheme of 'Grant-In-Aid Scheme for Inter -Sectoral Convergence & Coordination for Promotion and Guidance on Health Research' under the following components:	Sanctioned 28 projects at an estimated cost of ₹7.30 crores	
		(iii)Matters relating to scientific societies and associations, charitable and religious endowments in medicine and health research areas		0.00	<ul style="list-style-type: none"> <li>i. Research studies with emphasis on public health</li> <li>ii. Translational Research Projects</li> <li>iii. Joint Projects involving Inter-sectoral co-ordination/partnerships</li> <li>iv. Assessment of comparative/ Cost effectiveness of health technologies for public health choice</li> <li>v. Support for participation in conferences abroad and conduct of national &amp; international seminars &amp; conferences etc.</li> </ul>		
		(iv) Coordination in the field of health research with governments, organization and institutes		0.00	<p><b>Physical Targets:</b> Number of projects will depend upon the receipt / approval of proposals and their budgetary requirements.</p>		
		(i) Advanced training in research in medicine and health (HRD)		7.20	To commence the following programmes: <ul style="list-style-type: none"> <li>•Programme to augment/ create researchers in high focus, high skill areas.</li> <li>•Programme to promote medical research as a career among young scientists and medical students.</li> <li>•Programme to promote research in young and mid-career faculty of</li> </ul>	Sanctioning of 41 Fellows for training in India/abroad. Support to 8 Institutes for imparting training besides 11 start-up grant and 6 support to conference. Expenditure: ₹7.19 crores	

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			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
					<p>medical colleges.</p> <ul style="list-style-type: none"> <li>• Creation of a national initiative in partnership with relevant stakeholders to attract and retain the young to a career in health research and Development of human resource policy with focus on career development scheme for young researchers</li> <li>• Strengthening research through the establishment of online courses and web portal on health research for students, faculty and other researchers</li> </ul> <p><b>Physical targets:</b></p> <p>To provide about 900 fellowships/trainings/ scholarships at the institutions in India and abroad.</p> <p>To provide assistance to 17 domestic medical colleges/ institutions for providing training in the focused areas of research through specially designed courses. However, number of fellowships will depend upon the number of applications received and the availability of funds.</p>		
		(ii) International cooperation in medical and health research		<b>1.00</b>	<ul style="list-style-type: none"> <li>▪ Contributions to international organisations</li> <li>▪ Participation in conferences in India and abroad (Non-ICMR)</li> <li>▪ Organising international conferences in India</li> <li>▪ DHR delegations to international bodies</li> </ul>	Financial assistance was given to six institutions/organisations for holding conferences/workshop in the research fields. Expenditure incurred is ₹9.95 lakh.	

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1	2	3	4	5	6	7	8
					<ul style="list-style-type: none"> <li>▪ Supporting Indian component of research studies under bilateral programmes</li> <li>▪ Hosting foreign delegations</li> </ul>		
		<p>Matter relating to epidemics, natural calamities and development of tools to prevent outbreaks</p> <p>-Establishment of Viral Diagnostic Laboratories (VDL)</p>		40.50	<p>1. Establishing a net-work of laboratories for diagnosis of the viral and other infections ; and</p> <p>2. Setting up of fund for facilitating rapid mobilization during out-breaks/ disaster response (technology component) to infectious disease out-breaks or natural or man-made disaster.</p> <p><b>Physical Targets:</b> Establishment of 3 Regional Labs, 10 State level labs and 40 district level labs in different parts of the country.</p>	<p>Operationalization of sanctioned labs.</p> <p>Proposals approved for 3 Labs, 3 State level labs and 2 Medical College level labs. 16 VDRLs made functional.</p> <p>Expenditure: ₹21.81 crores</p>	Due to less number of proposals received from the States and non-completion of requisite administrative and technical formalities under the scheme guidelines by certain States.
		Indian Council of Medical Research	295.00	511.35	<p>The following important scientific activities received priority during the year:</p> <p><b>A. Translational Programmes</b> Action continued for further development and evaluation of the identified leads in the area of vector borne diseases, hepatitis, diarrhoeal diseases, tuberculosis, leprosy, HIV-AIDS, other sexually transmitted diseases etc. Information on epidemiological aspects of non-communicable diseases (hypertension, diabetes, cancer etc) has been analysed to focus on research to improve their diagnosis and management. Action for the development of twenty of the previously identified seventy five new products/</p>	<p><b>The following are the achievements during 2015-16:-</b></p> <p><b>A. Technologies launched:</b></p> <ul style="list-style-type: none"> <li>• Development of PCR based diagnosis procedure for visceral leishmaniasis from urine Samples- (Non-invasive method): launched on 2<sup>nd</sup> September, 2014</li> <li>• Novel noninvasive method for diagnosis of visceral leishmaniasis by rK39 testing of sputum samples: launched on 2<sup>nd</sup> September, 2014</li> </ul> <p><b>Technologies Ready for Launch</b></p>	

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					<p>technologies from the work carried over in ICMR Institutes/ Centres is being completed during the year to facilitate their movement into production/ implementation stage.</p> <p>Technologies launched include the Development of PCR based diagnosis procedure for visceral leishmaniasis from urine samples and non-invasive method for diagnosis of VL by rk 39 testing of sputum samples.</p> <p>Technologies ready for launch include kit for paragonimiasis, Leptospirosis, diagnosis of chlamydial infection, kit for hormone assays and cooling jacket for persons exposed to hot atmosphere.</p> <p><b>B. Programmes on Health Systems Research and Social &amp; Behavioural Research</b></p> <p>Already initiated projects and progressing satisfactorily will be continued. In addition, some Social and Behavioural Research projects in areas of health will be taken up on various areas including for NE and other Tribal populations in collaboration with ICSSR.</p> <p><b>C. Programmes on reproductive and child health</b></p> <p>Projects on maternal and child health, reproductive tract infections, development of new safe, effective and reversible male and female contraceptives are planned for 2014-15. Adolescent health and</p>	<ul style="list-style-type: none"> <li>• Diagnostic kit for lung fluke disease (paragonimiasis)</li> <li>• Kit for leptospirosis – prevalent in Karnataka, Gujarat, Tamil Nadu and several other states.</li> <li>• Kit for diagnosis of chlamydial infection prevalent in women.</li> <li>• Kits for hormone assays: for various sex hormones useful for reproductive health problems</li> <li>• Cooling jacket for persons exposed to hot atmosphere:</li> <li>• ICMR participated in Festival of Innovation at Rashtrapati Bhawan &amp; displayed its technologies.</li> </ul> <p><b>B. Programmes on Health Systems Research and Social &amp; Behavioural Research</b></p> <p>Projects on Social &amp; Behavioural Research initiated to address implementation issues about various programmes with a focus on access to needy vulnerable groups and marginalized sections were continued and six new projects on gender and health and four other projects were initiated.</p> <p><b>C. Programmes on reproductive and child health</b></p> <p>Projects on maternal and child</p>	

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					<p>reproductive research related issues will continue to get priority.</p> <p><b>D. Programme on communicable diseases</b> Strengthening and expansion of programmes on various communicable and vector borne diseases like JE/ AES, other water borne diseases, drug resistance, rotavirus surveillance, gastrointestinal pathogen repository, leprosy, tuberculosis, and HIV/AIDS will continue.</p> <p><b>E. Programme on non-communicable diseases and basic medical Sciences</b> Further scaling up of research programmes on non-communicable diseases especially diabetes, cardiovascular diseases, stroke, cancer, obesity; mental health, oral health, disability environmental &amp; occupational health, chronic kidney disease etc. Newer areas like genomic and proteomic applications; molecular medicine, stem cell therapy, bioethics, and gender issues pertaining to health are also being taken care off.</p> <p><b>F. Other areas:</b> Efforts are being made to improve the content and production quality of ICMR Publications like ICMR Patrika, Annual Report and IJMR. ICMR is also participating in various exhibitions of National importance and in Book Fairs.</p>	<p>health, reproductive tract infections, development of new safe, effective and reversible male and female contraceptives are planned for 2014-15. Adolescent health and reproductive research related issues will continue to get priority.</p> <p><b>D. Communicable Diseases: Viral Research &amp; Diagnostic Laboratories:</b></p> <ul style="list-style-type: none"> <li>Started as a Task Force Project by ICMR for duration of 5 years.</li> <li>DHR's Cabinet approved scheme on "Establishment of a network of laboratories for managing epidemics and natural calamities"</li> <li><b>New labs funded by DHR :</b> UP Rural Institute of Medical Sciences, Saifai, Uttar Pradesh; SMS Medical College, Jaipur, Rajasthan; Government Medical College, Haldwani, Uttarakhand.</li> </ul> <p><b>New labs approved: State level VRDLs:</b></p> <ul style="list-style-type: none"> <li>Coimbatore Medical College, Coimbatore, Tamil Nadu</li> <li>Gandhi Medical College, Secunderabad, Telangana</li> <li>Institute of Medical Sciences, BHU, Varanasi, Uttar Pradesh</li> </ul>	

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					<p>Books on Medicinal Plants are also being brought out.</p> <p><b>G.</b> Process will continue and will be accelerated for strengthening the existing ICMR infrastructure to enable the Institutes/Regional Centres/Units to enable them to handle the challenges of the ongoing epidemiological and demographic transition as emerging and new areas of research. Infrastructural development projects currently underway will be pursued during the year which includes-Building works in NIMS, NIOP and ICMR Hqrs., Diagnostic and animal research complex at NJILOMD; Agra, Hospital complex of ICPO, Science Centre,, Animal House of RMRCT, Jabalpur; Primate Centre of NIRRH, Mumbai ,etc.</p> <p><b>H. Strengthening international cooperation</b> (These will be complementary to the new programme planned in DHR)</p> <ul style="list-style-type: none"> <li>• Financial assistance will be provided to young/senior bio-medical scientists for presenting research papers, chairing Session or delivering a keynote address in international scientific events (conferences/ seminars/ symposia/ workshops).</li> <li>• Financial support will be provided for organising international conferences in India.</li> <li>• Hosting/ Participation in bilateral/</li> </ul>	<p><b>Medical College Level VRDLs:</b></p> <ul style="list-style-type: none"> <li>• Government Medical College, Anantpur, Andhra Pradesh</li> <li>• Rajeev Gandhi Institute of Medical Sciences, Kadapa, Andhra Pradesh</li> <li>• Hassan Institute of Medical Sciences, Hassan, Karnataka</li> <li>• Kurnool Medical College, Kurnool, Tamil Nadu</li> <li>• Government Mohan Kumaramangalam Medical College, Salem, Tamil Nadu</li> <li>• Tirunelveli Medical College, Tirunelveli, Tamil Nadu</li> <li>• BPS Government Medical College, Sonapat, Haryana</li> <li>• Rajendra Institute of Medical Sciences, Ranchi, Jharkhand</li> <li>• RNT Medical College, Udaipur, Rajasthan</li> <li>• MGM Medical College, Jamshedpur, Jharkhand</li> </ul> <p><b>Total labs established:</b></p> <p>11 ICMR laboratories 33 DHR laboratories</p> <p><b>Regular programmes of ECD:</b></p> <p><b>Major achievements:</b></p> <p>During the year a total of <b>45</b> projects including <b>35</b> fellowship projects have</p>	

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					<p>multilateral discussions and Joint Working Groups (JWGs) in India and abroad</p> <ul style="list-style-type: none"> <li>Supporting Indian component of research studies under bilateral/multilateral programmes with foreign agencies.</li> <li>Hosting foreign delegations.</li> </ul> <p><b>I. Tribal health</b> Further strengthening and expansion of the programmes of Tribal Health Research Forum and increased research inputs to tackle specific health related issues of the tribal and marginalised population with focus on translation &amp; implementation research.</p> <p><b>J. Human Resources Development</b> Strengthen and expand the Human Resource Development programme by starting specialized training programmes / fellowships in cutting edge areas and operational research, restarting supernumerary cadre to harness new talent.</p> <p><b>K. New research programme</b> New research areas considered for support will include mental health, CVD, diabetes, oral health, bone health, transplantation immunology, allergies/immune deficiency disorders etc., disease burden studies on diseases where</p>	<p>been funded in the area of Epidemiology and Communicable Disease Division (ECD). The area wise achievements are given below:</p> <p><b>AMRSN:</b> The surveillance of antimicrobial resistance a National Anti Microbial Resistance Surveillance Network (AMRSN) will be continued during 2015-16 to enable compilation of National Data of AMR at different levels of Health Care.</p> <p><b>Research-cum-Intervention on JE/AES:</b></p> <ul style="list-style-type: none"> <li>Inter-ministerial Research-cum-Intervention (initiated in 2012). Seven ICMR institutes and ICMR VRDL at Manipal were involved in the study:</li> </ul> <p><b>Salient findings:</b></p> <ul style="list-style-type: none"> <li>Low vaccine coverage in Gorakhpur &amp; surrounding areas (36-66%).</li> <li>45% Enteroviruses positivity in stool samples of healthy children in AES endemic pockets of Gorakhpur region of Uttar Pradesh. 74/108 enteroviruses circulated of which 18 viruses were neurotropic.</li> <li>Heavy fecal contamination of water in both shallow and deep</li> </ul>	

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					<p>vaccine can be a potential strategy through among others, a task force approach wherever there are potential promising leads. At the ICMR Hqrs e-office will commence in the proposed year.</p> <p><b>L. New initiatives in HRD</b> Middle age women to re-start their carrier on contract basis at the level of Scientist B or C at different Institutes of ICMR – for maximum of five years – 25 slots per year. Provide financial assistance to the candidates who have not qualified any national exam but registered for Ph.D. on a consolidated amount of Rs.16000/-p.m. (50 slots per year).</p> <p><b>M. Specialised centres</b> Specialised centres are proposed to be set-up in a project mode on zoonoses, pesticides, food safety, clinical research, mental health and other gap areas identified in XII Plan.</p> <p><b>N. Establishment of new Centres</b> Work will be initiated for setting up new centres/field units in deficit and un-served areas including Regional Medical Research centres.</p> <p><b>O. Outbreak/Disaster Response</b> A revolving fund will be created to enable ICMR to provide support for research leadership when confronted with outbreaks and other disasters, by developing,</p>	<p>borewells in this region.</p> <ul style="list-style-type: none"> <li>• High JE seropositivity ~100% in pigs in peak AES/JE season.</li> <li>• Both Indoor and Outdoor resting of vector mosquito <i>Culex quinquefasciatus</i> was found. <i>Culex tritaeniorhynchus</i> also found to be a major vector in this area.</li> </ul> <p><b>Lab Containment of wild polio viruses:</b></p> <ul style="list-style-type: none"> <li>• MoH&amp;FW entrusted ICMR as the Secretariat of the activity.</li> <li>• Phase IIa activities successfully completed.</li> <li>• On 20<sup>th</sup> September 2015 the Global Commission for the Certification of Poliomyelitis Eradication concluded that indigenous wild polio virus type II has been eradicated worldwide.</li> <li>• A National Laboratory Biosafety Assessment Board has been constituted to inspect and audit essential facilities storing wild Poliovirus / potential infectious material.</li> </ul> <p><b>Vector Borne Disease Science Forum (VBDSF):</b> A Vector-borne Disease Science Forum has been established at ICMR with aim to provide a platform to vector-biologists, entomologists, epidemiologists, immunologists</p>	

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					acquiring materials and mobilization.	<p>and other specialists working on vector-borne diseases. During the year a revised Common Protocol for Uniform Evaluation of Public Health Pesticides including Bio-larvicides for use in Vector Control and Standard operating procedure (SOP) for introduction of public health pesticides including biolarvicides in the National Vector Control Programme was developed and is now available in public domain through NVBDCP, ICMR and NCDC websites.</p> <ul style="list-style-type: none"> <li>• Insecticide impregnated papers for supply to NVBDCP have been successfully prepared by VCRC, Pudducherry.</li> <li>• ICMR conducted an independent appraisal of the LF elimination programme in India. ICMR's Vector Control Research Centre developed a protocol for the same.</li> <li>• ICMR'S National Institute of Malaria Research, Delhi in coordination with Municipal Cooperation of Delhi (MCD), detected <i>Aedes</i> breeding in 20 wards of West Delhi.</li> <li>• 9 new projects funded under VBDSF</li> </ul>	

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						<p><b>Tribal:</b> Two new Field units attached with RMRC, Bhubaneswar in tribal dominated areas of Odisha – Kandhmal and Keonjhar have been opened and became functional. It will target operational and health system research activities to increase utilization of the current health programme.</p> <ul style="list-style-type: none"> <li>• Tribal Health Research Units (THRU), have been established in 11 ICMR Institutes to carry out research on important health issues of tribal population in a comprehensive manner.</li> <li>• A multi-centric Task Force study has been initiated to estimate the disease burden of TB in tribal areas and to develop a strategic model to strengthen the existing RNTCP. NIRT, Chennai is the Coordinator of the study and there are six study sites.</li> <li>• <b>Zoonosis:</b> A Joint ICMR-ICAR Panel has been constituted to support activities on zoonotic infections covering both human and animal aspects.</li> <li>• <b>A Task Force on Rickettsial Infections</b> formulated and studies on Hospital based surveillance of Rickettsial</li> </ul>	

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1	2	3	4	5	6	7	8
						<p>Infections in hilly region of North India namely Jammu &amp; Kashmir, Himachal Pradesh and Uttarakhand have been initiated recently .The Guidelines on diagnoses and management of Rickettsial infections formulated and have been put on ICMR Website for wider circulation.viz.</p> <p><b>Tuberculosis</b> : A multicentric prospective cohort study' focusing on childhood TB has been initiated at NIRT, Chennai &amp; NJIL&amp;OMD, Agra.</p> <ul style="list-style-type: none"> <li>• A mycobacterial repository has been established at NJIL&amp;OMD, Agra with linkages with large number of Institutes and Centres in the country.</li> <li>• <b>Task Force on Paratuberculosis:</b> The veterinary component has been funded by ICMR in March, 2015 at 5 veterinary centers. A workshop was organized with all the PIs and staff of veterinary centers and SOPs were finalized</li> <li>• <b>TB Diagnostics</b> :A joint venture of ICMR, MOH&amp;FW &amp; DBT has been initiated to commercialize the indigenous technologies developed by Indian scientists and who approach ICMR/DBT so that an</li> </ul>	

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						<p>affordable diagnostic for TB and MDR-TB is available in the country.</p> <p><b>HIV/AIDS:</b></p> <ul style="list-style-type: none"> <li>• Indo- US Joint Statement on 'Prevention of STDs &amp; HIV/AIDS' between NIH &amp; ICMR is continuing in 3<sup>rd</sup> term.</li> <li>• Under Indo-US collaboration, concept proposals were invited through call from Indian investigators which have been reviewed and meritorious proposals have been shortlisted. An Indo-US workshop was held on Dec. 10-11 wherein the proposals by each investigator was discussed in Groups and inputs were given by the Expert faculty from India &amp; US.</li> <li>• <b>Diarrhoeal disease:</b> The National Surveillance coordinated and funded by ICMR continued using standardized protocols to determine epidemiologic and virological features of rotavirus and rotavirus disease burden through building on and extending expertise of laboratories that are already carrying out epidemiological studies and by adding new hospitals and laboratories in different geographic regions.</li> </ul>	

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1	2	3	4	5	6	7	8
						<ul style="list-style-type: none"> <li>ICMR also funded <b>eight</b> adhoc projects and one TF project on diarrhoeal diseases, These projects included both basic and operational research. Gastrointestinal tract pathogens(GTPR) website has been made similar to website of NCCPF, PGI, Chandigarh</li> </ul> <p><b>Fellowships:</b> In area of ECD, apart from about 171 currently ongoing Fellowship projects (including both Sr. Research Fellows and Research Associates), 10 fellowship projects have been awarded / sanctioned.</p> <p><b>Scaling up of Research Programme on Non-Communicable Diseases</b> Young Diabetes Registry provides information on most prevalent diabetes type, treatment pattern, and commonest complication and associated morbidities in young diabetics among the different geographic regions of the country. The programme has been scaled up to phase II with revised objectives.</p>	

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						<p>Determine the prevalence of diabetes and pre-diabetes in India by conducting a nationwide study (INDIAB) on a representative sample of India in eight states of North East and remaining states of India.</p> <p>The ICMR is in process of publishing consensus document on management of various cancer sites based on review of published literature available nationally and internationally. Consensus documents on management of buccal mucosa, stomach and colorectal cancer are published.</p> <p><b>Cardiovascular Diseases</b> An online data collection and reporting system is being used to collect data from 11 public and private hospitals covering different geographical areas around the country as part of a pilot study on Management of Acute Coronary Event (MACE) Registry. A protocol for school based intervention study for reducing risk for CVD is under review</p> <p><b>Neurology</b> Urban population based stroke registry models has been developed at Ludhiana. The rural Bangalore stroke registry through PHC and</p>	

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1	2	3	4	5	6	7	8
						<p>CHC model is ongoing. Neuropsychological batteries for are being developed and validated by 4 centres. These batteries are in 5 different languages and for literate and illiterate population.</p> <p>A Centre for Advanced Research for Innovations in Mental Health and Neurosciences: Manpower Development and Translational Research at NIMHANS, Bangalore has been initiated.</p> <p>Hands-on skills training and interactive virtual training modules (web based, tele-education and virtual simulation) for neurosurgical skills are being developed.</p> <p><b>Chronic Kidney Disease</b></p> <p>Project of Chronic Kidney Disease (CKD)is continuing at 8 centres .The pilot study at the centres has been carried out at all centres.</p> <p><b>NMD</b></p> <p>Mitochondrial Respiratory chain disorders– Proteomic analysis of Complex I and IV deficiencies &amp; project on “Dysferlinopathies– Biochemical, Morphological and Proteomic analysis” are due for sanctioning</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p><b>Environment</b> A multicentric project to assess the Health effects of Pesticides will be initiated.</p> <p><b>Geriatrics</b> A multicentric project on assessment of nutritional status in elderly and access to health care facilities proposed to be initiated in 2014-15</p> <p><b>Trauma and Injuries</b> A multicentric study on registry for injury shock and emergencies proposed to be initiated</p> <p>Burden of non communicable diseases and associated risk factors : A project submitted to MOHFW for funding</p> <p><b>L.Establishment of new Centres</b> Institute for Research in Ageing: The EFC document is being prepared for a joint partnership with DST and Govt of Kerala in Wayanad.in the revised format. Cell for Climate change and Health is proposed at National Institute of Malaria Research, New Delhi.</p> <p><b>Neuro-Muscular Disorder (NMD)</b> Centre for Advanced Research on Neuro-Muscular Disorder &amp; Registry Muscle Bank has been reviewed</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>and is due for sanctioning</p> <p>Proposal for Centre for Advance Research on Paediatric Urology is under re- review in view of reduction of budget.</p> <p><b>North East Initiatives</b> Assessment of Noncommunicable Diseases and their risk factors in Tribal areas of North East will be initiated</p> <p><b>Obesity &amp; Metabolic syndrome</b> A. To determine temporal changes in body composition in normal (appropriate for gestation age, AGA) and undernourished (small for gestational age, SGA) babies during the first year of life and correlate with metabolic complications</p> <p><b>Gastroenterology</b> A. Development of guidelines for diagnosis and management of Celiac Disease B. Nonalcoholic Fatty Liver Disease: 4 ongoing projects to be continued funding. 1 new project under approval</p> <p><b>Basic Medical Sciences</b></p> <ul style="list-style-type: none"> <li>Continuation of ongoing Molecular Medicine Centres Advanced Centres of Research,</li> </ul>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>Task Force Projects, Adhoc schemes and Fellowships in various research institutions, universities of the country in different Biomedical Subjects viz. Allergy, Anatomy, Anthropology, Biochemistry, Cellular and Molecular Biology, Genomics, Haematology, Human Genetics, Immunology, Nano-Medicine, Organ Transplantation, Pharmacology, Physiology, Stem Cell Research, Traditional Medicine, Toxicology etc. and validation of non-codified traditional formulations.</p> <p>Efforts are being made to improve the content and production quality of ICMR Publications like ICMR Patrika, Annual Report and IJMR. ICMR is also participating in various exhibitions of National importance and in Book Fairs. Books on Medicinal Plants are also being brought out.</p> <p>Process will continue and will be accelerated for strengthening the existing ICMR infrastructure to enable the Institutes/Regional Centres/Units to enable them to handle the challenges of the ongoing epidemiological and demographic transition as emerging and new</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>areas of research. Infrastructural development projects currently underway will be pursued during the year which includes- Building works in NIMS, NIOP and ICMR Hqrs., Diagnostic and animal research complex at NJILOMD; Agra, Hospital complex of ICPO, Science Centre,, Animal House of RMRCT, Jabalpur; Primate Centre of NIRRH, Mumbai ,etc.</p> <p>(These will be complementary to the new programme planned in DHR)</p> <ul style="list-style-type: none"> <li>• Financial assistance will be provided to young/senior bio-medical scientists for presenting research papers, chairing Session or delivering a keynote address in international scientific events (conferences/ seminars/ symposia/ workshops).</li> <li>• Financial support will be provided for organising international conferences in India.</li> <li>• Hosting/ Participation in bilateral/ multilateral discussions and Joint Working Groups (JWGs) in India and abroad</li> <li>• Supporting Indian component of research studies under bilateral/multilateral programmes with foreign agencies.</li> <li>• Hosting foreign delegations.</li> </ul>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p>Further strengthening and expansion of the programmes of Tribal Health Research Forum and increased research inputs to tackle specific health related issues of the tribal and marginalised population with focus on translation &amp; implementation research.</p> <p>Strengthen and expand the Human Resource Development programme by starting specialized training programmes / fellowships in cutting edge areas and operational research, restarting supernumerary cadre to harness new talent.</p> <p>Work will be initiated for setting up new centres/field units in deficit and un-served areas including Regional Medical Research centres.</p>	
3.	<b>North-Eastern Areas</b>	To oversee the promotion, co-ordination and development of health research		55.71	<p>h) To take up schemes for Human Resources Development for Health Research in North East.</p> <p>i) To take up projects for Research including in coordination with other</p>	<p><b>DHR</b></p> <p>(a) One Multi- Disciplinary Research Unit approved for Assam and release of funds under process.</p> <p>(b) Continuation of Implementation of</p>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (₹ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
		in and including specific projects relating to the North-Eastern Areas, through the Indian Council of Medical Research.			<p>agencies.</p> <p>j) To take up schemes for infrastructure development in Medical Colleges and Model Rural Health Research Units.</p> <p>k) To take up the scheme for managing epidemics and natural calamities</p> <p>l) Development of infrastructure.</p> <p><b>ICMR:</b></p> <p>m) Support to research through Intramural and extramural projects;</p> <p>n) Undertake specific studies and projects specific to and these areas</p>	<p>already sanctioned 2 Model Rural Health Research Units in Assam &amp; Tripura.</p> <p>(c) One State level lab approved in Assam and funds released.</p> <p>(d) 9 fellowships approved at a cost of Rs. 66.00 lakhs.</p> <p><b>Expenditure Booked under relevant heads of schemes through re-appropriation.</b></p> <p><b>ICMR:</b></p> <ul style="list-style-type: none"> <li>▪ Ongoing intramural and extra mural projects will be supported. Fifty one (51) new proposals have been received from Medical Colleges/ Institutes in the NE States for funding.</li> <li>▪ Initiation of new research projects will be taken up as in the past.</li> <li>▪ Initiation of Construction of Research Units at Guwahati and Agartala.</li> <li>▪ A Joint Working Group Meeting between ICMR and DBT to identify new proposals.</li> <li>▪ Other new initiatives include new research centres on Communicable and Non-communicable diseases, health system research, etc.</li> </ul>	

SI No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2015-16 (□ crore)		Quantifiable Deliverables (Targets)	Achievements w.r.t. column (6) (As on 31 <sup>st</sup> December, 2015)	Remarks/Risk Factors, if any
			Non-plan Budget	Plan Budget			
1	2	3	4	5	6	7	8
						<p><b>North-East Studies (ECD):</b> To give further thrust and to enhance the research in the Communicable Diseases in North-East Region, after two rounds of call for proposals put up on ICMR's website, to conduct translational research and to cater to the problems of NE, out of 35 shortlisted for full-fledged proposals, while 6 studies were initiated during 2014-15, 4 projects have been initiated in the beginning of the current financial year (2015-16),</p>	
		<b>TOTAL</b>	<b>305.00</b>	<b>713.17</b>			

CHAPTER – V

FINANCIAL REVIEW (outlays)

DEPARTMENT OF HEALTH RESEARCH

Year wise approved Plan Outlay and Expenditure 2014-15 and 2015-16

(□ in crores)

Head	BE 2013-14	RE 2013-14	2013-14 Actual expendi ture	BE 2014-15	RE 2014-15	2014-15 Actual expenditure	BE 2015-16	RE 2015-16	Actual expenditure upto 31 <sup>st</sup> December, 2015	BE 2016-17
<b>Plan</b>	726.00	575.00	569.62	726.00	610.00	590.65	713.17	667.60	583.21	750.00
<b>Non-Plan</b>	282.00	305.56	304.46	291.67	322.00	320.13	305.00	345.00	295.95	394.80
<b>Total</b>	<b>1008.00</b>	<b>880.56</b>	<b>874.08</b>	<b>1017.67</b>	<b>932.00</b>	<b>910.78</b>	<b>1018.17</b>	<b>1012.60</b>	<b>879.16</b>	<b>1144.80</b>

(In crores)

Central Sector Schemes						
Name of the Scheme	2014-15			2015-16		
	BE	RE	Expenditure	BE	RE	Expr. Upto Dec'15
Department of Health Research –Sectt Expenditure	5.00	1.50	1.24	2.00	2.00	0.95
Multi-Disciplinary Research Units (MRUs)	80.00	31.00	31.00	45.50	28.00	20.51
Model Rural Health Research Units (MRHRUs)	20.00	13.00	13.00	10.00	6.50	3.00
Human Resource Development for Health Research(HRD)	19.00	5.00	4.98	8.00	10.00	7.19
Grant-in-aid Scheme for inter- Sectoral Convergence and Coordination for promotion of Health Research	34.00	23.90	23.26	32.50	16.10	7.30
Establishment of Network of Laboratories for Managing Epidemics and Natural Calamities	35.00	30.00	30.00	46.00	47.46	21.81
International Cooperation	2.00	0.60	0.43	1.00	0.80	0.10
ICMR	531.00	505.00	486.74	568.17	556.74	522.35
<b>Total</b>	<b>726.00</b>	<b>610.00</b>	<b>590.65</b>	<b>713.17</b>	<b>667.60</b>	<b>583.21</b>

## Reasons for Normal savings, under/ Non-utilisation and surrenders on Department of Health Research Schemes during the year 2014-15 (Central Sector Schemes).

S. No.	Name of the Scheme	Savings/unspent balance/Surrenders during the year 2014-15			Total (□ in crores).	
		Normal savings	Non-utilisation	Surrenders		
1	2	3(i)	3(ii)	3(iii)	4	
1	<b>Secretariat-Social Services</b>	Non-filling up of the vacant posts, delay in receipt of bill for payment of property tax of the office accommodation hired from Red Cross Society of India. Non-finalization of the requirements of the Computers for the office. Salaries in respect of regular staff in the Department were paid through Department of Health and Family Welfare, the cadre controlling			3.76	
2	<b>Human Resource Development for Health Research</b> (Advanced Training in research in medicine and health)		Scheme could be approved at the end of March, 2014. Reduction of allocation at RE stage.		14.02	
3	<b>Grant-in-aid Scheme for inter-sectoral convergence &amp; promotion and guidance on research governance issues</b>		Scheme could be approved at the end of February, 2014. Reduction of allocation at RE stage.		5.74	
	Inter-sectoral coordination in medical, biomedical and health research					3.00
	Promotion & guidance on research governance issues.					1.00
	Matters relating to scientific societies and associations, charitable and religious endowments in medicine and health research.					

	Coordination with Governments/organizations				<b>1.00</b>
<b>4</b>	<b>Managing epidemics and national calamities</b>  Matters relating to epidemics, natural calamities and development of tools to prevent outbreaks		Reduction of allocation under the scheme at RE stage		<b>5.00</b>
<b>5</b>	<b>Development of infrastructure for promotion of health research</b>  Promotion, coordination and development of basic, applied and clinical research		Reduction of allocation under the scheme at RE stage.		<b>56.00</b>
	International cooperation in medical and health research		Due to holding of less number of conferences in India and abroad.		<b>1.57</b>
<b>6</b>	Indian Council of Medical Research(ICMR)		Saving was due to cut imposed by Ministry of Finance at the revised estimates stage.		<b>44.26</b>
	Total				<b>135.35</b>

CHAPTER – VI

AUTONOMOUS BODIES

INDIAN COUNCIL OF MEDICAL RESEARCH

1 Year of Establishment: 1911

2. Status of Scheme: Autonomous Body

3. Objective: To undertake and support basic, epidemiological, applied and operational research in the areas of national public health importance using tools including those of modern biology.

□ in Crores

Objective and Outcome	Projects in hand	Sanctioned Cost 2014-15	Scheduled date of completion	Cumulative expenditure during 2014-15	Expenditure planned in 2015-16	Present status	Risk/Remarks
Major component of research is basic and fundamental research leading to generation of new knowledge, a better understanding of biology of the disease process, insight into mechanisms of action or determinants and antecedents of risky behaviour.	Intramural & Extramural research Normal basic and fundamental research as part of the normal activities of the Institutes/ Centres/ Offices of the Council.  Intra-mural - 426 Extramural- 1813	Budget Grant (BE) □ 531.00  Sanctioned (RE) □ 505.00  Grant Received Rs. 486.74 Cr.	March, 2015	Intramural - □ 347.37 Extramural – □ 180.13  <b>Total: □ 527.50</b>  * □ 4.60 cr. met out of Unspent Balance for the year carried over the year and □ 36.16 cr. met out of Misc. Reseipt of ICMR accumulated over the years.	Budget Grant (BE) □ 568.17  Sanctioned (RE) □  <b><u>Expenditure upto Dec.2015</u></b>  Intramural - □ 273.84 Extramural - □ 159.43 <b>Total - □ 433.27</b>		