

## Other Health Institutions

### 16.1 ALL INDIA INSTITUTE OF PHYSICAL MEDICINE AND REHABILITATION (AIIPMR), MUMBAI

#### Introduction

All India Institute of Physical Medicine and Rehabilitation, established in 1955 as a Pilot Project with technical expertise and manpower support from United Nations Organization, came under the administrative control of the MoHFW, Government of India in 1959.

This apex Institute of MoHFW in the field of Physical Medicine and Rehabilitation is well recognized for its commitment to provide comprehensive rehabilitation services to persons with severe and permanent locomotor disabilities.

Along with this the Institute runs training courses, most of them Post Graduate level, in Physical Medicine & Rehabilitation and allied rehabilitation fields. The Institute is actively involved in disability rehabilitation related research work

and is recognized by Department of Science and Technology (DST), Govt. of India as a research institute.

#### Vision

To actualize the potential of every person with locomotor disability, to ensure for him/her equal opportunities, protection of rights and full participation in the society.

#### Facilities

The Institute is one of the best equipped rehabilitation centres in India. It provides comprehensive rehabilitation services to Persons with Disability (PWDs) with departments that include: Physical Medicine & Rehabilitation, Radiology, Pathology, Anaesthesiology, Physiotherapy, Occupational therapy, Prosthetic & Orthotic, Speech Therapy, Medical Social Work, Vocational Guidance, Academic section with E-library, Vocational Training, Administrative and Hindi department.

#### 16.1.2 Annual Statistics (January, 2018 – March, 2019)

1.	No. of PWD (Assessed & Intervened)	OPD	P. Th.	O. Th.	Radiology	Pathology	Speech
		44289	22448	14881	No. of patients X-rayed - 6764 Total No. X-rays-7441 No. of US done-1700	Average No. of investigation per day-84 No. of investigation done-28292	2300
2.	No. of Certificates issued	Disability Certificates		Driving Certificates		Railway Cert.	Other Cert.
		521		889		1062	158
3.	Surgeries performed (Major & Minor)	Major		Minor		Minor OT Procedures	
		687		3023		1488	
4.	No. of Aids & Appliances delivered	Orthoses		Prostheses		Hand Splints	
		3168		832		600	

5.	<b>Clinics</b>	<b>P &amp; O Clinic</b>	<b>CP Clinic</b>	<b>Diabetic Foot Clinic</b>	<b>Case Conference</b>	<b>Obesity clinic</b>
		695	436	38	35	75
6.	<b>VTW deptt.</b>	<b>No. of PWDs assisted for training &amp; employment</b>		<b>Fabrication of Mobility aids and seating devices</b>		
		28		63		
7.	<b>MSW deptt.</b>	<b>No. of PWDs given financial assistance and ambulatory aids</b>		<b>Peer counselling and other training activities conducted</b>		
		170		1627		

### 16.1.3 Augmentation of Capacity

#### A. Administration

E-governance activities as per Government mandate

- Installation of Health Information Portal Kiosks
- Partial implementation of e-office

#### B. Department of Physical Medicine and Rehabilitation

New equipment and introduction of corresponding Services/Clinic.

- Radio frequency Ablation Machine.
- C-Arm Compatible Table.
- Body Composition Analyzer.
- Ward Expansion adding 7 more beds.

#### C. Physiotherapy Department

New services launched in the department:

- Physical rehabilitation of persons with stroke using functional electrical stimulation.
- Semi-recumbent elliptical cycle for geriatric rehabilitation.
- Installation of Advance Combination Therapy with EMG Bio-feedback Unit.

#### D. Prosthetic & Orthotic Department

Patient care services and fabrication of appliances were improved by the addition of following equipment:

- Procurement of heads and accessories for socket router machines.
- Trans-Tibial Prosthesis Kit with coupling type socket adapter, torsion and telescopic pylon and articulated foot with integrated pyramid.
- Trans-Radial Myoelectric Prosthesis.

#### E. Occupational Therapy Department

- Improvement in driving assessment using driving simulator. Driving simulator has advantages over road test. It is to assess disabled drivers who are referred by road transport authority.
- Pressure Mapping System - this system enables patients in understanding the pressure areas as there is a visual feedback given by the system.
- Standing wheelchair to improve skin health, to promote bladder emptying, reduce spasticity, joint contractures and improves bone mineral density. It facilitates environmental access and improve ADL function such as use of public toilet, promotes access to food preparation including grocery shopping, cooking, reaching items in kitchen and refrigerator.

## F. Speech Therapy Department

- Installation of computerised system for clinical assessment of voice along with EEG

## G. In-service Training

As a part of capacity building activities, staff of Institute were sent on various administrative and academic training programmes status is as follows:

In-service Training for Medical and Paramedical	Hindi Training	Administrative Training
01	01	08

### 16.1.4 Research and Development

#### • Occupational Therapy Department

- a) A descriptive and comparative study analyzing the performance of typically developing Indian children on motor free visual perceptual test - 4.
- b) A study to compare handwriting components and to identify the common errors noticed in

children from different schools of medicine

- c) Effectiveness of home based occupational therapy on shoulder functioning and pain in long term manual wheelchair users.
  - d) Comparison of handwriting performance in children with developmental disability with typically developing children on Evaluation Tool of Children's Handwriting (ECTH).
  - e) To compare the effect of visual perceptual training using transfer of training approach vs. functional approach in school going Cerebral Palsy children.
  - f) To find the effectiveness of occupational therapy intervention in managing childhood obesity in Indian Children aged 5-12 years.
  - g) A comparative study to determine the efficacy of hand arm by manual intensive therapy (HAMIT) and conventional Occupational Therapy in children with Cerebral Palsy.
- Physical Medicine & Rehabilitation Research

Completed	Ongoing
Effect of lateral single bar knee orthoses in correction of Genu Varum in Nutritional Rickets.	Evaluation of sexual dysfunction in spinal cord injured Men.
A comparative study of effect of intra-articular steroid vs USG guided Saphenous Nerve Block on pain & functional improvement in osteoarthritis of knee.	Efficacy and safety of USG guided Saphenous Nerve Block in patients with OA knee.
Study of Median Nerve compression in independent manual wheel chair users with spinal cord injury using ultrasonography.	Distribution of trigger points in Impingement Syndrome.
	Effect of stroke rehabilitation on caregivers in terms of care giving burdened & quality of life.
	Comparative study of lung function using spirometry in children with and without cerebral palsy.
	A prospective study of effect of common lower extremity surgeries followed by splintage and exercised on spasticity in patients with spastic diplegic cerebral palsy.
	A study of prevalence of hip subluxation in spastic cerebral palsy non ambulatory patients and its correlation with spasticity in hip flexor and adductor group of muscles.

- **Physiotherapy Department**

Sl. No.	Areas of Research	No. of Studies
1.	Observational and interventional studies in adults and elderly	2 studies
2.	Observational studies of autonomic function, electro physiological assessment, trunk muscle strength, proprioception and trunk balance, Balance Performance and Gait, activity limitation and participation restriction in Type II Diabetic Mellitus	6 studies
3.	Observational and interventional studies in children with cerebral palsy	7 studies
4.	Observational and interventional studies in musculoskeletal conditions	6 studies
5.	Observational and interventional studies stroke rehabilitation	10 studies
6.	Observational and interventional studies in rehabilitation of persons with spinal cord injury	2 studies

- **Prosthetic & Orthotic Department**

Sl. No.	Name of Project
1.	Multi-Functional Knee Orthosis
2.	Double Action Spring Loaded Ankle Joint
3.	Sports Prosthesis for Patients Having Undergone Rotation-Plasty Surgery
4.	Trans-Radial Audio Control Prosthesis
5.	Forearm Rotation Orthosis with Supination Pronation Assist
6.	Juvenile Adjustable Knee Orthosis
7.	Modified Patellar Tendon Bearing (PTB) Orthosis
8.	Dynamic Pylon Foot Assembly
9.	Syme's Ortho-Prosthesis with Gait Assistance
10.	Crawling Brace for Child with CTEV
11.	Compression Release and Stabilized Socket and Casting Apparatus for the Same
12.	Total Contact Modified Sitting Orthosis for Children
13.	Off Loading CROW Orthosis for Diabetic Foot Ulcer
14.	Flexible Scoliosis Brace
15.	Height Adjustable KAFO
16.	Comparative Analysis Between Rotationplasty Prosthesis Made with Foot in Full Plantar Flexion And Foot In 10 Degrees Short Of Full Plantar Flexion.
17.	Design of Appropriate Prosthesis for Patient with Elbow Disarticulation Amputation
18.	Comparative Study of Gait in Trans-Femoral Amputees using Single Axis Weight Activated Prosthetic Knee Joint vs Single Axis Prosthetic Knee Joint with Swing Phase Control
19.	Weight Relieving AFO

Sl. No.	Name of Project
20.	Kyphotic Brace with Height and Pressure Adjustment
21.	*Orthotic Management of AGMC: A Case Study
22.	Dynamic Brace with Extension Control for Spine
23.	Dual Axis Hip Joint
24.	Outside Locking & Unlocking Elbow Joint
25.	Adjustable Cranial Protection Helmet
26.	Low Cost Paediatric Prosthetic Knee Joint
27.	Low Cost Energy Return Trans-Tibial Prosthesis with Interchangeable Pylon for Running and Walking
28.	Volume Adjustable Trans-Tibial Prosthesis
29.	New Reverse Knuckle Bender Splint
30.	Lightweight Prosthetic Elbow Joint with Lock
31.	Weight Activated Hydraulic Prosthetic Hip Joint
32.	Lyon Scoliosis Brace for Idiopathic Scoliosis
33.	Development of a Prosthetic Shoulder Joint
34.	Modified Syme's Prosthesis
35.	Casting Frame for Compression Release and Stabilized (CRS) Socket
36.	Sports Prosthesis for Patient Suffering from TibialHemimelia
37.	Waterproof Trans-Tibial Prosthesis
38.	A study on the Efficacy of Custom Moulded Insoles in Reducing Peak Plantar Pressure and Improving the Gait Parameters in Diabetic Patients

• **Scientific Research, Publications & Presentations**

Sr. No.	Department	Staff Guided Research				
		Papers Presented	Papers Published	Dissertation Completed	Invited Lecturers	Conference / Workshop / Seminars / Attended
1	Medical	08	03	01	--	Conf.- 11 W/s -01
	a) PMR b) Radiology	01	01		--	
2	Physiotherapy Department	09	02	06	02	Conf.- 05 W/s-08
3	Occupational Therapy	--	01	03	--	Conf.- 01 W/s - 01
4	Prosthetic & Orthotic	10	--	38	--	Conf.- 04 W/s - 02

• **Conferences, CRE Workshops held at this Institute**

Sr. No.	Activities	Duration
(i)	CRE on fabrication and fitment of Myoelectric Trans-Radial Prostheses	3 <sup>rd</sup> – 4 <sup>th</sup> February, 2018
(ii)	Advancement in orthotic management of Diabetic Foot	17 <sup>th</sup> – 18 <sup>th</sup> March, 2018
(iii)	Surgical workshop in rehabilitation	12 <sup>th</sup> -17 <sup>th</sup> November, 2018
(iv)	Workshop on driver rehabilitation	10 <sup>th</sup> March, 2018 & 29 <sup>th</sup> September, 2018
(v)	Workshop on neuro-developmental kinesiology	14 <sup>th</sup> October, 2018
(vi)	Corrective surgeries in rehabilitation and urodynamic Study	17 <sup>th</sup> January, 2019

**16.1.5 Implementation of Right to Information Act. (RTI)**

Institute is responding to information sought by the applicants. Nominated Central Public Information Officer (CPIO) duly assisted by the committee members provides such information.

RTI applications received – 23

RTI applications replied – 21

RTI applications rejected – 01

RTI applications pending – 01

**16.1.6 Data of Person with disabilities in the Institute**

	Staff Strength	No. of PWD's employed	% of PWDs
Group 'A'	50	02	4%
Group 'B'	59	00	0%
Group 'C'	166	08	4.82%
<b>Total</b>	<b>275</b>	<b>10</b>	<b>3.64%</b>

No PWDs have been appointed during 2018-19.

**16.1.8 Gender issues**

Female members are included in selection committee for recruitment and academic courses. All the special facilities admissible to lady employees are provided by the Institute. A sexual harassment committee is constituted with a senior

lady officer as chairperson.

**16.1.9 Visitors**

- Dr. B. D. Athani, DGHS, visited on 24.02.2018.
- Shri Ashwini Kumar Choubey, Hon'ble Minister of State for Health & Family Welfare on 05.07.2018.
- Dr. S. Venkatesh, DGHS, visited on 06.07.2018.

**16.1.10 Other activities of staff and students**

**Hindi Department**

- Hindi Pakhawada celebration by staff and students in September, 2018.
- "SAMARTHYA" Institute's 7<sup>th</sup> in-house publication in hindi was released on 1st November, 2018.
- Under Hindi Teaching Scheme, batch of 20 students passed different examinations.

**Other activities**

Swacchata Pakhwada, International Yoga day, Vigilance Awareness Week, Communal Harmony Week, Unity Day, Constitution Day, World Physiotherapy Day, World Occupational Therapy Day, World Autism Day and International Day of Persons with disabilities were celebrated by staff & students.



## Prosthetic & Orthotic Department



*Panorama Helmet*



*Panorama Sports Prosthesis*



*Panorama Paediatric Knee joint Panorama Paediatric Knee joint*



## Physiotherapy Department



*Semi-recumbent elliptical cycle Functional Electrical Stimulation*



### 16.2 ALL INDIA INSTITUTE OF SPEECH AND HEARING (AIISH), MYSORE

#### Introduction

The All India Institute of Speech and Hearing (AIISH) is a leading higher educational institution in the country pertaining to communication and its disorders. It was started in the year 1965 as an autonomous organization under the MoHFW, Govt.

of India. Currently, the Institute offers various diploma, graduate, post-graduate, post-graduate diploma, doctoral and post-doctoral programs in the area of speech and hearing and allied fields, conducts basic, applied and clinical research to find solutions to the challenges of communication disorders, renders clinical services for the persons with communication disorders and provides public education on various aspects of communication disorders.

The major activities carried out by the Institute from 1<sup>st</sup> January, 2018 to 31<sup>st</sup> March, 2019 are given below:

### Learning and Teaching

The Institute offered 16 long-term academic programmes ranging from post-doctoral to certificate during the period. Admissions to the Bachelor of Speech-Language Pathology, M.Sc. (Audiology) and M.Sc. (Speech-Language Pathology) programmes were conducted through national level entrance examinations. In addition to the long-term training programmes, the Institute conducted 261 short-term training/orientation programmes and 35 workshops / seminars. Also, journal club, clinical conference presentations and student enrichment and expansion of knowledge (Seek-Gyan) programs were held for the students. In addition, activities such as guest lectures on various topics by eminent personalities and departmental peer evaluations conducted. The eminent faculty members and staff of the Institute delivered a total number of 134 invited talks on the areas of their expertise on various occasions both inside and outside the Institute.

The existing internet browsing centre was expanded and upgraded with advanced facilities to serve as a common computer centre for the entire Institute during the period.

### Research

The Institute promoted research related to communication and its disorders by giving special emphasis to clinically relevant applied research on causes, control and prevention of communication disorders, assessment and treatment issues as well as the testing and refinement of new technologies for the speech and hearing impairment. 98 funded research projects regarding communication and its disorders were progressing in different departments of the Institute during the period. In total, 128 scientific papers were published in various national and international journals, 225

scientific presentations were made in international and national scientific conferences and 27 books/ book chapters were written by the Institute academic community during the reporting period.

### Clinical Care

Clinical evaluation for communication disorders was offered for the clients across the country and abroad and a total number of 26865 persons availed the facility during the period. A wide range of rehabilitation services were provided for the persons identified with speech, language and hearing disorders, psychological and otorhinolaryngological disorders related to communication disorders.

Clinical Services	No. of Clients	Therapy Sessions/ Surgery
Speech and language assessment	8457	29242
Hearing evaluation/ listening training	20402- evaluated	15537- underwent training
Hearing aids	8296- evaluated	829- hearing aids distributed

### Public Education and Outreach Services

The Institute carried out various public education and outreach activities for the early identification and prevention of communication disorders during the reporting period. The major ones are given below:

- Opening of 3 newborn screen centres and 1 outreach service centre at Kings George Medical Hospital, Lucknow, Jawahar Lal Nehru Medical College and Hospital, Bhagalpur and Gulbarga Institute of Medical Sciences, Kalburgi.
- Organization of 28 communication disorders screening camps in various localities in



which 2000 persons were evaluated and provided therapeutic services.

- c. Clinical evaluation of 304 employees for hearing disorders as a part of Industrial Screening program.
- d. Neonatal and pediatric screening of 91177 kids at 19 hospitals/ immunization centres in Mysore, 7 outreach service centers in Karnataka, and 8 newborn screening centres of the Institute at different parts of the country.
- e. Speech and hearing diagnostic and therapeutic services for 2127 clients at the seven AIISH outreach service centres in Karnataka.
- f. 148 public lectures by the experts on various issues in disabilities to create awareness among the public benefitting, 6171 persons.
- g. Screening of 5763 students from 86 schools for communication disorders.
- h. Screening of 185 elders for communication disorders.
- i. Tele-diagnostic and rehabilitation for 303 clients in 1897 sessions.
- j. Preparation and distribution of communication disorders related public education materials like manuals, brochures and pamphlets both in print and electronic formats.

### Other Activities and Events

The other activities and events during the period include the observation of Swachh Bharat fortnight from 1<sup>st</sup> to 15<sup>th</sup> April, 2018, Pre-School Graduation Day on 27<sup>th</sup> April, 2018, one-month summer camp for the children with special needs in May 2018, celebration of the 53<sup>rd</sup> Institute Annual Day on 9<sup>th</sup> August, 2018, International Workshop on Speech Processing for Voice, Speech and Hearing Disorders (WSPD-2018), a satellite event of inter

speech 2018 on 8<sup>th</sup> and 9<sup>th</sup> September, 2018, Swachhta-hi-Sewa activities from 15<sup>th</sup> September to 2<sup>nd</sup> October, 2018, Free Hearing Aid Repair Camp from 26<sup>th</sup> to 30<sup>th</sup> November, 2018, Graduation Day on 17<sup>th</sup> December, 2018, International Day for Persons with Disabilities on 26<sup>th</sup> December, 2018, Celebration of the World Hearing Day from 4<sup>th</sup> to 6<sup>th</sup> March, 2019 and AIISH AAWAAZ, the annual cultural event from 16<sup>th</sup> and 17<sup>th</sup> March, 2019.

### 16.3 ALL INDIA INSTITUTE OF HYGIENE & PUBLIC HEALTH (AIH&PH), KOLKATA

AIH&PH, Kolkata established on 30<sup>th</sup> December, 1932 is a pioneer institute of its kind dedicated to teaching, training, and research in various disciplines of public health and allied sciences. The teaching, training, and research at AIH&PH have the unique support of its field laboratories viz. Urban Health Unit & Training Centre, Chetla and Rural Health Unit & Training Centre, Singur. Institute recently celebrated its 87<sup>th</sup> Foundation Day.

The regular courses conducted by the Institute are as follows:

- **MCI Recognised Courses:** MD (Community Medicine), Diploma in Public Health (DPH), MPH (Epidemiology).
- **NON-MCI Courses:** M.Sc. in Applied Nutrition, Master in Veterinary Public Health (MVPH), Diploma in Health Promotion and Education, Diploma in Dietetics (Dip-Diet), Diploma in Health Statistics (DPH), Post Graduate Diploma in Public Health Management (PGDPHM).

In addition to the regular courses, the Institute also conducts various short courses/training programmes on a regular basis for capacity development in the field of public health. This year nine programmes have been conducted. As part of the initiative of MOH&FW, following skill based training programmes have been conducted by the Institute: Diabetes

Educator; duration: 2 months, Dietetic Assistant; duration: 5 months, General Duty Assistant; duration: 6 months, Home Health Aide; duration: 5 months, Sanitary Inspector: duration: 10 months.

During the year, 108 trainees have been trained under different skill based training programmes. This year, 52 workshops/ seminars/ awareness programmes were conducted to strengthen public health and public health system. 155 research / short-studies in the field of public health were conducted and 49 articles / papers contributed to different journals during the year. 16 experts attended EMR duties in Kerala, MP, Orissa, etc. during the year.

### New Initiatives

- **Introduction of new courses:** Three new courses, viz. M.Sc. in Public Health (Occupational Health), M.Sc. in Public Health (Health Promotion) and M.Sc. in Public Health (Maternal and Child Health) are going to be introduced from the session 2019-21. MOH&FW has accorded the permission for the introduction of these courses and the process of getting affiliation with the WBUHS is underway.
- **Digitization of Family Data:** In order to digitize the public health services at RHU&TC, Singur, a special drive to digitize the family records of all the 64 villages under the RHU&TC, Singur, initiated earlier, has been completed to facilitate better service/ monitoring.
- **Introduction of AEBAS:** Aadhaar enabled biometric attendance system has been made operational in the Institute.
- **E-Office:** Implementation of e-office in AIIH&PH, Kolkata is under progress.
- **Solar Energy:** For the installation of Roof Top Solar Projects at our main campus, B. N

Campus, UHU&TC, Chetla and the hostel of the main campus, an MOU has been signed and the equipment received. The installation is under progress.

### ➤ Other Achievements

- To strengthen the public health system through awareness programmes on various issues relating to public health, during 2018-19, the Institute has organised 26 awareness programmes.
- The Institute provided technical support to important bodies on various issues of public health.
- The Institute has been functioning as an International Centre for Yellow Fever Vaccination for travellers of yellow fever-endemic areas since the initiation of the programme of vaccination by the WHO. On an average, 600 to 700 travellers are getting vaccinated annually at the centre. Recently, OPV has also been included under the vaccination scheme as directed by the GOI.
- The Institute has been functioning as Drinking Water Potability Testing Centre as per international guidelines.

### 16.4 CENTRAL LEPROSY TEACHING AND RESEARCH INSTITUTE (CLT&RI), CHENGALPATTU, TAMIL NADU

Central Leprosy Teaching and Research Institute (CLT&RI), Chengalpattu was established in 1955 by the Government of India under a Governing Body by taking over Lady Wellington Leprosy Sanatorium established in 1924. Later in 1974, CLT&RI was made a subordinate office of the Directorate General of Health Services, MoHFW, Govt. of India, with an objective to provide diagnostic, treatment and referral services to leprosy patients, trained manpower development for leprosy, control / elimination besides research on various aspects of leprosy and its control.

The institute is headed by Director, belonging to Public Health Specialist sub-cadre of CHS. It has separate divisions for clinical services, surgery and physiotherapy, well equipped laboratory with animal house and division of epidemiology and statistics. The institute has a 124 bed hospital catering to both indoor and outdoor patients round the clock.

The objectives of the institute are:

- a) To undertake research in basic problems relating to the occurrence and spread and complications of leprosy.
- b) To train manpower necessary to implement NLEP.
- c) To provide specialized services for diagnosis & treatment of leprosy, complication management and reconstructive surgeries.
- d) To monitor and evaluate the NLEP.

- e) To function as a pivotal centre for promoting anti leprosy work in the country.

## 2. EPIDEMIOLOGY & STATISTICS DIVISION

This Division comprises of technical, training, statistical and computer sections. The division is involved in providing training in Leprosy/NLEP to medical and para-medical health professionals, conducting operational research, monitoring and evaluation of NLEP, surveillance activities and necessary software development for the programme and institute.

### 2.1 Training

The institute is having excellent infrastructure for carrying out training activities related to NLEP. The institute is actively involved in training of State / district leprosy officers, Medical officers, Undergraduate & Post graduate medical students and other paramedical staffs. The training activities undertaken from January, 2018 to March, 2019 :

Sl. No	Name of the Training Course	Batches	Participants
1.	NLEP Training for State/District Leprosy Officer/District Leprosy Consultants (5 days)	4	51
2.	NLEP Training for Medical Officers (3 days)	2	9
3.	Training of Surgeons in Leprosy Re- Constructive Surgery (5 days)	1	5
4.	NLEP Training for Post Graduates in Dermatology (2 weeks)	5	27
5.	NLEP Training for Post Graduates in Community Medicine (3 days)	6	78
6.	NLEP Training for Non-Medical Supervisor's (2 months)	2	51
7.	NLEP Training for Health Supervisor's (5 days)	1	19
8.	NLEP Training for Laboratory technicians (5 days)	1	21
9.	Compulsory Rotatory Residential Internship (CRRRI) Training (5 days )	90	298
10.	Animal House Handling techniques (3 days)	1	3
11.	One day Orientation Visit – CLTRI / NLEP		
	MBBS Students	11	563
	Para-medical Students	18	699

## 2.2 Monitoring And Evaluation (M & E)

### a. Routine M & E

CLTRI has been involved in monitoring and evaluation of NLEP activities in Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu States and Puducherry and Lakshadweep. The M & E activities have been completed in all 32 districts of Tamil Nadu. The feedback was given to the District and State level program Officers and reports were shared with Central Leprosy Division. The Number of districts visited for M&E is given below:

Sl. No	District / State	Period / Duration
1.	Thiruvallur, Tamil Nadu	26.02.2018 – 28.02.2018
2.	Udupi, Karnataka	03.04.2018 - 06.04.2018
3.	Srikakulam, Andhra Pradesh	19.06.2018 - 22.06.2018
4.	Ramanathapuram, Tamil Nadu	26.06.2018 - 29.06.2018
5.	Salem, Tamil Nadu	30.07.2018 - 02.08.2018
6.	Nellore, Andhra Pradesh	10.12.2018 - 14.12.2018

### b. Monitoring of Leprosy Case Detection Campaign (LCDC) Activities

- CLTRI officials participated as Level I/II monitors for supervision of LCDC in various States and reports are submitted to Central Leprosy Division. The LCDC activities in States of Maharashtra, Chandigarh, Haryana, Karnataka and Delhi were monitored during 2018-19.

### c. Joint Monitoring Mission (JMM)

- Joint Monitoring Investigation and Advisory Group (JMIAG) evaluated the NLEP activities in Tamil Nadu from 21<sup>st</sup> to 25<sup>th</sup> Jan, 2019.

## 2.3 Field / Outreach activities

CLTRI is involved in carrying out routine field work, field trials and field training activities and also special activities like Medical / Skin / RCS camps.

- a) Baseline assessment and intensive case detection surveys at Thirukalukundram, Kancheepuram district and surrounding urban and tribal areas
- b) House hold & neighbourhood contact survey
- c) Hot spot surveys
- d) Case holding activities / follow-up of defaulters
- e) Grade 2 deformity investigation
- f) Identification of eligible persons for RCS and mobilizing for surgery
- g) Field training activities
- h) Model district project activities at Villupuram District, Tamil Nadu
- i) Advocacy, communication and social mobilization

## 2.4 CME/Workshops conducted:

The Institute had conducted CME/Workshops related to various topics of Leprosy and recent advances. Faculty support is also provided for necessary stakeholders conducting the programmes.

- a) CME programmes – 4 [at different medical colleges during the year].
- b) Workshop on “Nikusht” – Online reporting system for NLEP to health workers and data entry operators for Dharmapuri and Krishnagiri district during May, 2018.

## 2.5 Data management:

- a) Household and neighborhood contact survey in Tirukazukundrum area.

- b) Baseline survey of Tirukazukundrum area
- c) Monthly progress reports of districts sending data to CLTRI were analysed and developed feedback reporting system.

### 3. CLINICAL DIVISION

The clinical division comprises of out-patient department, 8 in-patient wards with 124 bed capacity, nursing section and provision of central kitchen facilities. The institute provides round the clock quality health care services to leprosy affected patients in the form of diagnosis, treatment and complication management. The patient care services are given as under:

#### Out-patient services

Sl. No	PARTICULARS	Total
1.	Total No. of patients treated	9576
2.	New leprosy patients (PB 6 + MB 23)	29
3.	Old leprosy patients	7872
4.	Govt. Leprosy centre/block	1230
5.	Other cases / Non-Leprosy cases	709

#### In patient services

Sl. No	DETAILS	Total
1.	Admissions	1035
2.	Discharges	1071
3.	Deaths	4

### 4. SURGICAL DIVISION

The surgical division comprises the wards & operation theatre, X-ray unit, physiotherapy section and artificial limbs and footwear section with Micro-Cellular Rubber (MCR) Sheet manufacturing unit.

The services provided are:

- a) Ulcer & other complication management

- b) Reconstructive Surgery (RCS)
- c) Comprehensive physiotherapy services
- d) Disability Prevention and Medical Rehabilitation (DPMR) activities
- e) Support in training programs
- f) Camp based RCS Surgery as requested from states

The performance of surgeries and physiotherapy services is given below:

#### Surgery performance (2018-19)

Sl. No	Description	Total
1.	Minor Surgeries	328
2.	Major Surgeries including RCS	85

#### Physiotherapy services

Sl. No	Description	Total
1.	New case assessment	419
2.	Follow up assessment	480
3.	Per-op assessment	27
4.	Post-op assessment	45

#### 4.1 Micro-Cellular Rubber (MCR) & Footwear unit:

The Institute owns a small production unit for manufacturing MCR sheets, needed to provide protective footwear for leprosy affected patients. Quality assurance of MCR production has been initiated. The MCR Sheets are provided to various State Leprosy Societies and NGOs. Artificial limb and dedicated footwear unit in the centre, produces different types of MCR footwear and orthosis with necessary modifications as per the requirement of leprosy affected patients and given free of cost. The annual production and supply is given herewith:



S. No	Particulars	Total
1.	MCR sheet Production	1351
2.	Used in CLTRI foot wear section	900
3.	Supply to other Govt. centers and NGOs	451
4.	Total MCR Foot wear (in pairs)	1150
5.	No. of Orthosis and Prosthesis produced	5

## 5. LABORATORY DIVISION

Laboratory division in CLTRI is well equipped with state-of-art facilities ranging from basic services to molecular biology level including PCR amplification. Activities carried out are, investigations of samples from out / inpatient departments for leprosy related and other routine investigations and involved in basic and applied research activities in leprosy. These facilities are being utilized for various institutional projects and also in the collaborative and post graduate research projects.

Quality assurance for skin smear is conducted by laboratory division. It participates in external quality assurance program conducted by AIIMS, New Delhi and CMC, Vellore for hematology-serology and microbiology-biochemistry respectively. The results show more than 90% accuracy in all biochemical parameters.

The animal house facility complied with norms of Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA) is also available for providing animal experimentations; mouse foot pad inoculation for the viability and drug susceptibility tests for *M. leprae*. The animal ethics committee was constituted in December, 2018. The animal house was recently renovated and inspected by CPCSEA member and inoculation reinitiated.

## 6. Research Activities

### A. Institutional Ethics Committee

The IEC was reconstituted in October-2018 as per ICMER guidelines. The committee held its first meeting on 26.11.2018 and 3 research proposals were discussed. The IEC members were given ICH-GCP training in this regard on 12.12.2018. Second meeting was held on 29/01/2019, where in two proposals were approved out of 6 presented.

### B. Research studies currently under progress/ protocol development

#### i. Intramural research:

- Feasibility study of surveillance of drug resistant Leprosy among new and re-treatment cases in Tamil Nadu.
- Evaluation of slit skin smear microscopy for Leprosy in various districts of Tamil Nadu.
- Model to predict development of grade-II deformity among leprosy affected cases.
- Retrospective study of patients attending tertiary care leprosy hospital.
- Preventing over the counter purchase of steroids among leprosy patients by providing loose tablets – implementation study.
- Molecular determination of *M. leprae* viability using Real-Time PCR.
- High Resolution melt curve analysis for drug resistance detection in *M. Leprae*.
- Pattern of aerobic microbiota and their resistant determinants from plantar ulcers at CLTRI.
- Comparative analysis of customized foot wear and modular foot wear in the



treatment of leprosy foot ulcers and deformities.

- j) Analysis of deformity certificates issued in CLTRI for the past 2 years.
- k) Cadaveric studies of neuropathic ankle, below knee amputation specimens in CLTRI.
- l) Analysis of quality of life in below knee amputation cases done for Leprosy in CLTRI.
- m) GIS mapping for assessing burden and risk factors for leprosy.
- n) Model district project activities at Villupuram District, Tamil Nadu.

#### ii. Collaborative Studies (Proposed)

- a) In vitro cultivation of M leprae with Mahatma Gandhi Medical College, Puducherry.
- b) Effect of Thulasi essential oil on M.leprae in mice inoculated with M.lepraewith Mahatma Gandhi Medical College, Puducherry.
- c) Molecular search for M.lepromatosis in various districts of Tamil Nadu.
- d) Nutritional aspects and interventions in leprosy in collaboration with Dr. M.S. Swaminathan Research Foundation.
- e) Monitoring & evaluation tool for districts with National Institute of Epidemiology (NIE), Chennai.
- f) Prevalence of Disability in children– National Institute of Epidemiology (NIE), Chennai.

### 7. Administration

Achievements of administration section during the

period 2018 -2019:

- a) High speed internet connection through rail wire network was installed.
- b) GEM procurement initiated after due registration.
- c) Office council meeting was conducted during December 2018, after a gap of 6 years.
- d) Backlog of 24 officials for MACP pending for last 3 years cleared.
- e) Civil works: 7 Doctors quarters up-graded, staff canteen, patient kitchen and patient toilets in the wards renovated, barrier free access for person with Disabilities (PwD), laying of kerb stones, relaying of storm water drains system in old quarters, development of children's park, protective covering of open well.
- f) Four pending court cases including 2 contempt cases were disposed of.
- g) Pocket money for leprosy cured patient helpers enhanced.
- h) The vacant post of Laboratory Assistant reserved for ST (Person with Disabilities) has been filled.
- i) Biometric attendance system installed.
- j) Drafting of recruitment rules as per 7<sup>th</sup> CPC under progress.
- k) To speed up the recruitment process at CLTRI, a Recruitment Cell has been formed especially for filling the vacant posts.
- l) Information sought under RTI Act, 2005 were disposed of in time.
- m) Contractual staffs were appointed as per the norms of GFR.
- n) New operating light for operation theatre.

- o) Printing of four training modules in NLEP in progress.

### 8. Budgetary allocation (2018-19)

The budget allotted was Rs. 19.18 Cr for plan and Rs. 30 Lakhs for capital works.

### 9. Other activities:

Anti-leprosy day & fortnight was celebrated from 30<sup>th</sup> January, to 13<sup>th</sup> February, 2019 in a grand manner. Various innovative activities were conducted during the fortnight to increase the awareness of leprosy.

- a) Information Education Communication (IEC) Stall at Chengalpattu Railway station to create awareness among general public.
- b) Drawing/poster competition conducted for school and college students themed zero discrimination and zero disability.
- c) Awareness rally conducted in rural area with the help of high school students.
- d) Quiz competition for undergraduate medical college students.
- e) Short film competition with theme of zero discrimination.
- f) Sports activity conducted for leprosy affected persons in CLTRI.

### 16.5 REGIONAL LEPROSY TRAINING AND RESEARCH INSTITUTE (RLT&RI), RAIPUR, CHATTISGARH

Regional Leprosy Training and Research Institute (RLTRI), Raipur established in the year 1979, is one of the 3 RLTRIs established with the aim to provide specialized care to the leprosy cases, undertake research in the field of leprosy and develop specialised manpower by imparting training to vertical leprosy staff deployed all over

the country (mainly from the Central Region). After integration of leprosy services in General Health System in the year 2005, institute has assumed role of referral institution to provide support and specialized quality services to difficult-to-manage complicated cases of leprosy. Institute continued to impart training to various health functionaries viz. Regional Directors, State Leprosy Officer, District Leprosy Officers, Block Medical Officer, Para Medical Personnel, Laboratory staff, Physiotherapist and other categories of staff from general health care system of various states. Institute also undertakes operational and need based research in the field of leprosy. Nation wise evaluation of leprosy has been undertaken by the institute after integration of NLEP in general health care system. Institute has been involved actively in special leprosy case detection campaigns like MLEC, SPARSH and LCDC etc. It is committed to the goal of leprosy free nation and working towards achieving the target of < 1 Grade II deformity per 10 lakhs among new cases.

Institute has a hospital including OPD, 50 bedded indoor wards, a laboratory to undertake Microscopy confirmation of M Leprae by skin smear examination and an OT to undertake reconstructive surgeries for leprosy related deformities which is closed for more than 2 years and is now under the process of renovation/repair. Presently the Institute is undertaking RCS surgeries in camp mode in various districts of the state. DPMR services are provided to PAL.

The institute has been designated as Regional Office of Health and Family welfare for the State of Chhattisgarh and has been given responsibility of monitoring various national Health programmes in the state Thus at present the Institute is holding dual responsibility of RLTRI and ROHFW (Chhattisgarh) with the existing manpower of RLTRI, Raipur. It is under the administrative control of Central Leprosy Division of DGHS.

## RLTRI ACTIVITY

OPD services:	Achievement
New Leprosy Cases detected	620
No. of MB cases in newly detected cases	396
No. of PB cases in newly detected cases	224
No. of old cases provided treatment	3019
General Patients	2723
Total patients attended OPD	6362
IPD Services:	Achievement
No. of patients admitted for RCS & Physiotherapy	134
No. of patients admitted having Ulcers	79
No. of patients admitted having ENL reaction	138
Total No. of patients admitted in the Wards	355
Lab Services:	Achievement
No. of Microbiological investigation undertaken	1982
No. of clinical pathological investigation undertaken	137
No. of bio-chemical investigation	338
Cross checking of Malaria Slides	455
<b>Total No. of investigation done</b>	<b>2912</b>

RCS Services	Achievement
No. of surgeries conducted	111 in 11 camps (6 districts)
<i>Note-Due to closure of OT for renovation/repair No surgeries have been conducted in the Institute.</i>	
Physiotherapy Services:	Achievement
No. of patients given Wax bath therapy	54
No. of patients given oil massage, hydro-oiling therapy	222
No. of patients given Active and Passive Exercise	619
No. of patients given Electric Vibrator Massage	53
IR	1
<b>Total No. of patients provided Physiotherapy</b>	<b>896</b>
Splints given	251
MCR Chappal given	49
Foot Drop Belt	12

RCS Services	Achievement
Total appliances given	312
Field activity	Achievement
Supportive Supervision of NLEP activities	16 districts
Leprosy Case Detection Campaign (LCDC)	3 States 11 districts

### Trainings Conducted:

Sr No	Name of the training related to Leprosy	Duration of training	Number of Batches trained	Number of Participants trained
1	National level DLO Training	5 days	2	12
2	National level BMO/MO/AMO Training	3 Days	10	118
3	National Level PMW training	5 Days	1	20
4	Training imparted to Students ( MBBS, AYUSH)	1 day	5	121
5	Training imparted to MSW students	1 day	1	14
6	Training of MSC, BSC Microbiology	1 day	1	13
7	MBBS Interns	1 days	35	138
8	Training imparted to Nursing Students	1 day	2	80
		<b>TOTAL</b>	<b>57 Batches</b>	<b>516 Participants</b>

### Newer initiative by the institute during the year (2018-19)

1. Technical Monitoring of eight districts of Chhattisgarh
2. Online Training of Medical Officers in collaboration with ECHO
3. Introduction of Aadhar Based Biometric system
4. Swacch Bharat Abhiyan: Separation of solid waste and wet wastes
5. Systemization of indenting process
7. Implementation of GEM in purchase
8. Public Financial Management System

(PFMS)& GST deduction

9. Appointment of CPIO and Vigilance Officer.

### Proposed Annual Action Plan (2019-20)

1. Training & capacity building of all categories of health staff
2. Clearing RCS backlog by undertaking RCS in Camp mode
3. Upgrading the facilities of training hall
4. Renovation/repair of OT
5. Development of Eco-Garden within RLTRI campus
6. Establishment of e-Library

## Performance of ROHFW, Raipur (Year 2018-19)

Particulars	No.	
<b>Institutes visited for NHM, IPHS, NLEP monitoring etc</b>	DH & SDHs/Urban Leprosy Center	14
	CHCs	52
	PHCs	33
	SHCs	37
	NGOs/ Pvt Hospitals	0
<b>No. of Districts Visited to Review NHM and Disease Control Programmes</b>	NRHM	4
	NVBDCP	12
	RNTCP	3
	NLEP	18
	IDSP	1
	NIDDCP	1
	Tobacco control	1
	Elderly Programme(NPHCE)	1
	Cancer, Diabetes,CVD& Stroke (NSPCDS)	1
	Prevention of burn injuries	1
	Training (NLEP) ( In house)	48
	Training of trainees	454
	<b>Training Programmes Undertaken Other</b>	Blood slides of District Cross checked (Malaria)
Blood slides found with Discrepancies		45
Labs found not conforming laid standards		1
<b>CC Users</b>	ECs practising CC methods contacted	38
	ECs found fake/ denials	14
<b>Field Verifications of Children for immunization ANC, PNC and JSY following &gt;1 yr Children cohort retrospectively</b>	Children contacted for immunization	62
	Children fully immunized	62
	mothers contacted to verify ANC Check-ups	62
	Mothers found 3 ANC Check-ups & Given 100 Tabs IFA	62
	ANC mothers with complications	18
	Mothers Contacted for PNC check-ups by HW.	62
	Mothers have Hospital Delivery	62
	Mother have visited for 3 PNC check-ups	38
	Mothers have any complication during PNC period	0
	Mothers contacted or verification of JSY	62
	Mothers who got monetary benefits of JSY	60
	Mothers spent/paid money from their pockets	0
	Epidemic reported	1

**Special Activities:****A) Post MDA evaluation of districts of State of Chhattisgarh:**

Nine districts were surveyed. The lowest coverage was found in Raipur district (Dharshiva block reported less than 10%). Raigarh district has shown consumption coverage of more than 90%. All urban clusters had low coverage as compared to rural areas

**The table shows the district and block wise actual and reported coverage (April, 2018)**

Name of the district	Houses Covered	Total Population surveyed	Eli-population	MDA Consumed tablets	Evaluation Survey Coverage	DMO Reported Coverage
<b>Mahasamund</b>	120	648	593	335	56.5	89.1%
<b>Raipur</b>	120	529	511	190	37.1	>90%
<b>Raigarh</b>	240	1294	1213	1039	85.6	89.7%
<b>Balodabazar</b>	120	676	624	270	43.3	90%
<b>Jashpur</b>	120	626	569	404	71	87%
<b>JanjgirChampa</b>	120	719	656	472	71.9	91%
<b>Durg</b>	120	689	666	362	54.4	89%
<b>Bemetara</b>	120	638	610	295	48.4	85%
<b>Balod</b>	120	605	544	233	42.8	81%

**Assessment of Family Planning services at CHC & PHC level**

No. of Health Facilities surveyed	No of delivery	IUCD	PPIUCD	OCP	ECP	Condom
6	2509	93	320	140	29	1952*

\* Neither beneficiary list nor primary register available for verification

**Proposed Annual Action Plan (Year 2019-20)**

Following districts will be surveyed:

Category	District	Month
Tribal	Kondagaon	May 2019
Tribal	Korba	June 2019
Tribal	Surajpur	August 2019
Non Tribal	Bilaspur	October 2019
Non Tribal	Mahasamund	December 2019
Non Tribal	Gariyaband	January 2020



## 16.6 REGIONAL LEPROSY TRAINING AND RESEARCH INSTITUTE(RLT&RI), ASKA, ODISHA

This Institute was established in the year 1977. At present there are 30 (Gr. – A-3, Gr. C-15) & Gr.C(MTS)-12) staff in position out of 67 sanctioned posts. It has a 50 bedded hospital and average bed occupancy is about 37.27%. The Institute provides both out and in-door services to leprosy patients. The Institute also works as a referral centre for management of difficult to diagnose leprosy cases and problematic, complicated and intractable cases of reaction and ulcers. Thalidomide is also given to intractable recurrent ENL reaction cases. Physiotherapy measures and MCR chappals are provided to needy patients. Amputation and various other surgical procedures are carried out regularly and RCS (Re-Constructive Surgery) camps have been done in the past. It also works as a nodal training and research centre for the cause of leprosy elimination.

Brief activities performed by this Institution: (1<sup>st</sup> April, 18 to 31<sup>st</sup> March, 19)

- OPD Attendance- 1773 (Leprosy – 1289, Non leprosy-484)
- In-doortotal admissions: 222
- Reaction cases managed (OPD)- In 341 episodes of reaction Type I -266 & Type II-75 out of which 2 patients has given Thalidomide
- Major surgeries – 33 & Minor Surgeries – 162
- DPMR-MCR Chappals – 122
- Lab investigations : 294
- Training: Faculty of this Institute participated as resource person to impart modular training in NLEP to doctors and para-medical staff of Odisha state and also participated in NLEP review and planning meeting of state. A total of 70 MOs (MBBS) were trained

for 3 days in three batches, 59 BNLW's for three days in two batches and 403 MOs of different districts of Odisha trained in LCDC in different batches. Director of the Institute participated as Central Monitor Level II for LCDC. One day Orientation Training on NLEP to B.Sc/M.Sc. Nursing students / M.D students held at RLTRI, Aska in 9 batches, a total of 213 students trained.

## 16.7 REGIONAL LEPROSY TRAINING AND RESEARCH INSTITUTE (RLT&RI), GOURIPUR, WEST BENGAL

Regional Leprosy Training and Research Institute, Gouripur, Bankura, in short, RLTRI, Gouripur, a 50 bedded leprosy hospital, has been set up by Govt. of India in 1984 with the objectives as mentioned below: -

- 1) To create sufficient trained work force of different categories including Medical Officers, for best implementation of NLEP in different Indian States, especially, in the North- Eastern States of India to eradicate/ eliminate leprosy and
- 2) To carry out operational research on leprosy towards better understanding of the disease.

The Institute is located at a village, named Gouripur which is well connected by roads and rails with the district town Bankura (12kms), Kolkata city (245kms) Durgapur Rly. Station (56kms), Kharagpur Jn. (130kms), Asanol & Purulia town of W.B. States. Different towns/ cities of the neighboring state of Jharkhand e.g. Ranchi (217kms), Dhanbad (117kms), Gomoh, Vojudih (84kms) etc. are also connected through rails and by roads with the area.

In the changing scenario of NLEP management, presently, the Institute has been conducting 'Training of Trainers'(TOT) short course on NLEP training program for Senior Medical Officers (DLOs & BMOs). Medical Officers'(MO) training course of NLEP of 3 days duration and PMW training course on leprosy (NLEP) of 5 days

duration throughout the year develop requisite skills among them towards better implementation of NLEP. This institute also arranges one day orientation training on leprosy (NLEP) on request for M.Sc / B.Sc / GNM nursing students as well as AYUSH students from different Govt./ Non-Govt institutes/ organizations. In addition to, aforementioned regular training schedules. Institute offers regular OPD services, mainly referral, thrice a week, for the public afflicted with leprosy and running a 30 bedded ward for leprosy patients, instead of 50 beds earlier, as one ward presently is in unserviceable condition, as a tertiary center, towards management of complicated ulcer cases and cases with reaction problems of recurrent nature. Furthermore, towards diagnosis of difficult cases and for providing quality care to disable / complicated leprosy patients, the institute runs a laboratory, an X-ray unit and one physiotherapy unit. More than 57% of the newly detected leprosy patients (11 out of 19) attending the OPD of RLTRI, Gouripur, were of SC/ST categories. Surprisingly, among the new cases detected here, 10.52% are found to have G2D (2 out of 19) which is far above the national average. Last but not the least, the institute may act as ideal place for clinical and epidemiological studies toward evaluation of leprosy considering its' location and resources.

In this connection, the performance report of the institute i.e. RLTRI, Gouripur, Bankura for the year 2018-19 is hereby furnished below-

1. IPD: Admissions – 72, Discharges - 167. Bed Occupancy Rate – 48% ; Bed Turn Over Rate – 5.56
2. O.P.D: - New Cases detected – 19 , Other Cases – 01, leprosy patients attended -1460, MDT given-137 blister packs, referral patients attended-406, general patients attended 563, RFT made-12 and Relapse-0
3. Laboratory Unit-Slit Skin Smear done-551 (including referred cases from other hospitals for smear) biochemistry done-540, clinical pathology-305

4. Physio Unit:-plaster-10, exercise-4042, muscle stimulation-257, infra red-132, wax therapy- 839.
5. Training Imparted: - Training imparted as per training schedule of the Institute and NLEP Training given to MD(CM)/ MPH (PGT) students for two days- 15 students. PMW training on NLEP (5 days duration) given to-96 participants. NLEP training (3 days duration) given to 46 DHP&E students from AIIH&PH Kolkata in two batches (23+23). One day Orientation Training on leprosy (NLEP) given to 10 M.Sc nursing students and 69 GNM nursing students in two batches (34+35) from BSMCH, Bankura (Govt. Institution) during the year. Here, it may be noted that due to lack of sponsored participants from the concerned State Governments, TOT program & MOs Training program scheduled in the year 2018-19, could not be conducted.

## 16.8 VALLABHBHAI PATEL CHEST INSTITUTE (VPCI), NEW DELHI

The Vallabhbhai Patel Chest Institute (VPCI) is a unique research institution devoted to the study of chest diseases and allied sciences. The VPCI is funded by the MoHFW, Government of India, New Delhi. This is a maintained Institution of University of Delhi under Ordinance XX(2) and administered by a governing body constituted by the Executive Council, University of Delhi. During financial year 2018-19, Govt. of India released Grants-in-aid and an Amount of Swachhta Action Plan to the tune of Rs. 61.00 crore to VPCI.

The Institute continues to conduct post-graduate courses [Diploma in Tuberculosis & Chest Diseases (DTCD) MD, DM in Pulmonary Medicine, MD in Biochemistry, Microbiology, Pharmacology, Physiology and Ph.D in Pulmonary Medicine, Microbiology, Pharmacology, Physiology, etc] in chest diseases in India. The Institute continues to organize Conferences/Symposia/CMEs and public lecture programmes to disseminate medical

education to its students and general public.

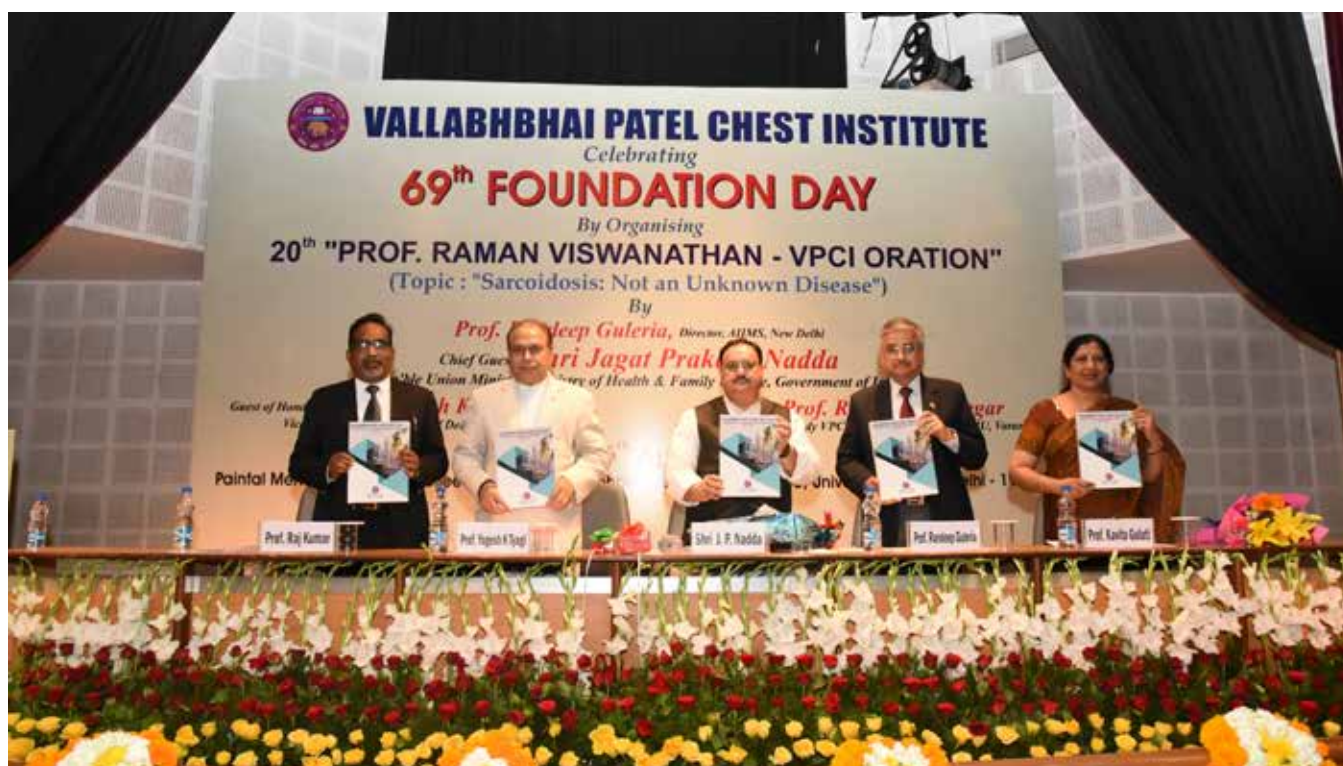
The Institute continues to conduct research on basic and clinical aspects of Chest Medicine, in Pulmonary Medicine and allied subjects, to develop new diagnostic technology and disseminate scientific knowledge related to Chest Medicine to other institutions in the country and to provide specialized clinical and investigative services to patients. The research contributions from the Institute are widely acclaimed.

With the aim to disseminate scientific knowledge and latest developments in the field of chest diseases and allied sciences, the Institute continued the publication of its reputed and indexed quarterly publication - *The Indian Journal of Chest Diseases & Allied Sciences*, in collaboration with the National College of Chest Physicians (India).

The Viswanathan Chest Hospital (VCH), the clinical wing of the Institute, is a tertiary care Chest Hospital with state-of-the-art patient-care facilities. This 128 bedded Hospital with 24 hours

respiratory emergency services, continues to treat almost 70,000 OPD patients and 5000 IPD (general and emergency wards) patients annually. The Institute also continues to provide diagnostic facility for the pandemic influenza H1N1 virus. The National Center of Respiratory Allergy, Asthma and Immunology (NCRAAI), Allergy Clinic, Tobacco Cessation Clinic, Cardio-pulmonary Rehabilitation Clinic, Sleep Lab., Yoga Therapy Research Centre, National Tobacco Quit Line service, Multi-Disciplinary Research Unit (MRU) continues to play their important roles in effective VCH functioning. Thus, the Institute continues to provide excellent diagnostic and treatment services including critical care management to patients from Delhi, other parts of the country and patients from neighboring countries suffering from respiratory diseases.

The Institute also keeps on conducting various symposium/conferences/seminars, and workshops/CMEs and other programmes in the field of research in order to maintain quality research and patient care.



69<sup>th</sup> Foundation Day of VPCI



Swachhata Pakhwada, 69<sup>th</sup> Foundation Day and 20<sup>th</sup> Prof. Raman Vishwanathan-VPCI oration, 4<sup>th</sup> International Yoga Day, 14<sup>th</sup> Prof. Autar Singh Paintal Memorial Oration, Workshop on Quality Laboratory Services, 43 Workshop on Respiratory Allergy: Diagnosis & Management, Special Swachhata Drive, “Swachhata Hi Sewa” from 15<sup>th</sup> September to 2<sup>nd</sup> October, 2018 were the events conducted during the year.

The Institute also conducted 4<sup>th</sup> Dr. V.K. Vijayan Oration, inauguration of renovated VCH-Kitchen - 15<sup>th</sup> October, 2018, Vigilance Awareness Week from 29<sup>th</sup> October – 3<sup>rd</sup> November, 2018, CME Programme: Mapping the footprints of NTM infection - 1<sup>st</sup> November, 2018, Public Awareness Programme on “Smoking and Lung Health” - 6<sup>th</sup> December, 2018, during the year. On 18 June, 2018, Patient Registration Hall was inaugurated by the Chief Guest Prof. Rakesh Bhatnagar, Vice Chancellor of Banaras Hindu University which was dedicated to the patients for better services.

## PATIENT CARE

1. Diagnostic tests carried out in pathology department for patients in OPD, IPD, Emergency and ICU of VP Chest Institute.
  - Blood Test 37914
  - Urine Test 796
  - Sputum Test 587
  - Histopathology 138
2. Patients attendee to the Cardiopulmonary Rehabilitation Clinic, VPCI.
  - Supervised Rehabilitation Sessions 51
  - Explained Breathing exercises 380
3. Total admissions (inclusive of in-patient & out-patient admissions).
  - New Patients OPD 15700
  - Old Patients OPD 59802

4. Patients attendance in the wards
  - General Wards 2326
  - Emergency Ward 3892
  - I.C.U. 81
  - Emergency treatment provided 21437
5. A number of routine and specialized investigations done at VCH during the year:
  - Pulmonary function tests 19295
  - Arterial blood gases 14015
  - Bronchoscopy 294
  - Bronchoalveolar lavage 219
  - CT scans 1584
  - Ultrasound Examinations 0
  - X-Rays 19454
  - Electrocardiogram 3274
  - Polysomnogram 253
  - HIV testing 1155
  - Clinical biochemistry 26287

## 16.9 NATIONAL INSTITUTE OF TB AND RESPIRATORY DISEASES (NITRD), NEW DELHI

Rising from a TB Sanatorium in 1952 to the level of an Institute in 1991 followed by a national recognition in 2013 by the Government of India, National Institute of Tuberculosis and Respiratory Diseases (NITRD), surpassed every hurdle successfully during the journey spanning 65 years. This was possible due to the vision of the Government of India & the Governing body of the Institute, the able guidance of its administrators and the hard work put in by the faculty, the staff and the students of the Institute. As a result, the Institute holds an important position among the Institutes of global fame in the arena today.

The Institute is a tertiary care centre which provides high quality preventive, diagnostic, curative and rehabilitative services to the patients with respiratory diseases especially tuberculosis. The total number of patients attending the Institute has risen to more than 2.7 lakhs during the year (average total number per day being 1585), over a 50% increase in the last five years. This number continues to grow in view of the state of art services being provided by the Institute. NITRD also continues to support the Revised National Tuberculosis Control Programme in framing policies and guidelines as per the need of the country and to carry out the academic activities in the form of teaching, training and research in the field of TB, as well as, non-tubercular respiratory diseases.

The Institute runs a daily OPD for diagnosis of TB and Respiratory Diseases. Special Clinics like Sleep Clinic, Lung Cancer Clinic, Thoracic Surgery Clinic, Allergy Clinic, Tobacco Cessation Clinic, Pulmonary Rehabilitation Clinic, Laser Therapy Clinic, and Pre-Anaesthesia Check-up Clinic focus on various Non-tubercular Respiratory Diseases. The Institute provides indoor treatment to the seriously ill patients of Tuberculosis and Respiratory Diseases through 470 beds in various wards, Emergency and ICU. Institute runs Post-Graduate DNB (Respiratory Diseases) Degree Course since 1999 and is now admitting 19 DNB students per year. In addition, two students per year are being admitted each to DNB (Thoracic Surgery) and DNB (Microbiology) courses.

32 new research projects (including those of DNB students as well as of Institute Faculty) were initiated during the year in addition to the ongoing projects. Seven scientific publications of the Institute Faculty were published during this period. The Institute continues to publish its 3-monthly Newsletter regularly. Many of the senior faculty members represented the Institute in various Technical / Expert committees on TB and Respiratory Diseases and contributed towards

defining the policies of TB programme at national level. As reviewers of the reputed national and international journals, the faculty also fulfilled its editorial responsibilities.

During the year 2018-19, 62,481 new patients attended OPD averaging 363 per day. Total OPD attendance was 273284 averaging 1585 patients daily. 9140 TB cases were diagnosed and referred to respective DOTS Centres for treatment. A total of 81252 smear microscopy tests, 12503 pulmonary and 5368 extra-pulmonary MGIT liquid cultures, 10196 CB-NAAT tests, 9311-line probe assays and 2485 MGIT DST were done. Other investigations carried out were 187720 haematology tests, 3,78,262 biochemistry tests, 5160 cytology tests, 976 histopathology tests, 93,137 X-rays, 4639 Ultrasounds, 12124 PFT, 673 Bronchoscopies with 1182 procedures, 12777 ECGs, and 168 Sleep studies. There were 8014 Indoor admissions, 28924 Emergency patient visits, 597 ICU admissions, 710 major thoracic surgeries, and 1410 patients alive on ART. Many high end equipments were procured by the Institute to strengthen patient care, including CT Scan Machine, 16 Sample CBNAAT Machine, Bronchoscopy Simulator, Suction Machines, Sanitary Napkin Vending Machine etc.

### Accomplishments of the Institute

#### New Initiatives: -

- State of Art distance learning programme through web-based technology has been established as a Hub in NITRD with spokes at various locations within and outside Delhi to disseminate information on MDR-TB and HIV-TB in SEAR. A National Initiative to Strengthen Collaboration between HIV and TB through e-learning, “e-NISCHIT”, was launched on 3/4/2018 in the Institute.
- Department of Microbiology, a NRL under RNTCP and Centre of Excellence for WHO/GLI TB SNRL Network, acquired NABL accreditation.

**Training/CMEs conducted: -**

- National Training cum Review of STOs was organized on 24/4/2018 in the Institute and was attended by more than 200 delegates.
- CME on Thoracic Surgery was organized on 22/4/2018 by Department of Thoracic Surgery and was attended by 76 delegates.
- 3rd National Paediatric Update 2018 was organized in the Institute on 15/7/2018. It was attended by about 200 delegates.
- Public Lecture and Panel Discussion on “Pollution and its Effects on Health” was held on 28/07/2018 and was attended by about 200 persons.

- Department of Microbiology organized training on Molecular Diagnostics including LPA culture and DST from 30/8/2018 to 7/9/2018 for 14 trainees from various South East Asian Countries.
- Nursing Section formed a Continuing Nursing Education (CNE) Cell in the Institute to update the knowledge and skill of Staff Nurses for better patient care. Over the year, it carried out more than 30 Trainings.

**Awards:-**

- Institute was awarded the “Certificate of Commendation and Third Prize of Rs. 50 lakhs” under the Kayakalp Scheme on 19/4/2018.



Dr. Rohit Sarin, Director was awarded Newsx Health Awards 2018 for excellence in field of Tuberculosis by the Hon'ble Union Minister of Health & Family Welfare, Govt. of India, on 28/12/2018.



Institute continues to get more and more global recognition. It is recognised as a WHO Collaborating Centre for carrying out TB training and research, and conducted specialized courses for SEAR countries. Doctors, technicians and health workers from across the world come to the Institute for trainings and interactions, facilitating mutual collaborations.

Institute endeavours to reach greater heights towards global excellence through high quality patient care, teaching, training and path breaking research. In order to support this effort, the expansion and the Master Plan of the Institute is already underway.

## 16.10 NATIONAL TUBERCULOSIS INSTITUTE (NTI), BENGALURU

### Introduction

National Tuberculosis Institute (NTI), Bangalore is an organization under MoHFW, Government of India established in 1959 in close collaboration with the WHO and UNICEF. This is a premier institute in the field of Tuberculosis control in South East Asia, which caters to the human resource needs for TB control and operational research in the region. Since 1985, the Institute has been functioning as a WHO Collaborative Centre for Training and Research. The Institute is also involved in carrying out Operational Research on various components of TB Control. The Bacteriological Wing of the Institute has been recognized as a National Reference Laboratory for External Quality Assessment in the TB Control activity. It also assists in establishing Intermediate Reference Laboratory for Culture and Drug Sensitivity tests, across the country to support Programmatic Management of Drug Resistant TB (PMDT).

The Institute has also been identified as the nodal centre for operational research related to RNTCP. The major activities as a nodal centre is to organize workshops, prepare the research agenda and dissemination of research data through publications.

Divisions	Units
HRD and Documentation Division	• Training and Coordination Unit
	• Computer Tr. Unit
	• Library and Documentation Unit
Laboratory Division	• NRL
	• Animal Lab
	• ICELT
Epidemiology and Research Division	• Research Unit
M&E Division	• Monitoring of RNTCP Unit
Communication and Sociology Division	• Communication
	• Sociology Unit
Administration Division	• Directors Office
	• Establishment Section
	• Accounts section
	• Stores
	• Hostel
	• Transport Section
	• Civil and Electrical Works
	• Campus Maintenance
	• Security
• EPBX	

### 16.10.1 HRD and Documentation Division

The Institute has pioneered in the field of Human Resources Development. It is involved in conducting the following training programmes to the TB Programme Managers positioned at different parts of the country:

- RNTCP & TB-HIV Modular training Programme are conducted at NTI where STDCs, STOs, DTOs, MO-TCs and faculty of Medical Colleges participated.
- Managing Information for Action (MIFA) Training.
- Training in Preventive maintenance and

- minor repairs of Binocular Microscopes.
- EPI Centre Training Workshop.
- Workshop for Microbiologist for updating training material guidelines for National Reference Laboratories.
- SAARC Regional Training of Microbiologist on Culture & DST of MTB.
- TB Operational Research Workshop.
- PCR based LPA Training.
- Comprehensive Training Course for Laboratory Personnel (Solid Culture, Liquid Culture, LED-FM, LPA, CBNAAT)
- Orientation programme of one-day duration for undergraduate Medical, Microbiology and Nursing and Pharmacy students sponsored by different Institute across the country.
- External Quality Assessment (EQA) has been given importance under RNTCP in the recent years. Training on the procedures of EQA was imparted to the Laboratory personnel of different parts of the country. Training in Culture & DST / Smear Microscopy are imparted to Microbiologists/Lab technicians.
- NIKSHAY Training.

### 16.10.2 Training Activities

Sl. No.	Type of Training	Duration	No. of Participants	Organization / State / District
1.	Comprehensive Training Course for Laboratory Personnel (Solid Culture, Liquid Culture, LED-FM, LPA, CBNAAT)	8 <sup>th</sup> – 18 <sup>th</sup> January 2018	1	Maharashtra
2.	Comprehensive Training Course for Laboratory Personnel (Solid Culture, Liquid Culture, LED-FM, LPA, CBNAAT)	5 <sup>th</sup> – 17 <sup>th</sup> February 2018	6	Karnataka, Odisha, Tamil Nadu and Kerala
3.	External Quality Assessment (EQA)	19 <sup>th</sup> – 23 <sup>rd</sup> February 2018	13	Karnataka, Kerala, Jammu & Kashmir, Maharashtra, Manipur, Madhya Pradesh and Uttar Pradesh
4.	Training on Preventive Maintenance & Minor Repairs of Binocular Microscope	2 <sup>nd</sup> – 5 <sup>th</sup> April 2018	18	Haryana, Maharashtra, Mizoram, Tamil Nadu, Tripura and Uttar Pradesh
5.	Training of Trainers (ToT) on Guidelines for PMDT in India-2017	17 <sup>th</sup> – 19 <sup>th</sup> April 2018	65	Andhra Pradesh, Bihar, Chandigarh, Dadra & Nagara Havelli, Daman & Diu (UT), Delhi, Maharashtra, Karnataka, Kerala, Mizorama, Madhya Pradesh, Odisha, Punjab, Rajasthan, Jodhpur, Sikkim, Tamil Nadu, Manipur, Telangana, Haryana, West Bengal and Tripura
6.	Preventive Maintenance & Minor Repair Binocular Microscope	23 <sup>rd</sup> – 25 <sup>th</sup> April 2018	19	Andhra Pradesh, Goa, Jammu and Kashmir, Karnataka, Kerala, Maharashtra and Odisha
7.	Comprehensive Training Course for Laboratory Personnel (Solid Culture, Liquid Culture, LED-FM, LPA, CBNAAT)	7 <sup>th</sup> – 19 <sup>th</sup> May 2018	7	Assam, Haryana, Maharashtra, Punjab and Uttar Pradesh

Sl. No.	Type of Training	Duration	No. of Participants	Organization / State / District
8.	External Quality Assessment (EQA)	11 <sup>th</sup> – 15 <sup>th</sup> June 2018	8	Haryana, Karnataka, Maharashtra, Tripura and Uttar Pradesh
9.	Training in Liquid Culture MGIT 960 (First line and Second line DST)” held at this institute from	23 <sup>rd</sup> – 27 <sup>th</sup> July 2018	9	Maharashtra, Andaman & Nicobar Islands, Karnataka, Madhya Pradesh, Assam, Sikkim and Bihar
10.	Consultative Workshop (To develop e-training curriculum for Laboratory Diagnostics with support of NRLs, WHO and FIND under USAID supported challenge TB project)	19 <sup>th</sup> – 20 <sup>th</sup> July 2018	34	New Delhi, Maharashtra, Chhattisgarh, Tamilnadu, Uttar Pradesh, Rajasthan, Assam, Kerala, Tamilnadu, Gujarat and Karnataka
11.	Delamanid introduction under PMDT in India: Refresher Training	1 <sup>st</sup> and 2 <sup>nd</sup> August 2018	26	Karnataka, Kerala, Lakshadweep and New Delhi
12.	Training in Molecular detection of MDR-TB by PCR base Line Probe Assay	27 <sup>th</sup> – 31 <sup>st</sup> August 2018	12	Maharashtra, Tamil Nadu and Chhattisgarh
13.	External Quality Assessment (EQA)	24 <sup>th</sup> – 28 <sup>th</sup> September 2018	7	Andaman and Nicobar Islands, Daman –Diu, Dadra & Nagar Haveli, Maharashtra, Tamil Nadu and Uttar Pradesh
14.	Sensitization training for PG Resident Doctors Training for 2018	18 <sup>th</sup> September 2018 -	12	Armed forced Medical College (AFMC), Pune, Maharashtra and Hassan Institute of Medical Sciences (HIMS), Hassan, Karnataka
15.	National Training on Procurement and Supply Chain Management and Nikshay Aushadhi (South Zone)	10 <sup>th</sup> – 12 <sup>th</sup> Oct 2018	28	Andhra Pradesh, Karnataka, Kerala, Puducherry, Telangana and Tamil Nadu
16.	Comprehensive Training Course for Laboratory Personnel (Solid Culture, Liquid Culture, LED-FM, LPA, CBNAAT)	22 <sup>nd</sup> October – 3 <sup>rd</sup> November 2018.	9	Assam, Bihar, Karnataka, Kerala, Telangana, Tripura, Hyderabad and Madhya Pradesh
17.	National Training on Procurement, Supply Chain Management and Nikshay Aushadhi	24 <sup>th</sup> – 26 <sup>th</sup> October 2018	41	Assam, West Bengal, Bihar, Chhattisgarh, Jharkhand, Karnataka, Odisha, Chandigarh & Punjab, Tamil Nadu, Uttar Pradesh and West Bengal
18.	National Training on Procurement, Supply Chain Management and Nikshay Aushadhi	29 <sup>th</sup> – 31 <sup>st</sup> Oct 2018	26	Dehradun, Delhi, Himachal Pradesh, Haryana, Jammu & Kashmir, Punjab and Uttarakhand
19.	Heads/ Chief of Identified National TB and HIV/ AIDS/ Laboratories in SAARC region	28 <sup>th</sup> – 30 <sup>th</sup> Nov 201	16	Members from the SAARC countries (India, Nepal, Afghanistan, Sri Lanka, Bhutan, India, Nepal, Bangladesh, Maldives and Pakistan.
20.	National Training on Procurement and Supply Chain Management and Nikshay Aushadhi (South Zone)	18 <sup>th</sup> – 19 <sup>th</sup> Dec 2018	33	Assam, Andaman & Nicobar Islands, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura
21.	National Training on Procurement and Supply Chain Management and Nikshay Aushadhi (South Zone)	20 <sup>th</sup> – 21 <sup>st</sup> Dec 2018	31	UT of Daman & Diu, Dadra & Nagar Haveli, Goa, Gujarat, Jammu & Kashmir, Lakshadweep, Maharashtra, Madhya Pradesh and Rajasthan

Sl. No.	Type of Training	Duration	No. of Participants	Organization / State / District
22.	Making STRIDES Against MDR-TB BD-USAID Partnership to Strengthen TB Resistance Testing & Diagnostic Systems training of trainers (ToTs) on Best Practices, Troubleshooting and Recent Developments in Liquid Culture & Drug Susceptibility Testing (LC-DST) for Mycobacterium TB	12 <sup>th</sup> and 13 <sup>th</sup> Dec, 2018	25	Andhra Pradesh, Karnataka, Kerala, Maharashtra, Puducherry, Telangana, Tamil Nadu, and West Bengal
23.	Training in Liquid Culture MGIT 960 (First line and Second line DST) & LPA	7 <sup>th</sup> – 11 <sup>th</sup> Jan, 19	08	Karnataka
24.	National Training on Procurement and Supply Chain Management on Nikshay Aushadhi	17 <sup>th</sup> Jan, 2019	12	Assam, Haryana, Maharashtra, Tamil Nadu and Telangana
25.		18 <sup>th</sup> Jan, 2019	22	Maharashtra, Odisha, Sikkim, Rajasthan, West Bengal, Madhya Pradesh, Tamil Nadu, Karnataka, Bihar, Jammu & Kashmir, Lakshadweep, Telangana, Uttar Pradesh, Meghalaya, Assam and Kerala
26.	Training in Sputum Microscopy and EQA	21 <sup>st</sup> – 25 <sup>th</sup> Jan, 2019	07	Odisha, Himachal Pradesh, Karnataka and Chattisgarh Of Tibetan Voluntary Health Association
27.	Training on RNTCP Technical and Operational Guidelines for TB Control in India	21 <sup>st</sup> – 25 <sup>th</sup> Jan, 2019	11	Chhattisgarh, Himachal Pradesh, Karnataka, Maharashtra, Odisha and Uttarakhand Of Tibetan Voluntary Health Associations.
28.	Training in Molecular based detection of first line and second Line drug resistance in TB by Line Probe Assay	21 <sup>st</sup> – 25 <sup>th</sup> Jan, 2019	09	Punjab, Jharkhand, West Bengal, Tamil Nadu, Uttar Pradesh, Maharashtra, Nagpur and Jammu & Kashmir
29.	NRL Capacity Building meeting	31 <sup>st</sup> Jan and 1 <sup>st</sup> Feb, 2019	09	Karnataka, Odisha, Tamil Nadu, New Delhi, Madhya Pradesh and Uttar Pradesh
30.	National level modular training in RNTCP for piloting & field testing	4 <sup>th</sup> – 16 <sup>th</sup> Feb, 2019	8	Delhi, Rajasthan, Karnataka, Tamil Nadu and Kerala
31.	Comprehensive Training Course for Laboratory Personnel (Solid Culture, Liquid Culture, LED-FM, LPA, CBNAAT)	11 <sup>th</sup> – 23 <sup>rd</sup> Feb, 2019	7	Andaman & Nicobar Maharashtra, Tamilnadu, Telangana and Tripura
32.	Sensitization workshop for CDC GHSA NIRT Study of the laboratories identified by CTD	7 <sup>th</sup> February, 2019	12	NIRT, Chennai ; IRL, Bangalore ; JJ Hospital Mumbai; KIMS, Hubli; STDC Nagpur; IRL Pune ; GTT Sawree; GMC, Aurangabad; STDC Ajmer ; SMA Jaipur
33.	Stake holder meeting regarding supporting identified TB Laboratory for NABL accreditation	22 <sup>nd</sup> February, 2019	38	Karnataka, Andhra Pradesh Maharashtra, Gujarat, Delhi, Odisha, Chennai, and Bangalore
34.	LPA training first and second line	4 <sup>th</sup> -8 <sup>th</sup> March 2019	10	Gujarat, Jammu & Kashmir, Maharashtra, Tamil Nadu, Uttar Pradesh

Sl. No.	Type of Training	Duration	No. of Participants	Organization / State / District
35.	National ToT of using Delamanid in age group 6-17 years	6 <sup>th</sup> – 8 <sup>th</sup> March 2019	52	Andhra Pradesh, Assam, Chhattisgarh, Haryana, Jharkhand, Manipur, Meghalaya, Mizoram, Meghalaya, Nagaland, Rajasthan, Telangana, Tripura, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal
36.	Way Forward: TB Diagnostic Network Assessment 2017 (Workshop to develop Roadmap in lines with the recommendations of the Report of Joint Assessment of the Tuberculosis Diagnostic Network of India)	6 <sup>th</sup> – 8 <sup>th</sup> March 2019	31	Tamil Nadu, Delhi, Karnataka and Uttar Pradesh
37.	OR Karnataka	25 <sup>th</sup> – 28 <sup>th</sup> March 2019	32	Karnataka

### 16.10.3 Laboratory Division

The laboratory at NTI has been designated as one of the National Reference Laboratories which assess the quality of the sputum, smear microscopy, culture and drug susceptibility testing services in the laboratory network under RNTCP. As an NRL, NTI supervises and monitors the quality of sputum smear microscopy in the network of laboratories in the nine states allocated viz, Bihar, Jammu and Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan and West Bengal. The NRL trains laboratory personnel and is responsible for accrediting State level laboratories i.e., the IRLs, medical colleges and other private laboratories for culture and drug Susceptibility Testing for detection of Drug Resistant Tuberculosis (DR-TB). Besides these activities it also supports State level Drug Resistance Surveillance (DRS) and DOTS Plus activities. The NRL is also monitoring two new NRLs:

- NRL at Bhopal Memorial Hospital & Research Centre, Bhopal
- NRL at Regional Medical Research Centre Bhubaneswar

The National Reference Laboratory is quality tested by WHO Supra National Reference

Laboratory (SNRL) Prince Leopold institute of Tropical Medicine Antwerp, Belgium.

- A. **Quality Assurance System (QAS):** The Quality Assurance (QA) system for sputum smears microscopy in RNTCP consists of Internal Quality Control (IQC), External Quality Assessment (EQA) and subsequently Quality Improvement (QI) of the laboratory services.
- B. **External Quality Assessment (EQA):** EQA is performed by an On-Site Evaluation (OSE) visit. The components of EQA include infrastructure assessment, panel testing of the laboratory staff and analyzing data from the Random Blinded Re-Checking (RBRC) at the district level. The OSE visit facilitated the STDC and STC in reviewing the implementation of EQA, especially the problems of non-availability of LTs/DTOs, staff structure in STDC, training, reagents quality, disposal of infectious materials and RBRC activities.
- C. **Accreditation of Laboratories:** Accredited Mycobacteriology laboratories are a pre-requisite for the efficient Diagnosis and follow-up of MDR-TB patients. Towards this objective, efforts are being made to establish

IRLs to cater to the diagnostic and follow-up needs of DR-TB patients, in each state. Provision also has been made for inclusion of Laboratories of Medical Colleges and the Private Sector, interested in Participating in the diagnosis and follow-up of such cases.

#### D. Specimens processed at NTI during the period January, 2018 - 31<sup>st</sup> March, 2019

Total Specimens ( <i>Sputum + XDR Culture +PMDT+NTM and OP</i> ) registered	7598
<i>XDR</i> suspect culture samples registered	320
Total number of <i>Specimens registered for OP (1 for NTM)</i>	101
Total number of <i>Specimens from Karnataka registered for LPA (PMDT)</i>	6733
Total No. of specimens put up for primary culture <i>OP + 3 Dist of Karnataka –PMDT</i>	6383
Total no. of Line Probe Assay performed (1 <sup>st</sup> line)	6897
Total no. of Line Probe Assay performed (2 <sup>nd</sup> line)	1148
Total no. of drug Susceptibility tests performed by using MGIT	1172
No. of Specimens subjected for identification test (Immuno- Chromatographic Test)	830
Total number of samples subjected <i>for HPLC</i>	31
Total Number of Belgium cultures received for Quality control	20
Total Number of drug susceptibility test by solid culture (LJ)	20

#### 16.10.4 Epidemiology and Research Division

The major responsibility of Epidemiology and Research Division (ERD) comprises conducting epidemiological and Operation research studies on TB and imparting training in TB Epidemiology and Operation research. In addition, the Divisional Head – ERD is also involved as a facilitator in all types of RNTCP training conducted at NTI and across India. The research activities of the division during the period of reporting are briefed as under:

#### A. Research

##### Intramural Studies:

1. Diagnosis and treatment practices among treating clinicians for the management of Extra-Pulmonary TB in selected tertiary health care facilities in Bangalore cities – an evaluation based on mixed methods

##### Status:

- Study completed and analysis is under progress.
- Preliminary analysis based paper was presented at NATCON 2018.

2. Implementation of the New Integrated Algorithm for diagnosis of Drug Resistant Tuberculosis in Karnataka State, India: how well are we doing?

##### Status:

- Field data collection from all CBNAAT sites across Karnataka and data entry in progress.

3. Improving TB case finding efficiency and management of TB cases in private health care facilities in Bangalore city (RP/239)

##### Status:

- Study completed and paper published in Indian Journal of Tuberculosis in June, 2018.

4. Expenditure incurred for diagnosis by new TB patients notified by RNTCP in Bangalore city

##### Status:

- Study completed and report writing under progress.

5. Predictors of unfavorable tuberculosis treatment outcomes in TB-HIV co-infected patients in Karnataka



**Status:**

- Study formats prepared.
- Approval from TCC and IEC obtained.
- Study deferred in view of transition to new guidelines, was planned to take up after 6 months.

6. Sub National Pulmonary Tuberculosis Prevalence Survey in India, 2006 – 2012: Results of uniformly conducted data analysis

**Status:**

- The paper was published in PLOS – ONE in March, 2019.

**B. Extra-Mural Studies**

1. A Phase III, Randomized, Double-blind, three arm Placebo controlled Trial to Evaluate the Efficacy and Safety of two vaccines VPM1002 and Immuvac (Mw) in Preventing Tuberculosis (TB) in Healthy Household Contacts of Newly Diagnosed Sputum Positive Pulmonary TB Patients (ICMR/ITRC/VAC/001/2018, version 1.5 dated 3<sup>rd</sup> October, 2018)

**Status:**

This is a Phase III Regulatory Clinical Trial study approved by CDSCO (DCGI), NTI – IEC clearance obtained, staff recruited, vaccination sites in Bangalore city identified (Jayanagar and K.C. General Hospital), equipment to be purchased and the trial will tentatively start by mid-June, 2019.

**16.10.5 Research & Documentation Cell (RDC):**

The Research Documentation cell is carrying out the responsibility to digitize and upload the published TB research in Indian context as a nodal centre of NTI. The uploaded research articles are available in the research documentation portal [www.tbresearch.ntiindia.org.in](http://www.tbresearch.ntiindia.org.in). The portal

includes the published TB research from the following institutions/organization:

- Indian Institute of Science (IISC), Bangalore
- Institute of Bioinformatics, Bangalore
- Mahatma Gandhi Institute of Medical Sciences (MGIMS), Wardha
- National Institute for Research in Tribal Health (ICMR), Jabalpur
- National Institute for Research in Tuberculosis (NIRT), Chennai
- National Institute of Tuberculosis and Respiratory Diseases (LRS), New Delhi
- National JALMA Institute of Leprosy and other Mycobacterial Diseases, Agra
- National Operations Research Committee, Central TB Division, Govt. of India
- National Task Force, Zonal Task Force & State Task Force of Medical Colleges
- National Tuberculosis Institute (NTI), Bangalore
- New Delhi TB Centre (NDTBC), New Delhi
- State Tuberculosis Centres
- Tuberculosis Association of India (TAI)

The following activities were undertaken at RDC during 2018-2019:

- Digitization and uploading of Indian TB research articles (71) received from collaborating centres and published in various publications viz. Int J Tuberc & LD, IJMM, IJMR, IJT, PHA etc.
- Institutional Ethics Committee (IEC) meeting: Assisted Member Secretary in organization of 20<sup>th</sup>, 21<sup>st</sup> and 22<sup>nd</sup> NTI IEC meetings.
- Registration of NTI-IEC with Central Drug

Standard Control Organization (CDSCO): RDC played an important role for the registration of NTI IEC with CDSCO and contributed in preparation of following requisite documents and completed the registration process:

- 19 sets of documents for the registration process
- Standard Operating Procedures (SOPs) of NTI-IEC
- NTI Bulletin: Prepared draft document on NTI Bulletin's "Policy and Procedures" Version 1.0. Assisted publication unit in compilation of NTI Bulletin 2017, 53/1&4.
- Assisted publication section in compilation of annual report (2017-2018) of the Institute.
- Co-ordinated with divisional heads in compilation of Annual Report (2017-2018) of NTI as WHO Collaborating Centre.
- Completed the National Survey on resources devoted to science and technology activities 2018-19 of Ministry of Science and Technology, DST, New Delhi.

#### 16.10.6 Monitoring & Evaluation Division

At present, the monitoring activity for RNTCP is being carried out by the Central TB Division under MoHFW. The monitoring and evaluation division of NTI provides support to CTD in conduct of central internal evaluation of different States by providing trained manpower. It also provides support for statistical needs of all the research activities carried out by the Institution.

#### 16.10.7 Communication and Sociology Division

##### Scientific Gallery

The Scientific Gallery has been established to disseminate the general information on TB, the evolution of the programme, research conducted by NTI and achievements of the Institute since its inception. Considering the needs of the diverse

categories of visitors like Officials and staff of health and other departments, doctors and para-medical personnel from Government and private sector and the various categories of health-sector trainees, we have two modes for dissemination of information viz., display units (photo displays & health education panels) and interactive information kiosk, in addition to the regular sensitization programmes that are undertaken by the division.

#### Visit of the students

Para-medical personnel and Para-medical students undergo regular sensitization programme conducted by the ACSM division of NTI. The total number of such students are as follows. A total of 945 students & scholars of life sciences visited NTI in 28 batches and was sensitized by the divisional staff during the period as follows:

Sl.No.	Category	No. of Students
1	MSc(Nursing)	077
2	BSc(Nursing)	762
2	DGNM	025
3	BSc(MIT)	025
4	Diploma Health Inspector	026
5	Medical Asst. Trainees	030
	<b>Total number of students</b>	<b>945</b>

#### 16.10.8 Administration Division

The Administration Division of NTI caters to all the administrative requirements of the Institute. The five units under this division are Establishment, Accounts, Hostel, Stores and Transport Units. Details of Budget received under Non Plan and Plan and Expenditure for the year 2018-19 is as follows:

	Budget Estimate	Expenditure
Revenue	Rs. 11,20,00,000	Rs. 13,36,61,000
Capital	Rs. 1,10,00,000	Rs. 1,10,00,000
		April, 2018 to March, 2019

The revenue generated by the Institute for the year 2018-19 through various sources was credited to the consolidated fund of Government of India as given in the table below:

Year	Amount (Rs.)
2018-2019 (April, 2018 to March, 19)	Rs. 2,71,451.00

### 16.11 NEW DELHI TUBERCULOSIS (NDTB) CENTRE, NEW DELHI

New Delhi Tuberculosis Centre is an oldest grantee institution of MoHFW. It was established in pre-independence era by an agreement between TB Association of India and then Government of India in 1940. It is an apex institute well recognized for the diagnosis, treatment, training, teaching and research in the field of TB and respiratory diseases. In the year 2005, the Central TB Division has designated New Delhi TB Centre as State TB Training & Demonstration Centre and Intermediate Reference Laboratory for Delhi State in addition to functioning as referral Centre for patients of pulmonary diseases and tuberculosis.

The main highlights of activities during the year 2018-19 are as under:

- i. **Clinical activities:** The Centre runs a referral OPD for respiratory diseases and TB patients referred from neighbouring States and private practitioners. It also runs special clinics (TB and Diabetes, COAD clinic). In OPD, facilities like tuberculin testing, radiological examination and consultation is provided to the patients referred by Government and private health care providers. During the year 11847 new OPD (4533 Males and 7314 females) and 11,885 (of which 4381 males and 7504 females) revisits attendance recorded for opinion and treatment. 43 patients were put on treatment at DOT Centre. A total of 10327 tuberculin skin test were performed which were referred from private practitioners and various hospitals.

A total of 1914 radiological examinations were done. The attendance of special clinic was 1283.

- ii. **Teaching & Training activities:** As State TB Training & Demonstration Centre for Delhi state the NDTB Centre is providing training and retraining to medial and para medical staff working under RNTCP. During the year 2065 personnel were trained. The Centre also provides teaching to the undergraduate medical students of MAMC and Army Medical College and post graduate MD and DTCD students of VP Chest Institute. Faculty is also involved for co-supervision for thesis of MD and DNB students. It also runs TB Supervisor Course of 3 months' duration. Total 52 students were trained under TB supervisor course. The Centre also provides training to interns of MAMC, MPH students of NICD and MSc students of various universities. Nurses from different hospitals and colleges attend the Centre to get knowledge about RNTCP and tuberculosis. Advanced training is also providing to microbiologists and laboratory technicians in rapid diagnostics.
- iii. **Laboratory activities:** The main highlight of this year is that the Laboratory of the Centre is accredited by NABL. The laboratory has also acquired Whole Gene Sequencer. During 2018-19, a total of 49,207 laboratory tests were performed including smear examination culture for AFB and DST. The laboratory is also involved in training and retraining of laboratory staff. Onsite evaluation visits of 25 districts are also done. PMDT Activities of 17 out of 25 Chest Clinics/ Districts were covered for diagnosis and follow up.
- iv. **Monitoring & Supervision Activities:** As STDC, the Centre is monitoring the RNTCP services in Delhi State. Analysis and feedback of quarterly programmatic management reports of 25 chest clinics of

Delhi is the key activity. During the year, 19 internal evaluation of 25 chest clinics of Delhi state were done. Total 21 supervisory visits were done.

- v. **ECHO Clinic:** The Centre runs ECHO clinic where every first Wednesday where a session is held for District TB Officers of Delhi and other states and other para medical staff. One didactic on an important topic is presented by one expert and a difficult case is presented by paramedical staff for discussion. In addition, the platform is used for training of field staff and review of RNTCP activities in Delhi state.
- vi. **Projects and Publications:** During the year six operational research projects are undergoing in the Centre. During the year total 16 research papers were published in national and international journals. Main projects of this year are:
- Framework for TB care in prisons.
  - Active case finding campaign of Tuberculosis among people who use intravenous drugs in New Delhi.
  - TB free Rohini Project.
  - Effect of counseling intervention on outcome among MDR TB patients in Delhi.

### Summary of Activities of New Delhi TB Centre

Parameters	2018-2019
New out patients registered	11847
Revisits	11885
Laboratory tests	49207
Mantoux test	10327
Taking treatment from DOT Centre	43
Radiological Examinations	1914
Attending special clinic (COAD)	1283
Personnel trained	2065
IRL Visits for EQA	19
Supervision & monitoring of chest clinics	21
Research and publications	16

### 16.12 NATIONAL CENTRE FOR DISEASE CONTROL (NCDC)

National Centre for Disease Control (NCDC) has its headquarters in Delhi and has 8 branches located at Alwar (Rajasthan), Bengaluru (Karnataka), Kozhikode (Kerala), Coonoor (Tamil Nadu), Jagdalpur (Chhattisgarh), Patna (Bihar), Rajahmundry (Andhra Pradesh) and Varanasi (Uttar Pradesh).

To expand and fortify the presence of NCDC by opening NCDC in the Country, it is proposed to establish 30 branches of NCDC to cover 29 States and 1 UT of Andaman & Nicobar Islands. This will include upgradation and shifting of existing 8 Branches to State Capital. This strengthening will serve for better disease surveillance, monitoring and for outbreak/s response and will make India more capable and equipped in the realm of public health, strengthen public health capacity and infrastructure at State level and enable NCDC expertise to effectively cover the entire country. The branches will be networked with one another and NCDC head- quarters.

The technical Centers/Divisions at the headquarters of the institute are:

- Centre for Epidemiology and Parasitic Diseases (Dept. of Epidemiology, Dept. Parasitic Disease),
- Division of Microbiology (including Centre for AIDS & related Diseases and Biotechnology),
- Division of Zoonosis and Division of Zoonotic Disease Programme,
- Centre for Medical Entomology and Vector Management,
- Division of Malaria and Coordination,
- Centre for Medical Entomology and Vector Management, Division of Malariology & Coordination (M&C),

- Centre for Non Communicable Diseases.
- Centre for Environmental & Occupational Health, Climate Change & Health.
- Integrated Disease Surveillance Programme (IDSP).

### 16.12.1 Divisions and Programmes of NCDC

#### A. INTEGRATED DISEASE SURVEILLANCE PROGRAMME (IDSP)

Government of India initiated Integrated Disease Surveillance Programme (IDSP) in 2004 in all States/UTs with the objective to strengthen/maintain decentralized laboratory based IT enabled disease surveillance system for epidemic prone diseases to monitor disease trends and to detect and respond to outbreaks in early rising phase through trained Rapid Response Team (RRTs).

The achievements of the programme:

- A total of 1606 outbreaks of epidemic prone diseases were reported and responded to by the States/Districts through IDSP network in 2018. Other than Vector borne, Vaccine preventable and water borne disease outbreaks, emerging diseases like Kyasanur Forest Disease, Crimean-Congo haemorrhagic fever, Seasonal Influenza-A (H1N1), Anthrax, Brucellosis etc., have been successfully detected and contained by the State/ district surveillance units.
- To further strengthen event based surveillance, IDSP has reported and verified 626 media alerts which were scanned for any unusual health events through media scanning and verification cell in 2018.
- District laboratories are being strengthened for diagnosis of epidemic prone diseases in a phased manner. 292 labs in 36 States/UTs have been approved for strengthening out of which 192 labs are performing as per tests recommended by IDSP (data till 31<sup>st</sup> December, 2018). These laboratories are being supported by trained manpower, funds for essential equipment and an annual grant of Rs 4 lakh per annum per laboratory for reagents and consumables.
- A State based referral laboratory network has been established by utilizing the existing functional labs in the identified medical colleges and other major centers in the States and linking them with adjoining districts for providing diagnostic services for epidemic prone diseases during outbreaks. Presently, network is functional in 23 States/UTs involving 118 labs.
- IDSP and its State units have enhanced the surveillance for Influenza like Illness (ILI) and Severe Acute Respiratory Infections (SARI), which acts as a precursor for diagnosis of Seasonal influenza including H1N1 (Swine Flu). IDSP assisted lab network of 12 Laboratories are providing laboratory support for Influenza in terms of testing, quality assurance, guidance, providing viral transport mediums and diagnostic reagents. Further, ICMR laboratories and laboratories in Private Sector are performing tests for Influenza.
- On request by MoHFW, WHO has designed & developed near real time, web enabled electronic health information system called Integrated Health Information Platform (IHIP). On 26<sup>th</sup> November, 2018, IDSP portion of IHIP was launched by Secretary Health & Family Welfare in Andhra Pradesh, Himachal Pradesh, Karnataka, Odisha, Uttar Pradesh, Kerala and Karnataka.
- Strategic Health Operation Centre (SHOC), NCDC managed by IDSP, participated in the Simulation Exercises on Global Pandemic Readiness conducted by WHO Headquarters Geneva from 4<sup>th</sup> to 6<sup>th</sup> December 2018. Further, the SHOC at NCDC was activated at full scale for Nipah Virus Disease outbreak at Kerala and for Kerala floods.



- The programme implementation was monitored by Annual review from 3<sup>rd</sup> to 5<sup>th</sup> May at Lucknow and 5 in depth Zonal reviews. (North at Chandigarh, South at Bangalore, East at Raipur, West at Ahmedabad and North East at Guwahati).

### States targeted for 2<sup>nd</sup> phase of IHIP roll out (12 States)

- Punjab, Haryana, Rajasthan, Madhya Pradesh, Gujarat, Maharashtra, Bihar, Jharkhand, West Bengal, Assam, Goa and Uttarakhand

## B. EPIDEMIOLOGY DIVISION

National Centre for Disease Control (NCDC), Delhi is a WHO Collaborating Center for Epidemiology and training. Regular training programmes and numerous other short-term training activities are conducted every year for participants are from different States/ Union Territories of India and also from some of the neighbouring countries like Nepal, Bhutan, Sri Lanka, Thailand, Timor Leste, Maldives and Indonesia. During the period, officers from the division of Epidemiology carried out investigations of outbreaks like Nipah, Meliodosis, Kala-azar, H1N1, Zika in addition to commonly reported outbreaks of communicable diseases and suggested containment measures to the authorities, assisted the state of Kerala in establishment of Post Disaster disease surveillance after floods and assessed health needs of the State post floods by carrying out rapid health assessment. A surveillance system for communicable disease was established in Prayagraj for mass gathering during Kumbh which helped in identification and containment of outbreaks of communicable diseases during the event. Provision of technical support to various national health programmes in the form of developing guidelines for control, manpower development, evaluation of different components / indicators.

## C. CENTRE FOR ENVIRONMENTAL & OCCUPATIONAL HEALTH, CLIMATE

## CHANGE & HEALTH

The Centre for Environmental & Occupational Health, Climate Change & Health was established in February 2015 and is the nodal technical agency for addressing human health issues due to Climate Change and Air Pollution on behalf of MoHFW.

### 1. Climate Change

- A 'National Action Plan on Climate Change & Human Health (NAPCCHH), has been prepared as a Health Mission Document under Prime Minister's Council on Climate Change. Now all States are working towards establishment of 'Environmental Health Cell' under State Nodal Officer - Climate Change in State Health Department, and constitution of a multi-sectoral Task Force to prepare State Specific Action Plan on Climate Change & Human Health (SAPCCHH).
- Climate Change and Human Health programme has been taken up under National Health Mission; the 6<sup>th</sup> MSG held in Feb, 2019 approved this new health programme.
- National Technical Consultation for development of State Action Plans on Climate Change and Human Health was held at India Habitat Centre in January, 2019

### 2. Air Pollution

- Sentinel surveillance for Acute Respiratory Illnesses (ARI) attributed to air pollution is being conducted in six major Delhi based hospitals/institutions (AIIMS, LHMC, SJH, RMLH, NITRD, VPCI). State health departments are also in process of initiating sentinel surveillance for ARI cases on similar design.
- Health advisory has been issued and IEC prepared and disseminated on air pollution.
- A National consultation on burden of diseases from Air pollution and role of health sector in combating health effects of air pollution



was held with WHO collaboration from 3-5 Oct, 2018 at New Delhi.

- NCDC participated in WHO First Global Conference on Air pollution at Geneva in Oct, 2018.

### 3. Heat related illnesses

- Surveillance for heat related illnesses and deaths is being conducted through IDSP.
- Daily heat wave alerts issued by Indian Meteorological Department is being disseminated to affected States.
- Health advisory have been issued and IEC prepared and disseminated on heat issues.

## D. NON-COMMUNICABLE DIVISION

Centre for Non-Communicable Diseases (NCDs): The centre provides technical support to NPCDCS, and is involved in capacity building, IEC & advocacy with policy makers and programme managers, monitoring & evaluation and research. The division completed the National NCD monitoring survey in seven Northern States of India. Officers from the division participated for the investigation into the causes of increasing burden of Chronic Kidney Disease in the Uddanam Area, Andhra Pradesh along with other officers. Expert group meetings were called for reviewing and finalizing the guidelines COPD/Asthma management, Chronic Kidney Diseases (CKD) management and to identify the gaps and areas of collaboration in the management and surveillance of Neuro-Developmental Disorders (NDD) under NMHP. The Division also organized technical sessions on days of public health importance, e.g., World No Tobacco Day, International Day of Yoga, World Heart Day, World Health Day and on women health issues at Indraprastha College, Delhi. Division also organised training on Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) for officers and officials of NCDC, Delhi at Department of Anaesthesia and Intensive Care, VMMC and Safdarjung Hospital, Delhi. EIS

officers attached with NCD Division, conducted a study on causes related to pre-hospital and hospital delays in patients admitted with ACS (Acute Coronary Syndrome) at Safdarjung Hospital.

## E. MICROBIOLOGY DIVISION

### 1 RESPIRATORY VIRUSES & TERATOGENIC VIRUSES LABORATORY

- The Influenza Lab at NCDC is the nodal laboratory among 12 network laboratories under IDSP Influenza lab network which is responsible for testing samples for H1N1 and other types of Influenza viruses across the country. It carries out routine referral testing from hospitals in and around Delhi as well as surveillance work from 3 sentinel surveillance sites viz. Kasturba Hospital, GTB Hospital and Safdarjung Hospital. Testing is done by Real time RT-PCR for H1N1 and other Influenza viruses using CDC approved protocol and reagents. NCDC is responsible for supply of sample collection kits and reagents as per CDC protocol to all the network laboratories, liaison with IDSP regarding funds release / signing of MOU, Quality Assurance in each laboratory, sample referral services for all labs, developing guidelines for laboratory biosafety, sample collections and to support the labs for representative sample testing or sequencing to monitor the circulating strain. The network labs are regularly sending their data to NCDC for information and analysis.
- The Laboratory provides molecular diagnostic services for Influenza A and its subtypes i.e. Seasonal H3N2, Pandemic H1N1, H5N1 (Bird flu), H7N9, Influenza B, MERS- CoV and other respiratory viruses by Real Time RT-PCR. Beside this, the laboratory also provides the serological diagnosis for Rubella (IgG&IgM), Cytomegalo Virus, Herpes simplex Virus I & II by using ELISA technique.

- During January to December, 2018, a total of 1409 throat/nasal swab samples were received for Influenza diagnosis. Out of these, 121 samples were positive for Influenza A H1N1, 89 for H3N2 from Jan to March 2019, 4305 samples were tested of which 1698 were positive for H1N1 and 5 were positive for H3N2.

## 2 National Programme on Containment of Antimicrobial Resistance (AMR)

- Under MoHFW, a “National Programme on Containment of Antimicrobial Resistance” was launched during the 12<sup>th</sup> five-year plan which is being coordinated by National Centre for Disease Control, New Delhi. It is an ongoing programme and AMR surveillance is a key component of the programme. In 2018-19, the network was expanded to include total of 20 labs in 18 States. Various trainings and workshops have been conducted viz.: data management using the WHONET software and conducting antibiotic consumption studies. Onsite visits were also carried out to the network labs for capacity building and to ensure submission of quality data. India has submitted the Annual AMR surveillance data from 10 sites for year 2017 onto GLASS (Global AMR Surveillance System). Annual AMR surveillance report for the year 2017 has also been uploaded on NCDC website and shared with various stakeholders. Activities like public conclave, poster and quiz competitions, etc. were conducted in schools, colleges and Health mela as IEC activities under the national programme to create awareness on the AMR among the common public. Media material has been finalized for countrywide dissemination. Antibiotic consumption studies have been initiated in 18 sites under the programme.

## F. ENTERO-VIRUS DIVISION

The Enterovirus Division, consisting of National Polio Laboratory and National Measles Laboratory,

is WHO accredited for Polio virus isolation and intratypic differentiation and for Measles and Rubella serology testing. In the year 2018-19, the laboratory has received and reported 13,114 stool specimens from acute flaccid paralysis (AFP) cases from Delhi, Uttarakhand, Western Uttar Pradesh, Haryana, and occasionally from Madhya Pradesh for Viral isolation and Real time PCR. The National Polio laboratory at NCDC also supports Environmental Poliovirus Surveillance (EPS) for Delhi, Punjab and Uttar Pradesh for Viral isolation and Real time PCR. In the year 2018-19, the laboratory has received and reported 564 sewage specimens. The Laboratory has highest workload in the country with respect to EPS. The Laboratory has got complete accreditation status with a score of 90% for virus isolation and 94% for RT-PCR by a team of experts from WHO. The laboratory has scored 100% in Proficiency testing for RT PCR for Polio viruses and 95% for Virus Isolation. The Laboratory is WHO accredited for Measles and Rubella testing and is a part of Measles Elimination Project under Measles & Rubella Surveillance in collaboration with WHO. The laboratory has received and reported a total of 274 samples for IgM antibody detection for Measles. The Laboratory has got complete accreditation status out in the month of April, 2018 with a score of 83.8% by a team of experts from WHO. A team from WHO HQ audited the laboratory for Measles and Rubella from 5<sup>th</sup>-6<sup>th</sup> March, 2019. The laboratory has scored 100% in Proficiency testing for Measles and Rubella IgM antibody detection by ELISA. The Laboratory has been providing diagnostic support for infection with other viruses like Mumps, Epstein Barr virus, Parvo virus B19, Varicella zoster virus and Enterovirus. In the year 2018-19, the Laboratory has received and reported a total of 559 samples for other viruses.

## G. DEPARTMENT OF PARASITIC DISEASES

It is associated with activities related to Neglected Tropical Diseases namely Guinea worm Disease, Soil Transmitted Helminthiasis (STH) and

Lymphatic Filariasis. The Department functions as National Nodal Technical Agency for National Guinea worm Eradication Programme and Soil Transmitted Helminthiasis in the country. India was declared free of Guinea worm disease in year 2000. Surveillance is being maintained for Guinea worm Disease in the post eradication phase through monthly reports from erstwhile endemic states, verification of Guinea worm rumours & maintaining rumor record till Global eradication is achieved. The Department has been continuously monitoring the STH disease burden in the country through periodic STH prevalence assessment surveys. Monitoring efficacy of principal anti-helminthic drugs, expanding the scope of STH preventive chemotherapy to other vulnerable population groups and research on newer diagnostic techniques also form the core activities of Department. Also, active contribution is being made towards Filaria elimination from the country through capacity building of medical & para-medical State health personnel. In 2018-19, trainings in Filariology were conducted for 33, 32 and 16 medical & para-medical staff at the three NCDC branches at Kozhikode, Rajamahendravaram and Varanasi respectively. In addition, regular disease & morbidity management clinics as well as diagnostic support (night blood smear and serological examination) is being provided through these three NCDC branches under the technical supervision of the Department.

#### **H. DIVISION OF MALARIOLOGY & COORDINATION**

The division provides technical support for outbreak investigations, conduct operational research and trained manpower development in the field of malarial diseases and their control in the country. It also provides diagnostic support to State Governments for laboratory diagnosis of malaria infection and coordinates and conducts short term orientation/training visits & conference etc. for post graduate medical, nursing and homeopathic students & other professionals. In 2018, till October, 29 short term orientation trainings were

organized by the division which trained 923 students from different Institutions. Also, in 2018, till October, 589 blood slides were examined for Malarial parasite and 40 were found to be positive. (Pv-40, Pf-00, Mixed-00).

#### **I. CENTRE FOR MEDICAL ENTOMOLOGY AND VECTOR MANAGEMENT**

Centre for Medical Entomology and Vector Management is reorganized to develop it as a National Centre par excellence for undertaking research for Field trial of DuraNet LLINs and Dengue virus antigen detection from dried mosquitoes collected from Delhi/NCR region to predict the impending outbreaks of Dengue, maintaining an Entomological Museum with more than 1.5 Lakh insect specimens, maintaining an Insectary of vectors of public health importance, laboratory and field evaluation of various formulations of insecticide against vectors of public health importance, providing technical support and to develop trained manpower in the field of vector-borne diseases and their control such as WHO training course on Vector Biology and Control and IDSP funded training course on ticks, mites and flea -borne diseases. The centre has been awarded with patent on NICD mosquito proof Cooler and a Biological control agent for mosquito larvae-Chilodonella launcinata. Entomological Surveys are being carried out in 10 International Airports and 7 Sea ports which are the POEs for Dengue, Yellow fever and Zika virus during the pre-monsoon and post monsoon period of the year. The Centre supplies various specimens of Arthropods of Medical Importance for training and teaching purpose to medical colleges and Universities. The centre provides technical guidance, support and advice to various States and organizations on outbreak investigations and entomological surveillance of vector-borne diseases and their control. Major outbreak investigations on Vector Borne Diseases have been carried out by the Division viz.- Zika outbreak at Ahmedabad, JE outbreak at Jagdalpur,

Scrub Typhus outbreak at Mizoram, JE outbreak at Solan, Himachal Pradesh, Dengue outbreak at Bilaspur, Himachal Pradesh, Dengue outbreak at Durg, Chhattisgarh, Chikungunya outbreak in Ranchi, Chhattisgarh, Post flood condition assessment of VBD's at Palakad & Malapuram, Kerala, Malaria outbreak at Bareilly & Badaun, Uttar Pradesh, Zika outbreak at Jaipur, Rajasthan, Zika outbreak at Bhopal, M.P. and Guinea Worm outbreak at Rishikesh, Uttarakhand.

## J. ZOONOSIS DIVISION

The division provides technical support for outbreak investigation, conduct operational research and trained manpower and their control

in the country. Diagnostic support is provided to State Governments for laboratory diagnosis of zoonotic infections of public health importance.

Division of Zoonotic Diseases Programmes is coordinating implementation of three National Health Programmes.

- Inter-sectoral Coordination Program for Prevention and Control of Zoonosis.
- National Rabies Control Programme.
- Programme for prevention control of Leptospirosis.

## K. CENTER FOR AIDS AND RELATED DISEASES

Activity	Performance
1. Quality control testing of kits under "Consortium of NRLs for kit Quality" Project.	22 batches of HIV, HBV & HCV kits evaluated
2. "External Quality Assessment Scheme" (EQAS) Project	Preparation and distribution of proficiency testing (PT) panels for HIV serology for linked 13 State Reference Laboratories (SRLs) and their associated ICTCs- conducted 2 rounds in August, 2018 & March, 2019.
3. HIV testing of samples under HIV Sentinel surveillance HSS-ANC	563 serum samples tested.
4. HIV counseling & testing at Integrated Counseling and Testing Centre (ICTC)	701 clients counseled and tested for HIV.
5. Serology, Immunology and Opportunistic Infections	<ul style="list-style-type: none"> <li>• 80 samples confirmed for HIV sero-status</li> <li>• HIV-2 status of 12 samples confirmed</li> <li>• 1612 samples tested for CD4 count</li> <li>• 328 samples tested for Syphilis</li> </ul>
6. NABL related activities	The centre has successfully completed NABL (National Accreditation Board for Testing and Calibration Laboratories) Desktop Surveillance as per ISO 15189:2012 standard in the field of medical testing (HIV and CD4 testing).
7. Workshop/Awareness activities	<ul style="list-style-type: none"> <li>• ICTC counselor and technician participated in the Awareness programme of AIDS in the observance of World Health Day at Campus Law Centre, Delhi University on 07.04.2018.</li> <li>• The centre organized on the spot poster making competition with the theme "Live Life Positively. Know your HIV status" on the eve of World AIDS Day (1<sup>st</sup> December, 2018) on 04.12.2018.</li> <li>• The centre organized 02 days workshop on "EQAS for HIV testing" for technical officers, Quality managers of SACS and Lab technicians of linked State Reference Laboratories on 6<sup>th</sup> and 7<sup>th</sup> March, 2019.</li> </ul>

## L. DIVISION OF VIRAL HEPATITIS

The Division conducts routine and referral diagnostic services for Viral Hepatitis, provides laboratory support for outbreak investigations, provides training on laboratory aspects and conducts Viral Hepatitis Surveillance.

Under the National Programme of Viral Hepatitis, detection of outbreaks, description of trends in type-specific acute hepatitis and identification risk factors, estimation of the proportion of chronically infected persons, estimation of the burden of chronic infections, estimation of the incidence of HCC and cirrhosis and other actionable opportunities for intervention are conducted. To achieve the above objectives, a Technical Resource Group comprising of Gastroenterologists, Epidemiologists, Microbiologists and representatives from NACO, ICMR, WHO, CDC has been constituted. A preliminary plan for carrying out the Viral Hepatitis Surveillance was developed with inputs from experts across the country and representatives from NACO, ICMR, WHO and CDC. A detailed plan for surveillance and Operational Guidelines for the testing laboratories and physicians has also been developed. A treatment guideline on “Viral hepatitis — The Silent Disease: Prevention Control and Treatment Guidelines” has also been published.

Integration of chronic surveillance with HSS and inclusion of biomarkers for Hepatitis B and C in NFHS for estimating the burden of disease of HBV and HCV

## M. DIVISION OF BIOTECHNOLOGY/ MOLECULAR DIAGNOSTICS

The division provides molecular diagnostic services, molecular epidemiology, specialized training and applied research on various important epidemic-prone diseases of public health

### 16.13 CENTRAL RESEARCH INSTITUTE (CRI), KASAULI

Central Research Institute, Kasauli was established on 3<sup>rd</sup> May, 1905. It is a subordinate office of Directorate General of Health Services under the MoHFW, Government of India. Central Research Institute is engaged in the following activities:

- Production of bacterial and viral vaccines & sera.
- Production & supply of diagnostic reagents.
- Research and development in the field of immunology and vaccinology.
- Teaching and training in vaccinology and microbiology.
- Quality Control of immunologicals.

### Manufacturing and Supply of Vaccines and Anti-sera

During the year, (2018-19) (up to 31.03.2019) the Institute has supplied following lifesaving products manufactured in the Institute:

Sl. No.	Name of Vaccine	Installed capacity per annum	Quantity Manufactured	Demand	Supply
1	Diphtheria Antitoxin (ADS) 10,000 IU (Vial)	10,000	3096	4590	3075
2	Anti Snake Venom Serum (ASVS) (Liq) (10ml Vial)	10,000	434	284	90
3	Anti Rabies Serum (ARS) (5 ml Vial)	80,000	6315	21,225	2590



CRI Kasauli also imports Yellow Fever vaccine through WHO to cater to the need of general public. In the year 2018-19, the institute imported 1,15,000 doses against the demand of 2,04,010 and supplied 1,45,300 doses.

The DPT facility at institute has complied with cGMP standards. Applications have been made to Drug Controller General of India for regulatory permission to start production and supply.

### Other activities of the Institute

In addition to manufacturing of vaccines and Antisera, the institute is also engaged in other important activities such as:

- Quality assurance and quality control activities
- National Salmonella and E. Coli Centre.
- National Influenza Surveillance Centre
- Rabies Research Centre
- National Polio Laboratory for Surveillance
- Experimental Animal House
- Medical Treatment Centre & Diagnostic Laboratory.
- Academic & Research Activities
- MSc. (Microbiology) classes are running in this institute under H.P. University, Shimla
- Certificate course in Production of Immunobiologicals and Animal Care is running in this Institute and at present 50 Candidates are undergoing training under skill development programme of Govt. of India

### 16.14 NATIONAL INSTITUTE OF BIOLOGICALS (NIB), NOIDA

The National Institute of Biologicals (NIB) is an autonomous Institute under the administrative control of MoHFW, Government of India. The

mandate of the Institute is to ensure safety, potency and standard supply of biological and biotherapeutic products, both imported and manufactured indigenously, as per pharmacopoeia specifications, collaborate with Indian and other pharmacopoeias in finalizing the specifications, train personnel in the public and private sectors, prepare National Reference Standards, collaborate with other National and International Scientific Institutions/ organizations in upgrading technologies and keeping abreast of scientific advances made in the field of quality assessment of biological and bio therapeutic products. The Institute also provides technical expertise during following joint inspections for enforcement of implementing standards in India in the respective areas:

- a. Manufacturing premises by a team of officers constituted by Central Drugs Standards and Control Organization (CDSCO).
- b. Laboratories by National GLP Compliance Monitoring Authority (NGCMA) - GLP inspectors.
- c. Animal house(s) by Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA).

NIB is making sincere efforts to live up to its mandate of quality service in the healthcare sector of the country with the continuous support and guidance from MoHFW (Government of India), Central Drugs Standards and Control Organization (CDSCO) and Industry in facilitating NIB in its endeavours.

The outstanding performance of NIB this year, is highlighted by the active participation of the Institute in various scientific activities at International level specifically its pivotal role in the related World Health Organization (WHO) programmes as well as extending support to other international organizations of repute to establish quality control testing of biologicals, laboratory quality management system and haemovigilance



programme. These collaborative activities have enhanced Institute's international visibility and standing.

This year the Institute has evaluated 1809 samples including 13 samples drawn under Drugs & Cosmetics Act and Rules. Out of these, 46 batches were found to be of Not of Standard Quality (NSQ), thus highlighting the role of Institute in protecting and promoting public health as the NSQ samples if released into the market without being tested, could have adversely affected the public health. The evaluation is done as per relevant pharmacopoeia(s)/ manufacturer's specifications for non pharmacopoeial products/ international guidelines including WHO TRS, EDQM Batch release guidelines for blood products. The animal facility of NIB used a total of 10532 small laboratory animals' viz. Swiss mice, G. pigs, rabbits, spraguedawley rats, wistar rats to test 1216 biological samples. The capacity of NIB to test different types of biologicals has increased during this period to 245 from 209 in 2017-18.

The biomedical waste generated through the testing of biological products is segregated and disposed off as per Bio-Medical Waste Management Rules, 2016 of Ministry of Environment, Forest and Climate Change, Government of India. During this year a total of 6023 Kg of Laboratory waste (under red, yellow and blue category) was handed over to UP Pollution Control Board authorized vendor for final disposal. A total of 82,356 Kg of generated animal waste was incinerated at NIB's incinerator producing 2,110 Kg of ash which was handed over to another authorized vendor (M/s UP Waste Management Project) for final disposal at the identified site at Kanpur by the UP Pollution Control Board. Every month a Biomedical Waste Management Report of the amount of biomedical waste generated, segregated and disposal by NIB is submitted to MoHFW, Environment, and Climate Change Cell, Government of India.

The Animal Facility of NIB with necessary approval from *Committee for the Purpose of*

*Control and Supervision of Experiments on Animals (CPCSEA)* vide letter dated 6<sup>th</sup> January, 2016 for selling quality animals (small) to other Institutions, has supplied this year a total of 3252 laboratory animals viz. Sprague Dawley rats, Wistar rats, Swiss mice, BALB/c mice, G. Pigs to 25 other research and educational Institutions in Delhi- NCR, and 5 other states viz. Uttar Pradesh, Haryana, Uttarakhand, Himachal Pradesh and Madhya Pradesh.

Active participation of the Institute in various scientific activities at International level specifically its pivotal role in the related World Health Organization (WHO) programmes is as hereunder:

- i) Immunodiagnostic kits and molecular diagnostic laboratory of NIB has been designated as a WHO Collaborating Centre for quality control of HIV, HCV, HBsAg and Syphilis in-vitro diagnostic assays (WHO-CC No. IND-148) by WHO on 19<sup>th</sup> September, 2018. Director NIB along with four Scientists of the Institute attended 4<sup>th</sup> WHO Global Forum on Medical Devices "Increasing access to medical devices" held at AMTZ-Kalam Convention Centre, Visakhapatnam, India from 13<sup>th</sup> to 15<sup>th</sup> December, 2018. During the forum, NIB was felicitated with certificate declaring immunodiagnostic kits & molecular diagnostic laboratory, NIB as the WHO Collaborating Centre by the Secretary, MoHFW, Government of India.
- ii) NIB has been designated as "Support Cell" for WHO Prequalification Programme for In-vitro Diagnostics on 22<sup>nd</sup> November 2017. The role of WHO-PQ support cell at NIB is to provide necessary hand holding and guidance to Indian manufacturers on the WHO-PQ Programme of in-vitro diagnostics (IVDs), enabling them to match global quality standards and match up to the momentum versus the scale and magnitude of issues the IVD industry is facing with regard

to quality and documentation activities as per WHO expectations. NIB as support cell has responsibilities of extending technical expertise, Capacity building and training & technical support to the IVD manufacturers. The support cell has conducted following two meetings till date as below:

- (a) The 1<sup>st</sup> meeting was held on August 17, 2018, at NIB with the various stakeholders of IVD to deliberate upon support cell activities which need to be extended by NIB to the IVD manufacturers for WHO-PQ.
  - (b) The 2<sup>nd</sup> meeting was held on February 13<sup>th</sup>, 2019, at NIB with active participations from industry associations like Association of Indian Medical Device Industry (AiMeD) and Association of Diagnostic Manufacturers of India (ADMI). The objective of the meeting was to address the issues raised by stakeholders in the 1<sup>st</sup> meeting and also to deliberate and decide upon due course of actions to be undertaken by NIB & WHO and role of respective stakeholder associations.
- iii) The Second stakeholders' meeting to include the protocol for determination of PRP content of Hib vaccine by HPAEC-PAD in Indian Pharmacopoeia was held at NIB on 23<sup>rd</sup> May, 2018 and was attended by the representatives of Indian Vaccine Manufacturers, Indian Pharmacopoeia Commission and NIB. At present Indian manufacturers are working on the validation protocol and once the validation is completed then the validation data will be submitted to NIB for verification. Verification at NIB will be completed by 30/04/2019 as per proposed timeline. NIB is keeping WHO and National Center for Immunobiologicals Research and Evaluation (CRIVIB), Instituto Superiore di Sanità (ISS), Rome, Italy informed about the progress from time to time.

- iv) Haemovigilance Programme of India (HvPI):
  - (a) WHO Regional Office for South East Asia (SEARO) in coordination with NIB & WHO Country Office in Bangladesh has facilitated hands on training for officials of Directorate General of Health Services, Government of the People's Republic of Bangladesh on capacity building on Haemovigilance system for quality and safety of blood donation and transfusion from 8<sup>th</sup> to 12<sup>th</sup> October, 2018 at NIB.
  - (b) WHO Regional Office for South East Asia (SEARO) has requested NIB to organize a Regional meeting of national focal points of blood transfusion services to review the progress of implementation of Global Strategy of Safe Blood with special emphasis on haemovigilance on 19-22 August, 2019 wherein 11 Member States of South East Asia region will participate at NIB.

NIB is notified Central Drugs Laboratory (CDL) under Drugs & Cosmetics Act for Blood Grouping Reagents, Immuno-diagnostic Kits, Blood Products, Recombinant Products, Biochemical Kits, Enzyme and Hormones, Bacterial Vaccines and Viral Vaccines vide Extraordinary Gazette Notification G.S.R.908 (E) dated 22.12.2014 and G.S.R.250 (E) Dated 15.03.2017 respectively. Four Scientists of the Institute are notified Government Analysts vide Extraordinary Gazette Notification S.O. 2393 (E) dated 02.09.2015 and G.S.R. 250 (E) - Part-II - Section 3 - Sub-Section (i) dated 15<sup>th</sup> March, 2017 respectively. The Jammu & Kashmir State Government has notified these NIB scientists as Government analysts for their State vide S.R.O. 193 dated 21<sup>st</sup> April, 2017.

NIB is designated vide Gazette Notification S.O 2237 (E) dated June 1, 2018, Central Medical Device Testing Laboratory (CMDTL) for In-

vitro Diagnostics for HIV, HBsAg and HCV, Blood Grouping Sera, Glucose Test Strips, Fully Automated Analyser based Glucose Reagent. The Central Government, vide Gazette Notification S. O. 3400 (E) dated 11.07.2018, designated the Four Government analysts from NIB as Medical Device Testing Officers in respect of HIV, HBsAg and HCV, Blood Grouping Sera, Glucose Test strips, Fully Automated Analyzer based Glucose reagents.

NIB continues to retain its NABL accreditation status as per ISO/ IEC 17025: 2005 for the period 2018-2020 after reassessment on 9-10 June, 2018 for 120 products including Therapeutics, Diagnostic kits, Reagents and Vaccines tested at NIB. The accredited Biological tests have increased from 140 to 160 in 2018-2020 and accredited Chemical tests from 86 to 125 in 2018-2020.

To assure the safety of the employees, the Institute has successfully acquired the Bureau Veritas Certification/ UKAS (BS OHSAS 18001:2007) certification (Certificate No. IND 18.8672U/ HS) valid letter No. 4090200 dated 04/06/2018 from 24<sup>th</sup> May, 2018 till 11<sup>th</sup> March, 2021. This certification provides a framework to identify, control and decrease the risks associated with health and safety within the workplace. OHSAS 18001:2007 is the internationally recognized standard for Occupational Health and Safety Management Systems and it stands for Occupational Health and Safety Assessment Specification.

NIB also participated in the following International/ National External Quality Assessment Scheme (EQAS)/ proficiency testing with the objective to check the laboratory's performance by an external agency

- Blood product laboratory successfully participated in an international PT Study on Fibrin Sealant Kit (PTS 164) organized by EDQM, France and obtained satisfactory results.

- Vaccine laboratory has participated in Proficiency Testing Study – Determination of PRP content of Haemophilus influenzae type B capsular polysaccharide in liquid vaccine presentation by HPAEC- PAD- on samples forwarded by WHO-HQ, Geneva.
- Immunodiagnostic kit laboratory successfully participated quarterly in International EQAS for Hepatitis Serology, HIV Serology and Syphilis Serology conducted by National Serology Reference laboratory (NSRL)- Australia.
- Biochemical kit laboratory is enrolled and successfully participated in the ACBI/ CMC External Quality Assessment Scheme (EQAS)-2018 and 2019 for Chemistry II (Glucose, Cholesterol & Triglycerides), conducted by the Department of Clinical Biochemistry Christian Medical College, Vellore.

In addition to National Reference Standard for Insulin Human IPRS and 4-Reference Performance Sera Panels viz HIV, HBsAg, HCV and Syphilis, NIB has prepared National Reference Standards for Insulin Lispro IPRS. Institute will release National Reference Standard for Minimum Potency of Anti-A and Anti-B blood grouping reagents in the month of April, 2019.

NIB Scientists presented posters at:

- Vigyan Bhawan, New Delhi on “Nanotechnology in Healthcare Applications – A Quality Control Perspective” in “6<sup>th</sup> world congress on Nanomedical Sciences- ISNSCON-2018”, “Chemistry-Biology Interface 2019” and “Conference on “Science and Technology for the Future of Mankind” from 7 to 10 January, 2019. This international event was held for the first time in India with a very large number of participation of distinguished scientists from India as well as overseas including Nobel

Laureates. The abstract has been published in the book of abstracts, a supplement to the journal of International Journal of Artificial Cells Nanomedicine and Biotechnology.

- Indian Institute of Science, Bengaluruon “Machine Learning and Computer Vision in Diagnostics” in the event “From Biological Transactions: Molecules to organisms 2019 (BTMO 2019)” organized by from 17<sup>th</sup> to 20<sup>th</sup> January, 2019.

NIB in collaboration with the Division of Innovation and Translational Research- Indian Council of Medical Research (ICMR), New Delhi is guiding the manufacturer with respect to product design, sensitizing them about the device’s test parameters, and their specifications and limits of acceptance. This collaboration of the indigenous manufacturers with the biochemical kit laboratory, during product development stage, will sensitize them regarding the quality parameters and develop their preparedness for going to the next level.

Furthermore, NIB has established linkages with various national and international scientific and regulatory agencies and its scientists have performed following activities:

- an expert member of the team of South African National Accreditation System (SANAS), South Africa and assisted in Desktop Surveillance audit of South African National Control Laboratory (SANCL) for Oral Polio Vaccine, Measles Vaccine and Yellow Fever Vaccine as per ‘ISO: 17025:2017 Accreditation’ on 26<sup>th</sup> Feb, 2019.
- Speaker(s) at:
  - a. 35<sup>th</sup> International Congress of the ISBT Toronto Canada from 2<sup>nd</sup> to 6<sup>th</sup> June, 2018 wherein a presentation was made “Indian Experience of Introducing a Haemovigilance Scheme” during the congress.
  - b. WHO Western Pacific Region (WPRO)

– National Control Laboratory (NCL) Workshop, National Institute of Food and Drug Safety Evaluation (NIFDS), South Korea on 28<sup>th</sup> June, 2018 wherein a lecture was delivered on “Current Consideration for immunoglobulin in NIB, India”.

- c. Conference on “In-vitro Diagnostic Device Regulation” at Taipei, Taiwan on 9<sup>th</sup> & 10<sup>th</sup> July, 2018 wherein a lecture was delivered on “Updates on In-vitro Diagnostic Regulation in India” on 10<sup>th</sup> July, 2018 at Taiwan on request of Taiwan FDA.

- One NIB Scientist nominated as a faculty, was selected as one of the 13 finalized candidates (06 faculties and 07 students) from India by Ministry of External Affairs/ Government of Japan under the categories of young doctors/ scientists/ researchers for 2<sup>nd</sup> batch of Japan-East Asia Network of Exchange for Students and Youth 2018 for SAARC countries (JENESYS 2018) held at Japan from 21<sup>st</sup>- 29<sup>th</sup> January, 2019. He attended the programme under the theme “Health” which was to build a basis for future friendship and cooperation.
- One NIB Scientist nominated by the ICMR attended the WHO SEARO GAP III Implementation Training for poliovirus laboratory containment in Bandung, Indonesia from 18 to 22 February, 2019. This training was provided by the WHO in association with Global Polio Eradication Initiative (GPEI) partners and in collaboration with RiskrenBiorisk Management to minimize poliovirus facility-associated risk after type-specific eradication of wild polioviruses and sequential cessation of oral polio vaccine use was imparted.
- One NIB scientist heading the Haemovigilance Programme of India (HvPI) – NIB, has now been designated as Secretary



of International Haemovigilance Network (IHN) Board.

- NIB scientists on request from Biotechnology Industry Research Assistance Council (BIRAC) participate and give expert inputs and address the queries from Startups/innovators in meetings of the FIRST Hub i.e. Facilitation of Innovation and Regulations for Start-ups and Innovators.

NIB is the National Coordinating Centre for Haemovigilance Programme of India (HvPI) and the said programme was launched on 10<sup>th</sup> December, 2012 across the country. This year 05 CMEs and 05 National level workshops were conducted for creating awareness on importance of reporting adverse transfusion reactions. A total of 1538 participants which includes Blood bank officials, clinicians, nurses, blood donor motivators & blood bank technical staff were trained during these CMEs/ Workshop organized by HvPI Division of NIB across the country.

Under “Pradhan Mantri Kaushal Vikas Yojna” the Institute conducted training programmes on National Skill Development and hands- on training on Quality Control of Biologicals and also in collaboration with National Health Mission (NHM) for strengthening Blood banking services of the country. More than 460 personnel have been trained during this year including students, blood bank officials, and technical personal from manufacturing units. These training Programmes are designed to cater the specific needs of the trainers viz. blood bank officials through National Health Mission, Department of Biotechnology (DBT), Post –Graduate Students through National Institute of Pharmaceutical Education and Research (NIPER)/ Universities of Himachal Pradesh, Silchar, Guwahati and JSS Ooty, Mysore, Technical Personal from manufacturing units and training of Post Graduate Students from different universities. NIB is going to initiate National Skill Development & Hands- on Training program for Post Graduate students of tribal regions of the country i.e. Chhattisgarh and Jharkhand in April,

2019 (University of Bastar and University of Sant Gahira Guru, Chhattisgarh and Vinoba Bhawe University, Jharkhand).

NIB, participated in the exhibition ‘Rise in Jammu & Kashmir 2018’, at Yatri Niwas, Bhagwati Nagar, Jammu from the November 1 to 3, 2018 where in 45 national institutions/ organizations of repute exhibited their respective areas of services to the nation & interacted with the students and general masses. NIB’s team showcased its multidimensional activities viz career and training opportunities in the field of biologicals. NIB’s stall, was the center of attraction as they demonstrated mobile app based Point of Care Blood Glucose monitoring devices. The visitors were also explained about the latest applications of artificial intelligence in the diagnosis of cervical cancer.

### Budget & Finance

During the Financial Year 2018-19, the approved Budget Estimate (BE) allocation was for Rs. 41.79 Crore and the Revised Estimate (RE) was approved for Rs. 39.05 Crore. The Institute generated a gross revenue of Rs. 13.60 Crore (including GST) from various sources, i.e., testing fee/charges for evaluation of various biologicals products samples. Training fee received from various training programmes, users charges for hostel & guest house and interest on the saving bank account etc.

Brief details are as under: -

Particulars	Amount (Rs. In Crore)
Budget Estimate (BE)	41.79
Revised Estimate (RE)/Final Estimate	39.05
Expenditure during the year (approx.)	37.11
Gross Revenue Earned (approx.)	13.60



## 16.15 BCG VACCINE LABORATORY, GUNDIRY

BCG Vaccine Laboratory, a sub-ordinate office under Directorate General of Health Services, MoHFW, Government of India was established on 1<sup>st</sup> May, 1948 for manufacture and supply of BCG Vaccine. The Institute is involved in the following activities:

- Manufacture and Supply of freeze dried BCG Vaccine (10 doses) to UIP of Government of India for control of Childhood Tuberculosis and Tubercular Meningitis.
- Manufacture and supply of freeze dried BCG Cancer Therapeutic Vaccine (40mg), for carcinoma of urinary bladder.

### New cGMP facility established for manufacturing BCG Vaccine:

- In-house quality control tests for six consistency batches produced in new cGMP facility were undertaken and found to comply as per requirement of Indian Pharmacopoeia.
- Central Drugs Laboratory, Kasauli, has certified that the samples were of standard quality on 27.06.2018.
- Online application for market authorisation through SUGAM Portal has been completed on 11.2.2019.
- Upon receipt of Grant of Licence (Manufacture & Sale), commercial production for BCG Vaccine will be initiated.

### Academic activities carried out at BCGVL:

- BCGVL provides internship training for post-graduate and under-graduate students in the faculty of Microbiology, Bio Chemistry and Bio-technology from Government/Private colleges and from University of Madras. This training is for the period of one month which sensitizes the participants on the outline of production and testing aspects of BCG Vaccine. For the year 2018-2019,

BCGVL has provided internship training for 16 PG and 9 UG students.

- 36 Post Graduate Students of Microbiology & Biotechnology visited BCGVL in the year 2018-19 for one-day visit for orientation program on BCG Vaccine production. These academic activities impart the knowledge and experience for the students in this field thereby contributing to the skill development program of Government of India.

## 16.16 PASTEUR INSTITUTE OF INDIA (PII), COONOOR

Pasteur Institute of India, Coonoor was established as Pasteur Institute of Southern India on 6<sup>th</sup> April, 1907 and the Institute took a new birth as the Pasteur Institute of India (registered as a Society under the Societies Registration Act, 1860) and started functioning as an Autonomous Body under the MoHFW from 10<sup>th</sup> February, 1977. The affairs of the Institute are managed by a Governing Body.

This Institute has been involved in the production of DPT group of vaccines and Tissue Culture Anti Rabies (TCAR) vaccines.

### Present activities:

- The DPT facility as per new GMP (Good Manufacturing Practice) standards has been established with a total non-recurring expenditure of Rs. 146.61 crore.
- Upon snag points being attended to, in the new DPT facility, the Performance Qualifications activities, trial batch production and process validation is to be carried out.

### Other Activities :

Since the inception in 1907, PII, Coonoor has been running an Anti-Rabies Clinic for rabies prophylaxis.

- PII, Coonoor is also running a Rabies Diagnostic Lab for general public. About 165 serum samples were received for rabies neutralizing antibody testing to assess post-

vaccination sera conversion for the protection against rabies infection.

- In commemoration of World Rabies Day observed on 28<sup>th</sup> Sep. 2018, an awareness Rally was organized, followed by Drawing, essay writing and quiz competitions were organized for school children.

#### Academic activities

- 12 scholars are pursuing Ph.D. course affiliated to Bharathiar University, Coimbatore. 4 publications on Rabies have been published in high impact journals during the current year.
- Research Scholars are developing recombinant vaccines of Rabies, Diphtheria and Pertussis using Novel approaches as part of their Ph.D. curriculum.
- Industrial visit for students from different Colleges and Universities is organized to create awareness in vaccine production, immunization procedures, health care etc.

#### 16.17 INSTITUTE OF SEROLOGY, KOLKATA

Institute of Serology, Kolkata was established in the year 1912 and functions as a sub-ordinate office of Directorate General of Health Services under MoHFW. The role of the Institute is as under:

- Expertise in Forensic Serology for determination of origin of species of different biological exhibits.
- Production of quality diagnostic reagents like VDRL Antigen, species specific Antisera, Anti H Lectin which are supplied to the Government and Non-Government Institutions.
- Regional STI Reference Laboratory under NACO which assist WBSACS for diagnosis of STI and Training of Laboratory Technicians of ICTC of West Bengal.
- The V. D. Serology Section provides testing facilities for syphilis in different Medical

Colleges & Hospitals of West Bengal.

- Isolation of Polio Virus from stool samples of AFP cases from Eastern & NE Region and part of Bihar, Jharkhand by National Polio Laboratory under the WHO and NPSP. Isolation of Polio virus from environmental samples (sewage water) from some municipal corporation areas in Kolkata is being done for surveillance and intratypic differentiation of Polio Virus by ITD Laboratory using PCR technique.
- National Measles Laboratory for serological detection of Measles & Rubella from West Bengal, Jharkhand, Orissa, Andaman & Nicobar Island.

#### Achievements during the year 2018-19:

- **V. D. Serology:** 2884 blood samples were tested for syphilis.
- **Forensic Serology:** 5400 exhibits were tested for species origin and group determination.
- **BGRC Section:** 4300 mls. Anti H Lectin was produced and 4665 mls. supplied to different Forensic Laboratories.
- **Antibody Section:** 3585 mls. of Antisera were produced and 3522 mls. supplied to different State & Central forensic science laboratories.
- **Measles Laboratory:** 3792 of samples were received and tested for Measles and 2230 for Rubella.
- **Quality Control:** 86 lots of cases were received and tested.
- **National Polio Laboratory:** 12414 stool samples were tested for NPV and VDPV and 325 samples tested for environmental surveillance.
- **Antigen Production Section:** V.D.R.L. antigen production unit produced 4170 mls antigen and supplied 4370 mls antigen to different hospitals and S.T.D. clinics throughout India.

STD/Bacteriology Section: 13270 of tests were done for diagnosis of different types of STIs from STI clinics of medical colleges of Kolkata.

### 16.18 INTERNATIONAL INSTITUTE FOR POPULATION SCIENCES (IIPS), MUMBAI

Since its inception in 1958, Institute for Population Sciences, conducts teaching, training and research in the field of demography and health. Its scope considerably widened with the University Grants Commission (UGC) conferring the Deemed University Status in 1985.

#### 16.18.1 Teaching

During the academic year 2018-19, the Institute offered the following courses : (a) Master of Arts/Science in Population Studies (M.A./M.Sc.); (b) Master of Science in Bio-Statistics and Demography (MBD); (c) Master of Population Sciences (MPS); (d) Master of Philosophy in Population Studies/Bio-Statistics & Demography (M.Phil.); (e) Doctor of Philosophy in Population Studies (Ph.D.); (f) Post-Doctoral Fellowship (PDF) Non Degree; (g) Diploma in Health Promotion Education (DHPE) and (8) Post Graduate Diploma in Health Care (PGDCHC).

Apart from these programmes, the Institute also offers Master of Population Studies (MPS), Master of Arts (Population Studies) and Diploma

in Population Studies (DPS) through distance learning.

During the 2018-19, 38 students qualified for the award of degree in Masters of Arts/Science in Population Studies (M.A./M.Sc.). 11 students qualified for award of degree in Masters of Science (M.Sc. in Bio Statistics & Demography). The degree in Masters of Population Studies was awarded to 41 students. 58 students were eligible for receiving degree in Master of Philosophy (M.Phil in Population Studies/Bio-Statistics and Demography). During this academic year 24 students completed all the requirements for award of Ph.D. Degree in Population Studies/Bio-Statistics and Demography. 21 students received their Diploma in Health Promotion Education (DHPE) whereas 6 students qualified to receive the Post Graduate Diploma in Health Care (PGDCHC). For Distance Learning 38 were awarded the Masters of Population Studies (MPS) and 1 student qualified for Diploma in Population Studies.

#### 16.18.2 Research

The Institute conducts research programmes using its own resources and also through external funding. The externally funded research projects are normally initiated at the request of the concerned agencies. The ongoing projects at the institute are as under:

### A. Research Projects Funded by The Institute

#### 1. Completed Project

Sr. No.	Title of the Research Project	Project Coordinator
1.	Population Scenario in India Long Term Prospect	F. Ram., L. Ladusing, R.B. Bhagat and S. Unisa
2.	Changes in the Household Amenities and Assets in India: A Census Based Study	R.B. Bhagat, Sunil Sarode and Laxmi Kant Dwivedi
3.	Health Infrastructure and MCH care in Rural Areas of India	Manoj Alagarajan and M. Guruswamy
4.	Indirect Study of Survival from Cancer: A Large Scale Empirical Application in India	Murali Dhar and B. Paswan

## 2. Continuing Projects

Sr. No.	Title of the Research Project	Project Coordinator
1.	Estimation of Vital Rates for Bombay Presidency in the Colonial Period	Chander Shekar, F. Ram and T.V. Sekher
2.	Follow-up Comprehensive Nutrition Survey in Maharashtra, 2015-18 (CNSM)	Sayeed Unisa and Prakash H. Fulpagare
3.	Historical Trends and Patterns of Population and Development in India: A District Level Analysis	P Arokiasamy, R. Nagarajan, Pralip Kumar Narzary, Manoj Alagarajan, Aparajita Chattopadhyay, Harihar Sahoo, Suryakant Yadav
4.	Causes and Consequences of Out-Migration from Middle Ganga Plain	Archana K. Roy, R.B. Bhagat, K.C. Das, Sunil Sarode, R.S. Reshmi
5.	Daughter Only Families in India Levels, Trends and Differentials	Harihar Sahoo and R. Nagarajan
6.	Equal living condition of Housing Shelter for Different Social Groups in Tamil Nadu: Model Village created for Social Development	D.A. Nagdeve, Chander Shekhar, S.K. Mohanty and P. Murugesan
7.	Trends in out of pocket expenditure (OOPE) and catastrophic health spending in India	S.K. Mohanty
8.	Population growth and state of healthcare services in North East India. With special reference to the recognized tribes, 1951 to 2011	H. Lungdim, Harihar Sahoo and L. Ladusingh

## 3. New Projects

Academic Council has approved two new projects to be undertaken in the next academic session, as below:

Sr. No.	Title of the Research Project	Project Coordinator
1.	Projection of District level Annual Population by Quienquennial Age-Group and Sex from 2011 to 2031 in India	Murali Dhr and B Paswan
2.	Geo-Spatial Mapping of Village and Ward Level in Uttar Pradesh	L.K. Dwivedi, A.K. Mishra and Sayeed Unisa

## B. Research Projects Funded by External Agencies

### 1. Completed Projects

Sr. No.	Title of the Research Project	Project Coordinator	Funding Agency
1	Lead Technical Support Agency for Baseline Survey for Swabhimaan Women's Nutrition Demonstration Programme in Phase 1 States; Bihar, Chhattisgarh and Odisha	Sayeed Unisa, Prakash H. Fulpagare, Aparajita Chattopadhyay, Sarang Pedgaonkar, Preeti Dhillon	UNICEF, New Delhi
2	Population Environment and Settlement (ENVIS)	Dhananjay W Bansod and Aparajita Chattopadhyay	Ministry of Environment, Forest and Climate Change, Government of India
3	Enhancing Capacity to Apply Research Evidence in Policy Making	F. Ram, Sayeed Unisa & Aparajita Chattopadhyay	Welcome Trust & CORT, Vadodara
4	Impact Assessment of Dumping Ground Fire on Health : A Case Study in Mumbai	L. Ladu Singh, Dhananjay W Bansod, and Aparajita Chattopadhyay	Ministry of Environment, Forest and Climate Change, Government of India

### 2. Continuing Projects

Sr. No.	Title of the Research Project	Project Coordinator	Funding Agency
1.	Longitudinal Aging Study in India (LASI) Main Wave (2014-19)	P. Arokiasamy, D. A. Nagdeve, T.V. Sekhar, S.K. Mohanty, A. Chattopadhyay, Dipti Govil and Sarang Pedgaonkar	MOHFW/MOSJE, Government of India, UNFPA and National Institute on Ageing (NIA)/ National Institute of Health (NIH), USA.
2.	Study of Global Ageing and Adult Health (SAGE)-India, Wave-2, 2014-16	P. Arokiasamy, H. Lhungdim, T.V. Sekher, Murali Dhar and Archana K. Roy	The World Health Organization, Geneva.
3.	National Family Health Survey-4	F. Ram, B. Paswan, S.K.Singh, H. Lhungdim, Chander Shekhar, Abhishek Singh, Dhananjay Bansod Manoj Alagarajan, L.K. Dwivedi, Manas Pradhan and Sarang Pedgaonkar	USAID, DFID, BMGF, UNICEF, UNFPA, the MacArthur Foundation, and MoH&FW, Government of India.
4.	Unintended Pregnancies and Abortion in India (UPAI) Study	F. Ram, Chander Shekhar, Manoj Alagarajan, M.R. Pradhan and Harihar Sahoo	Guttmacher Institute, USA.
5.	Counting Women's Work	L. Ladusingh	IDRC Canada
6.	SWABHIMAAN	Sayeed Unisa, R.S. Reshmi, Laxmikant Dwivedi, Sarang Pedgaonkar	UNICEF, New Delhi



### 16.18.3 Publication and Dissemination

The Institute faculty and students publish the findings of their studies through national and international journals and books. They also disseminate their work through various seminars, conferences and workshop. In the year 2018-19, 150 papers and 6 books were published by the faculty/research staff and students. Total 52 research project reports/monographs were published by the institute and 123 research papers were presented by the faculty/staff/students in various conferences. IIPS also organized 52 seminars/conferences/workshops during this year.

### 16.18.4 Library

The International Institute for Population Sciences Library has a collection of resources taking into consideration the course contents and research needs of the Institute. It holds about 85,736 books, 17,262 bound volumes of periodicals, 17,041 reprints and 630 audio-visual materials and subscribes to over 300 (Print + Online) journals. There are 26,550 research articles from the core journals and edited books indexed and made available through Online Public Access Catalogue (OPAC). The library has the collection on population studies and its principal domains including, philosophy, psychology, religion, sociology, statistics, economics, education, mathematics, anthropology, public health, history, geography, etc. The library provides a host of information services to its users, like Current Awareness, New Additions, Selective Dissemination of Information, Online Public Access Catalogue (OPAC), Document Delivery Service, Photocopy facilities, Reference Service, Bibliographic service, metadata interpolation and so on.

The library has a special collection of all the census volumes of published in the pre-independence period (Census of India 1872 to 1941 in PDF format) till the latest Census 2011. The library provides access to the several online databases like JSTOR, SCIENCE DIRECT (social science

collection), SCOPUS, INDIASTAT and other leading publisher's online collection relevant to health and population sciences. The library provides remote access through iProx21 for 2000+ online (full-text) journals to the authorized users.

The IIPS library has an institutional membership with INFLIBNET (UGC), DELNET, IASLIC, NIRD, IASSI and exploring maximum services for the benefit of the Institute. The Institute is an active member of Shodhganga, Indcat programmes of the INFLIBNET of UGC.

### 16.18.5 Information Communication and Technology (ICT) and Data Center

The Information Communication and Technology (ICT) unit was established for the planning, implementation and development of ICT infrastructure at the Institute. The unit provides a full range of ICT services including technical support for eGovernance (eOffice) application & implementation, data acquisition & dissemination, Local Area Network (LAN), internet services, computer maintenance & IT help desk support and website & application development & integration.

To improve the efficiency, consistency and effectiveness of government processes, IIPS has transformed its office into a digital and paperless environment. In the deployment of eGovernance solution at the Institute, the unit plays a major role in planning, preparation and implementation. An eOffice support team is also established in the ICT unit to provide handholding and support services.

The ICT unit has its primary computer lab equipped with 48 personal computers and 3 LCD projectors. Its second lab with 16 personal computers connected via internet is also available in the ICT unit. Courses that require the use of computers (M.P.S., M.A./M.Sc., M.Sc. Biostatistics and Demography, M.Phil. and short-term training courses) are conducted in these two labs. Computer labs of the ICT unit are equipped with the latest core i7 or latest generation computers. Moreover, necessary statistical software, such as IBM SPSS Version 25, STATA Version 15, SAS 9.4, Stat

transfer and ARC GIS Version 10 required to analyze demographic datasets are installed with a multiuser license. In addition, important software, such as Mortpak, Endnote X7 and Atlas Ti, have been installed.

Students, staff and faculty members have internet access on the campus. Under the National Knowledge Network project, the Institute has acquired a 1-GBPS internet link from the National Informatics Center. The IIPS LAN consists of both wired and wireless (Wi-Fi) components and connects all computers in the Institute including portable devices such as laptops. Students, staff, guest and faculty are free to access 24x7 Wi-Fi facility on the campus. A Unified Threat Management Solution has been implemented at the gateway/firewall of the Institute network. By blocking certain kinds of traffic, the firewall protects computers or network at the Institute from unauthorized users and safeguards data from attack.

The Institute's bilingual (English–Hindi) website and other web applications for online services, such as the online admission test and abstract submission for annual seminars, are also maintained by the ICT unit.

### **Data Center**

The Institute has a robust data center comprising high-end servers for various system administration services and a network-attached storage server to enable storing and dissemination of demographic datasets. The data center currently has all important datasets, such as those related to census and various rounds of large-scale surveys conducted by the IIPS, which can be directly accessed through LAN by IIPS users. Through a web portal, online databases surveyed by the IIPS are also disseminated to the registered users.

### **16.19 MAHATMA GANDHI INSTITUTE OF MEDICAL SCIENCES (MGIMS) SEVAGRAM, MAHARASHTRA**

The Mahatma Gandhi Institute of Medical

Sciences (MGIMS), Sevagram is India's first rural medical college located in rural surroundings and administration. Kasturba Hospital has the distinction of being the only hospital in the country which was started by the Father of the Nation himself. Nestled in the "karmabhoomi" of Mahatma Gandhi, in Sevagram, MGIMS was founded by Dr Sushila Nayar in 1969 in the Gandhi centenary year.

As regards funding pattern of the Institute, the annual recurring expenditure is shared by the Government of India, Government of Maharashtra and the Kasturba Health Society in the proportion of 50:25:25 respectively. The Government of India released Grant-in-aid of Rs. 67.33 crore to meet recurring expenditure of the Institute during the financial year 2018-19.

The vision of the institute is to develop a replicable model of community oriented medical education which is responsive to the changing needs of our country and is rooted in an ethos of professional excellence. In the spirit of its Founder, the Mahatma Gandhi Institute of Medical Sciences, Sevagram is committed to pursuit of exemplary standards of professional excellence in medical education, research and clinical care by evolving a pattern of integrating value-based medical education with accessible and affordable health care, especially to underprivileged rural communities.

### **Health Care**

Kasturba Hospital has 934 beds: 690 teaching beds, 100 service beds, 32 private rooms and 62 beds in different intensive care units. The institute also runs a 50-bedded Dr Sushila Nayar Hospital, in the tribal areas of Utawali, in Melghat and in Amravati district. Almost three-fourths of the patients who visit hospital come from rural backgrounds. The patient load comes from Vidarbha in Maharashtra, and from the adjoining areas of Andhra Pradesh, Telangana, Madhya Pradesh and Chhattisgarh. Kasturba Hospital offers the benefits of modern technology with affordable costs and compassionate health care.

In 2018-19, 891128 patients attended the hospital as outpatients and 51818 patients were admitted for various ailments. The Hospital has state-of-the-art intensive care units in Medicine, Surgery, Obstetrics and Gynaecology and Paediatrics which provide excellent critical care. The Sri Satya Sai Accident and Emergency Unit (Trauma Centre) provides succour to patients of trauma. The Institute has a Blood Component Unit which provides components not only to patients in Kasturba Hospital, but also to adjoining private hospitals. Patients of sickle cell anaemia and thalassemia are given blood free of cost. Facilities for MRI, CT Scan and mammography are available. The Institute's radiotherapy department has state-of-the-art equipment for treatment of cancer patients including advanced dual energy linear accelerator with intensity modulated radiotherapy (IMRT) with 3D conformal radiotherapy (CRT) with multiple electron beam, simulator, and HDR brachytherapy. The Pathology, Microbiology and Biochemistry laboratories have in-house facilities to conduct a battery of diagnostic tests. MGIMS has also added a Cardiac Catheterization Lab and digital subtraction angiography to its armamentarium.

Kasturba Hospital has constructed a brand new state-of-the-art operation theatre (OT) complex extending over 15000 square feet. It features ten modular OT suites, an intensive care unit and pre-operative assessment ward with ten beds each, two recovery rooms and a medical store. A model Maternal and Child Health (MCH) wing has been inaugurated. The MCH wing has beds for Obstetrics and Gynaecology and Paediatrics and Neonatology. It includes the out-patient department, ante-natal and post-natal wards, high dependency units, operation theatres, sick newborn critical unit, labour rooms, obstetric intensive care units, skills labs and other such areas.

The health insurance scheme of the institute has won several accolades as it seeks to create health consciousness in the community. There are two schemes- the health insurance scheme and the Jowar health assurance scheme. Under the first

scheme, a villager can insure himself and his family by paying Rs 400 a year and in return he gets 50% subsidy on OPD and indoor bills. Under the Jowar Health Assurance Scheme each participating village is made responsible to pay a payment with the rest of the health expense being covered by the hospital with financial support from the central and State Governments.

### **Palliative Care Center at MGIMS**

MGIMS is actively supporting the concept of introducing palliative care to patients to improve the quality of life of patients who have a serious or life-threatening disease, such as cancer and non-cancer illnesses. The construction of the building of palliative care center which is spread over two floors, has been started in December, 2018 and is likely to be completed by March, 2020.

### **Skills Centre for National Emergency Life Support training**

The Director General of Health Services (DGHS) and the MOHFW of the Govt of India have chosen MGIMS among the first five centres in India to build a centralized state-of-the-art simulation and skills lab under their National Emergency Life Support (NELS) programme. The NELS project is an initiative undertaken by the MOHFW to implement a 'Make in India' simulation curriculum to help doctors and paramedics deal with lifesaving emergency situations which they encounter in their everyday practice. The Centre is going to start in the coming year.

## **16.20 CENTRAL BUREAU OF HEALTH INTELLIGENCE (CBHI)**

### **Introduction**

Central Bureau of Health Intelligence (CBHI), established in 1961, is the Health Intelligence wing of the Directorate General of Health Services in the Ministry of Health & Family Welfare, Government of India with the vision to have "A strong Health Management Information System in entire country".

### 16.20.1 The Objectives of CBHI

- (i) To collect, analyze & disseminate Health Sector related data of the country for evidence based policy decisions, planning and research activities.
- (ii) To develop Human resources for scientifically maintaining medical records in both Government & Private Medical Institutes in India;
- (iii) To Carry Out Need Based Operational Research for Efficient Implementation of Health Information System & use of Family of International Classifications in India;
- (iv) To sensitize & create a pool of Master Trainers in Health Sector for Implementation of Family of International Classification in India;
- (v) To Collaborate with National & International Institutes for imparting knowledge & skill development including WHO.

### 16.20.2 Activities under taken by CBHI

- **Publication National Health Profile and its Analytical Report:** CBHI collects primary as well as secondary data on various communicable and non-communicable diseases, human resource in health sector and health infrastructure from various Government Organizations / Departments to

maintain and disseminate Health Statistics through its Annual Publication “National Health Profile” which highlights most of the relevant health information under 6 major indicators viz. Demographic, Socio-economic, Health Status, Health Finance, Health Infrastructure and Human Resources. CBHI has started publishing Analytical Report based on the National Health Profile from 2017.

- **HS-PROD:** CBHI collects the information on reform initiatives for Health Sector Policy Reform Option Database (HS – PROD). [[www.hsprodindia@nic.in](mailto:www.hsprodindia@nic.in)]. It is a web-enabled database that documents and further creates a platform for sharing of information on good practices, innovations in health services management while also highlighting their failures that are very important for the success of National Health Mission (NHM).
- **Capacity Building:** For capacity building and Human Resources Development in Health Sector, CBHI conducts Long Term and Short Term In-service Training Programme for the officers and the staff working in various Medical Record Department & Health Institutions of the Central / State Governments, ESI, Defence and Railways as well as Private Health Institutions through its various training centers and Field Survey Units as per details given below:

Sl. No.	Name of the Training	Batch	Duration	Training Centre
1.	Medical Record Officer	2 (One at each Training Centre)	1 Year	1. Safdarjung Hospital, New Delhi. 2. JIPMER, Puducherry
2.	Medical Record Technician	6 (Two at each Training Centre)	6 Months	1. Safdarjung Hospital, New Delhi. 2. JIPMER, Puducherry 3. Dr. RML Hospital, New Delhi

- **Short - Term Training Programmes:**

Sl. No.	Name of the Training	Batch	Duration	Training Centre
1.	Training Course on Master Trainers on (ICD – 10)	2	5 Days	Regional Health Statistics Training Centre (RHSTC), Mohali, Punjab
2.	Training of Trainers (TOT) on International Classification of Functioning Disability & Health (ICF)	2	3 Days	Regional Health Statistics Training Centre (RHSTC), Mohali, Punjab.
3.	Orientation Training Programme on HIM (for Officers)	8 (Two at Mohali & One at each six FSUs)	5 Days	Regional Health Statistics Training Centre (RHSTC), Mohali, Punjab and Six FSUs i.e. Bengaluru, Bhopal, Bhubaneswar, Patna, Jaipur & Lucknow.
4.	Orientation Training Programme on HIM (for Non-Medical Personnel)	14 (Two at each centre)	5 Days	Regional Health Statistics Training Centre (RHSTC), Mohali, Punjab and Six FSUs i.e. Bengaluru, Bhopal, Bhubaneswar, Patna, Jaipur & Lucknow.
5.	Orientation Training Programme on (ICD – 10 & ICF) (for Non-Medical Personnel)	20 (Two at Mohali & three at each six FSUs)	5 Days	Regional Health Statistics Training Centre (RHSTC), Mohali, Punjab and Six FSUs i.e. Bengaluru, Bhopal, Bhubaneswar, Patna, Jaipur & Lucknow.
6.	Orientation Training Programme on MR & IM for Non-Medical Personnel	8 (Two at Mohali & one at each six FSUs)	5 Days	Regional Health Statistics Training Centre (RHSTC), Mohali, Punjab and Six FSUs i.e. Bengaluru, Bhopal, Bhubaneswar, Patna, Jaipur & Lucknow.

- CBHI publishes a concise information / data on Goal 3 of Sustainable Development Goal (SDG) i.e. Maternal Mortality Ratio, Proportion of Birth attended by skilled Personnel, Under 5 Mortality Rate (per 1000 live birth), Infant Mortality Rate (per 1000 live Birth), TB incidence per 1000 persons per year, Malaria incident cases per 1000

persons per year, Health workers density and distribution, etc in its Annual Publication “National Health Profile”. Latest Publication is NHP – 2018.

- Function as WHO Collaborating Centre on Family of International Classification (ICD – 10 & ICF) in India with the following major objectives:



- To promote the development & use of the WHO Family of International Classifications (WHO – FIC) including the International Statistical Classification of Diseases and Related Health Problems (ICD), the International Classification of Functioning, Disability and Health (ICF) and other derived and related classifications and to contribute to their Implementation and improvement, in the light of the empirical experience by multiple parties as a common language.
- Networking with current and potential users of the WHO – FIC and act as reference center.
- Work in at least one related and / or derived area of the WHO – FIC: Specialty based adaptations, primary care adaptations, interventions / procedures, injury classification (ICECI).
- National Health Resource Repository (NHRR) Project:
  - CBHI has initiated the work of National Health Resource Repository (NHRR) Project for Nation-wide roll –out.
  - The NHRR Project aimsto create a web-based and geo-mapping enabled single platform of all the Health Resources both Government and Private which inter-alia includes, Hospitals, Diagnostic Labs, Doctors and Pharmacies, etc. and will comprise of the data on Health Infrastructure, Human Resource and the availability of Medical facilities in each Health Establishment in the country.
  - The Census would cover data points pertaining to accessibility and availability of services across all the healthcare establishments including Sub-Centre, Primary Health Centre, Community Health Centre and District Hospitals from Public Health and Doctors, Hospitals, Diagnostic Labs, Chemists from Private Health Sector.
- Technology Requirements: As a Technology partner, ISRO, WHO and Bill & Melinda Gates Foundation (BMGF) have also been associated with this project. A MoU has been signed with National Remote Sensing Corporation (NRSC), India Space Research Organization (ISRO) on 3<sup>rd</sup> May, 2017 for Design & Development of Geo-web Portal & Mobile App for National Health Resources Repository and Capacity Building Addressing Geo – tagging, Geo – Visualization & Spatial Analysis of Healthcare Assets of India on Bhuvan Platform.
- Launching of Pilot Survey for field assessment study: In collaboration with the above partners, preparatory activities have been completed and a field assessment study across 5 districts, namely Hamirpur (Himachal Pradesh), Jodhpur (Rajasthan), North Sikkim (Sikkim), Bhopal (Madhya Pradesh) and Ernakulam (Kerala) is being executed.
- Having accomplished the Pre-Census Modalities i.e. Testing of Tablet App and Quality Check Model for data collection and Methodology, the NHRR census was formally launched by the Hon’ble Union Minister for Health & Family Welfare Shri Jagat Prakash Nadda on 19<sup>th</sup> June, 2018. In order to ensure wide publicity and also to obtain complete and accurate data from the informant, it was advertised

in all the leading national and local newspapers along with notification of the Census under the Collection of Statistics Act, 2008. Accordingly, data collection has been initiated.

## 16.21 CENTRAL HEALTH EDUCATION BUREAU (CHEB)

The Central Health Education Bureau (CHEB) was set up in 1956 as a part of Directorate General of Health Services, MOHFW with a mandate to generate & disseminate evidence based health information for creating awareness among the community resulting in desired health behaviour. CHEB is also responsible for capacity development of medical, paramedical and other non-health personnel to take care of the health needs of the community, thereby, improving public health capacity to achieve health equity and health for all.

Demographic shift leading to increased longevity and epidemiological transition resulting in changed disease profile has made it essential to go beyond the standard treatment of illness and injuries and deal with these challenges through population based approaches of health promotion focusing primarily on the physical, psychological, social, cultural, economic and political determinants of health. During the past, CHEB provided leadership not only within the country, but also to South East Asia regional countries. The contributions made by CHEB has been remarkable which gets reflected from its publications, research and evaluation studies under taken as well as national and international workshops and seminars organized by the CHEB.

After 1956, all rooms of CHEB building have been renovated. A conference room with all modern amenities, a classroom and a computer laboratory have been developed. A library with e- library is under development.

### CHEB has five sub divisions:

- Media and Editorial Division;

- Training, Research & Evaluation Division;
- School and Adolescent Health Education Division;
- Health Promotion and Education Division;
- Administrative Division;

Currently, to man these divisions, three Medical officers and four health education officers are posted in CHEB, in addition to administrative & support staff.

### Mandate of CHEB

- For Creating awareness among the community for desired health behaviour changes CHEB develops evidence based IEC material & ‘Risk communication strategy’ for various diseases and disseminates health information through print media, electronic mass media, newer media, exhibitions and fairs.
- Capacity & Skill development of medical, paramedical and other non-health personnel.
- Linkages & networking with other Ministries and Departments of Government of India with States and Union Territories, International agencies, Health and non-health partners in public and private sectors.
- Healthy environmental settings in schools, offices, factories, industries, markets, railway stations, bus stops, housing and other public places.

### 16.21.1 Achievements

#### Development of Health Materials

- a) “Healthy India Initiative”: CHEB launched a quarterly health magazine ‘Healthy India Initiative’ in June, 2016 and since then twelve issues have been brought out. During the period CHEB Published five issues of the Quarterly Health Magazine “Healthy India Initiative” (January, 2018 to January,

2019 issue) in English and Hindi to create awareness among public about health related issues. The magazine is distributed across the country through 'Mass Mailing Unit.' Further soft copy of magazine is sent to Secretary (Health), Director Health Services, District Magistrates, CMOs of all districts, across the country. In addition, linkages have been developed and soft copy is sent to Director of Education, NCERT, CBSE, NIHF, VHA, PHFI, DIET, Kendriya Vidyalaya and Navodaya Vidyalaya.

- b) **'Healthy Children Healthy India'** released by Hon'ble Union Minister of Health and Hon'ble Minister for Human Resource Development jointly in a function. Seven lakh copies have already been printed and distributed to school children across the country. Twenty thousand copies, each in Hindi & English were reprinted.

CHEB developed and printed material on Healthy lifestyle and for creating awareness amongst general public.



Various Publications of CHEB

Besides this, CHEB facilitated the development of IEC material for National Mental Health Care & National Mental Health Care Act 2017; Non-Communicable Diseases; Patient Care Safety air pollution and health related issues and National Programme on Containment of Anti-Microbial Resistance.

- c) **Mass Awareness Programme:** An outdoor digital LED Screen is installed at CHEB premises to create awareness amongst general public about health related issues.

Participated in programme organized by Anatomy Department of Vardhman Mahavir



Medical College, Safdarjung Hospital, and New Delhi and Conducted three health awareness sessions through a game of “Tombola on Organ and Tissue Donation and Transplantation”, an innovative way of health communication in a symposium on “Dialogue With Organs: A Stepping Stone To Adolescent Health” for about 350 school children of adolescent age group from a number of schools on 26<sup>th</sup> of April, 2018.

Outreach publicity on Diabetes, Hypertension and Childhood Obesity through Digital Cinema Screen Display in the North-East States was undertaken.

- d) **Linkages & networking:** Efforts have been made to develop the linkage with States and UTs to strengthen Advocacy, Communication

and Social Mobilization (ACSM) skills of staff at state level. Communications to this effect have been sent to all States & UTs.

- e) **Training Programmes:** CHEB conducted 64 orientations training programs for development of capacity & skill development. 2503 Medical, Nursing and ANMs students from different parts of country were sensitised about Healthy lifestyle, health education, health promotion during these trainings.

Organized 5 ‘Training-cum-Workshop on Healthy Lifestyle and organ donation & transplantation’ events for School Health community of Government of Delhi which included 28 doctors, 44 public health nurses, 16 pharmacists and 33 nursing orderly.



*Inauguration of Training Programme*

## Way forward

Health Promotion is now a world-wide movement concerned with improving individual and population health. In current scenario, the time has come to learn from past successes & failures, to review & strengthen efforts towards health promotion within the available resources & constraints. 'Health Promotion' develops personal skills through targeted, evidence based information, education & communication for health.

Need exists to develop evidence based health promotion policies, strategies, guidelines, implementation, monitoring and evaluation of Health promotion activities through trans-disciplinary collaboration & effective advocacy for successful coordination across the developmental sectors. Time has come to promote interdisciplinary research that generates evidence based information for policy makers, individuals and communities to enhance the health and wellbeing. It is time to institutionalize "Health Promotion" as an integral part of not only the healthcare infrastructure and health care delivery system but also of all other developmental disciplines which have impact on health of community. Initiatives have also been taken to upgrade CHEB into National Institute of Health Promotion (NIHP).

## 16.22 REGIONAL OFFICES OF THE HEALTH AND FAMILY WELFARE, NEW DELHI

### Introduction

#### 16.22.1 Concept & Origin

Regional Co-ordinating Organizations (RCOs) were established in some States in 1958 to co-ordinate between the Centre and the States for National Malaria Eradication Programme (NMEP) activities. Another office, named Regional Health Office (RHO) came into being in 1963 to co-ordinate and supervise the family welfare activities. Later in 1978, when the need for an office of the Government of India in the States to supervise, monitor and co-ordinate the matters of all centrally

sponsored health and family welfare programmes was felt, the RCOs and RHOs were merged to form the Regional Office for Health and Family Welfare (ROH&FW). To supplement the activities of CBHI Four Health Information Field Units (HIFUs) were established in 1981 and two more in 1986. As of now, there are 19 Regional Offices of Health & Family Welfare functioning under the DGHS located in the various State Capitals.

#### 16.22.2 Organization Structure

The units of the ROH&FW are:

1. Malaria Operation Field Research Scheme (MOFRS)
2. Entomological section
3. Malaria section
4. Health Information Field Unit (HIFU) and
5. Regional Evaluation Team (RET).

#### 16.22.3 Roles and Functions:

These offices have been established with the primary objective of ensuring proper liaison and coordination between the Centre and State Governments in the context of the implementation of National Health and Family Welfare Programmes.

Main functions of the Regional Offices are enumerated below:

- Centre-State coordination
- National Health Programmes monitoring and implementation
- Training and IEC
- Regional Evaluation Team (RET)
- Health Information Field Unit (HIFU)
- Malaria Operational Field Research Scheme (MOFRS)
- Monitoring and Supervision of Centrally sponsored schemes.



### 16.22.4 Budget allocation & Utilization

The approved BE for the year 2018-19 is Rs. 55.98 crore. The expenditure incurred for the financial year 2018-19 is approx. Rs. 44.5 crore.

### 16.22.5 Staff Strength

The sanctioned strength of staff in the Regional Offices as on 31<sup>st</sup> March 2019 across cadres

was 589 and the staff in-position was 323. The senior most officers in the respective RHO's are designated as Senior Regional Director/Regional Director depending upon their ranks/grade pay.

**16.22.6 Technical Activities undertaken:** The details of the technical activities undertaken by ROH&FW are given below:

Sl. No.	Technical Activities	Performance 2018-19
1	National level meeting attended	297
	State Level meeting attended	644
	Issues addressed	331
2	<b>District visited for review of major National Health Programmes</b>	
	National Rural Health Mission	275
	Revised National Tuberculosis Control Programme (RNTCP)	199
	National Leprosy Control Programme (NLEP)	232
	National Programme for Control of Blindness (NPCB)	141
	National Vector Borne Disease Control Programme (NVBDCP)	449
	Integrated Disease Surveillance Project (IDSP)	198
	National Iodine Deficiency Disorder Control Programme (NIDDCP)	149
	National Tobacco Control Programme (NTCP)	94
	National Programme for control of Cancer, Diabetes, CVD and Stroke (NPCDCS)	160
	National Mental Health Programme (NMHP)	102
	Trauma Care	116
	Oral Health & Fluorosis Control	86
	National Programme for Health Care Elderly (NPHCE)	102
	National Aids Control Programme (NACP)	87
3	<b>Training programmes organized</b>	
	<b>Malaria microscopy</b>	
	Batches	128
	Personnel trained	1477
	<b>CBHI Training</b>	
	Batches	60
	Personnel trained	1411
	<b>Other training</b>	
	Batches	126
Personnel trained	4702	

Sl. No.	Technical Activities	Performance 2018-19
4	<b>Research Studies</b>	
	Therapeutic Efficacy Studies	3
	Entomological surveys	182
	CBHI Studies	32
	RET Studies	31
5	<b>Monitoring of Peripheral Institutes for IPHS</b>	
	DH & SDHS	438
	CHCs	409
	PHCs	887
	SHCs	832
6	<b>Activities of the NVBDCP under MOFRS</b>	
	Blood slides collected in Malaria Clinic in RoHFW	2095
	Blood slides found positive by RoHFW	84
	Blood slides cross checked	622202
	Blood slides with discrepancies	1463
	% discrepancies	0.23%
7	<b>Field verification of Regional Evaluation Team (RET)</b>	
	Number of Couples contracted	1918
	Number of fake/denial cases	294
	Number of Children contacted for Immunization	2264
	Number of Children found fully immunized	2112
	Number of ANC cases field verified	2392
	Number of ANC mother undergone three ANC checkups	2209
	Number of ANC mothers developed complication	109
	Number of mother contacted for PNC checkups	2411
	Number of PNC cases have undergone three PNC checkups	1866
	Number of PNC mothers have complications	86
	Number of JSY cases field verified	2218
	Number of JSY beneficiaries received monetary help	1895
	Number of JSY beneficiaries spent their money for confinement	135

### 16.22.7 Capacity building workshop:

The Capacity Building Workshop held from 30/01/2019 to 01/02/2019 was inaugurated by Secretary (H&FW). Secretary (H&FW) interacted with Regional Directors and emphasized that there is a need for co-ordination for relevance and clarity in achieving the goals of raising the standards of health in the country and sought greater involvement and focus of ROHFWs on operationalizing Health and Wellness Centres (HWCs) under Ayushman Bharat and advised them to approach concerned authorities in States in expediting posting of trained mid-level providers in all States.

Secretary (H&FW) appreciated the role played by Regional Offices in coordinating with State Authorities, wherein she pointed the recent example of Kerala floods in 2018, that were managed efficiently with the help of ROHFWs.

### 16.22.8 SOME OF THE ACHIEVEMENTS OF ROHFWs

#### ROHFW, Kolkata:

- Started NCD Programme with reporting in Andaman & Nicobar Islands.
- Participated in the expert group that formulated the National Policy on Patient safety.

#### ROHFW, Pune:

- Attended meeting on Human Organ Transplant Act under the Chairmanship of Dr. Deepak Sawant, Health Minister, Maharashtra.

#### ROHFW, Shimla:

- Coordinated with State for successful signing of MOU with States for establishment of NCDC branch, Shimla on 09/05/2018
- Participated as Team Member of CRM for State of Himachal Pradesh from 5<sup>th</sup> September to 12<sup>th</sup> September, 2018.

- Assisted State in soft launch of IHIP on 21<sup>st</sup> November, 2018.

#### ROHFW, Ahmedabad:

- Implemented the NHRR project under CBHI in Gujarat State & Dadra Nagar Haveli (DNH) under chairmanship of Senior Regional Director, ROH&FW, Ahmedabad.
- Review and monitoring of trauma care facilities at SSG Hospital, Vadodra, Sub – District hospital- Khanvel and burn unit at Vinoba Bhawe Hospital, Silvassa in co-ordination with Dr.Gadpayle, Additional DGHS, Dte.GHS, MOHFW, GOI.

#### ROHFW, Chennai:

- Celebrated World Malaria Day in Kendriya Vidyalaya School, CLRI Campus with an exhibition and talk regarding malaria elimination.
- Successfully initiated the NHRR Census in Tamil Nadu & Puducherry in June 2018 despite many obstacles regarding cooperation from IMA, pharmacies and private medical colleges in Tamil Nadu State.

#### ROHFW, RAIPUR:

- Online NLEP Training of Medical Officers in collaboration with ECHO.
- Implementation of GEM in purchase.

#### ROHFW, THIRUVANANTHPURAM:

- First responder during outbreak of Nipah Virus Disease at Calicut that occurred in May, 2018.
- Outbreak investigation of West Nile Fever case in Malappuram as Central Team Member.
- In response to the floods in Kerala in 2018, activities undertaken by the ROHFW Trivandrum were providing Public

Health Specialist from ROHFW, w.r.t. the surveillance of communicable diseases and sharing of data with centre on daily basis.

#### ROHFW BANGLORE:

- Integrated Health Information Platform (IHIP) of IDSP in Karnataka State and in formulating Framework for Malaria Elimination which has been subsequently approved and put in place.
- Provided technical support regarding disease surveillance following floods in Kodagu district thereby preventing any outbreak. Many other disease outbreak investigations have been done.

#### ROHFW LUCKNOW:

- In ELF programme IDA (Triple Drug) was performed in February, 2019 at Varanasi.
- Assessment of NHRR activities being carried out by IQVIA in different districts of UP and Uttrakhand was done.
- Training on ZIKA imparted at Lucknow International Airport to the Immigration, Customs, Intelligence, CISF and Airline staff.

## 16.23 NATIONAL MEDICAL LIBRARY (NML), NEW DELHI

### 16.23.1 Introduction

National Medical Library (NML) provides valuable library information services/assistance to support the academic, research and clinical work of health science professionals in the country. It occupies important place in health care information delivery system in the country. Some of the valuable services provided by NML are:

The library remains open on 359 days of the year from March-October 09:30 A.M. – 08:00 P.M. & November – February 09:30 A.M. to 07:00 P.M. and on holidays & weekends from 9.30 A.M. to 6.00 P.M. Over 100 users visit the library every day for reference and consultation obtaining photocopies of required articles as well as for information retrieval service.

In this reporting year NML has taken initiative to implement the Digital India campaign of Government of India and as a mission NML is committed to convert it from a traditional Library to Digital Library and connectivity to all States Medical Libraries.

Traditional	Digital	Achievements
Journals	ERMED Consortium (www.irmed.in)	239 e-journals in 29 states to 90 Medical Institutes
Cochrane Library	PAN INDIA LICENSE	436543 full text downloads of articles from the Cochrane Library were recoded in 2018 this is 24% higher than the same time period in 2017.
Issue and return	Computerised with bar code	Completed
Membership	Computerised	Completed
Catalogue	Computerised (OPAC )	1,00,000 Books/journals (Work under process)
Library Security	Electromagnetic Security System	Installed & Functional

### 16.23.2 Digital Library services

Following Online Services has been commenced by NML:

- (a) NML- ERMED Consortium is an initiative taken by Directorate General of Health Services & MoHFW to develop nationwide electronic information resources in the field of medicine for delivering effective health care. It was started in 2008. In 2018 NML

has subscribed 239 e-journals from five foreign publishers for ERMED consortium ( [www.irmed.in](http://www.irmed.in)) for 90 members(Medical Colleges/ Institutes) in 29 States across the Country.

12,37,981 (Twelve lakh thirty Seven thousand nine hundred eighty one) articles are access/downloaded from e-resources of ERMED(Jan to Dec, 2018)

1. Andhra Pradesh (5)	16. Manipur (2)
2. Assam (5)	17. Maharashtra (9)
3. Andaman and Nikobar (1)	18. Meghalaya (1)
4. Bihar (1)	19. Mizorasm(1)
5. Chandigarh (2)	20. Odisha (2)
6. Chhatisgarh (2)	21. Puducherry (2)
7. Delhi (15)	22. Punjab (2)
8. Gujarat (3)	23. Rajasthan (4)
9. Haryana(1)	24. Tamil Nadu (3)
10. Himachal Pradesh (2)	25. Telangana (1)
11. Jammu & Kashmir (2)	26. Tripura (1)
12. Jharkhand (2)	27. Uttar Pradesh (8)
13. Karnataka (2)	28. Uttrakhand (1)
14. Kerala (2)	29. West Bengal (5)
15. Madhya Pradesh (3)	

- (b) **The Cochrane Library:** The Cochrane Library is a collection of six databases that contain different types of high-quality, independent evidence to inform healthcare decision-making, and a seventh database that provides information about Cochrane groups.

Systematic reviews are published electronically in full text in Cochrane Library. The abstracts and plain language summaries of all Cochrane Reviews are also freely available on [Cochrane.org](http://Cochrane.org). NML has the distinction of having PAN India License of Cochrane Library and India recorded 4<sup>th</sup> highest number of full downloads between

Jan, 2018 to Dec, 2018 with 4,36,453 (Four lakh thirty six thousand four hundred fifty three)Full text Downloads Reviews in the Cochrane Library can be accessed at ([www.cochranelibrary.com](http://www.cochranelibrary.com)) and ([www.irmed.in](http://www.irmed.in))

- (c) **On Line Public Access Catalogue (OPAC):-** Servers and computer in library are networked to form a LAN having integrated Library Management Software Package e- Granthalaya supported by NIC Govt. of India, about 1,00,000 records of books and 2000 Titles of journals are now available through OPAC computer search.
- (d) **Document Delivery System (Print and**



**Electronic):** - A large number of requests for photocopy of articles were received from outside Delhi by post, e-mail and fax through Government as well as private photocopy counters. Photocopies of 5,000 copies (approx.) during the period were provided to medical research scholars across the country. No postal charges were taken for delivery of articles outside Delhi. Library also sent over 4000 sets of periodicals for binding job to outsourced binding contractor and has also got repaired 8000 books / journals by the binding staff in house during the period

- (e) **Current Awareness Services (CAS):** Current Literature in Health Sciences (CLHS) is a current Awareness Service compiled by National Medical Library, DGHS every month. It provides bibliographic details of the articles pertaining to new medical research and new techniques in Health Sciences journals, those subscribed by NML. CLHS covers mostly broad subject headings in the field of Health Sciences. ([www.erned.in](http://www.erned.in))
- (f) **News paper clipping service :** To keep the users abreast of latest news that has relevance

to the medical science([www.erned.in](http://www.erned.in))

### 16.23.3 Branch Library

National Medical Library maintains a branch library in Nirman Bhawan to cater to the library and information needs of staff and officers in the Directorate General of Health Services and the MoHFW for reading purpose.

#### Publications:

- Dr. K.P. Singh and Nisha Sharma. National Medical Library: A Paradigm Shift P 31-42.
- Dr. K.P. Singh and Preeti. ERMED Consortium: An Overview P 43-51.
- Dr K.P. Singh and Nishant Parveen. Retrospective Conversion (NML: An Overview P 152-167.

#### Conferences:

- (1) Two Days National Conference on Digital Health India: A Reality on 3-4<sup>th</sup> May, 2018 at National Medical Library. Conference attended by 200 participants including all ERMED members across the country.



*National Conference on Digital Health India: A Reality on 3-4<sup>th</sup> May, 2018.*

- (2) Launch of upgraded version of Cochrane Library at NML for pan-India conducted on 20<sup>th</sup> August 2018, attended by 150 participants from India.



*Launch of upgraded version of Cochrane Library for pan-India, 20<sup>th</sup> Aug '18*

### 16.24 RURAL HEALTH TRAINING CENTRE (RHTC), NAJAFGARH

Rural Health Training Centre, Najafgarh, New Delhi was set up as health unit in 1937 with the financial support and guidance of Rockefeller Foundation at Najafgarh to cover an area of about 162 sq. miles having a population of 44,000 scattered over 35 villages for rendering primary health care services through dispensary and team of Para-medical staff.

The population of the Najafgarh Block, situated in South West of Delhi, at present is 10.5 lakh. The registered population with the RHTC, Najafgarh is nearly 500,000. RHTC, Najafgarh, PHCs of Najafgarh, Palam and Ujwa and 16 sub centres are spread over an area of 432.6 kms covering 73 villages.

The Government of India released Grant-in-aid of Rs. 19.79 crore to meet recurring expenditure of the Institute during the financial year 2018-19. In 2018-19, 3,61,974 patients attended the Hospital as outpatients and 75,720 patients were admitted for various ailments and in emergency. The major activities of RHTC Najafgarh are as follows:

#### 1. Training

- Training to Medical Interns under ROME Scheme. Around 350 unpaid Medical Interns undergone rural posting from this Centre.

- Training to ANM 10+2 (Voc.) Students with intake capacity of 40 students per academic session.
- Community Health Nursing Training to BSc/MSc/GNM students of various Nursing Institutions like College of Nursing, Safdarjung Hospital, RML Hospital, Lady Hardinge Medical College, Holy Family Hospital, Batra Hospital, Apollo Hospital and various other Govt./State Govt./Pvt. Institutions. Nearly 1000 trainees were trained during the period.
- Promotional Training to Nursing Personnel.
- One Day Observation Visit.

2. **Delivery of Health Services:** Providing primary health care, preventive, promotive and curative services to the low socio-economic group of people of 64 villages and 9 town of Najafgarh area through its three PHCs and 16 SCs including 24x7 emergency services in PHC Najafgarh.
3. **Field Studies:** Conducts field studies aspects of Health & Family Welfare, RCH, Nutrition, Health Education and Communicable Diseases and also provides field services for research work to the various health institutions, i.e. NIHAI, AIIMS etc.

### Major Highlights in the Development of RHTC, Najafgarh

- 100% placement of ANM final year students.
- Commencement of construction work of proposed 100 bedded Hospital at RHTC Najafgarh.
- Annual Sports and Annual Day of RHTC Najafgarh celebrated with high enthusiasm.

The following activities were also organized/performed in the Institute:

- **RCH Camps:** RCH camps were organized under PHC Najafgarh. For making vast publicity of the camps, pamphlets, Banners were printed and distributed via Newspapers. Following services were provided by RHTC Najafgarh in the RCH Camps: (i) General OPD (ii) Antenatal care including immunization (iii) Immunization to the children below five years of age Family Planning Services (iv) Female Genital Tract Diseases (v) Contraceptive Counselling (vi) Laboratory Investigations (vii) Drug/Medicine distribution to the patients (viii) Specialist services of Dental, Ophthalmology and Paediatrics.
- **Village Health Nutrition Days:** Village Health Nutrition Days were organized in different sub-centres under PHC Najafgarh and PHC Ujwa. VHNDs were organized with the help of Anganwari workers at Sub-centre level. Key services provided by RHTC Najafgarh in the VHND: (i) Maternal Health check-up, (ii) Check-up of Infant upto 1 year, Children aged 1-3 yrs. and all children below 5 yrs. (iii) Family Planning, RTI/STDs, (iv) Sanitation (v) Communicable Disease (vi) Health Promotion (vii) special emphasis on Nutritional Demonstration-Diseases due to malnutrition and its precaution (viii) Hygienic & correct cooking practice (ix) weighing of infants & children and (x) Importance of nutritional supplement.

Nutritious food items also demonstrated to the community keeping in view the above points. So far 21 VHND camps have been organised.

- **Janani Suraksha Yojna:** JSY has been implemented in PHC Najafgarh. Rs. 600/- are paid to all the eligible beneficiaries. In the year 2016-17, 60 cases, in 2017-18, 62 cases and in 2018-19 a total of 79 cases of JSY were catered to.
- **Well Baby Show:** Well Baby Show organized in PHC Najafgarh during the Immunization Week celebrated and children were checked for immunization, height-weight and their IQ was also judged. The main motive of the show was to educate the parents regarding immunization and nutritional food.
- **HIV Counselling Workshop:** Workshops on HIV counselling have been organised during the last year. About 250 medical and para-medical staff/trainees attended the workshops. The main motive of the workshops was to sensitize para-medical staff.

### 16.25 LADY READING HEALTH SCHOOL, DELHI

Lady Reading Health School, Delhi is considered as one of the pioneer institutions and first of its kind for training Health Visitors. The School, established in 1918 under the Countess of Dufferin Fund for training Nursing personnel for M.C.H. service program celebrated its Centenary on 7<sup>th</sup> December, 2018. In 1931 it came under the administrative control of the Indian Red Cross Society (Maternity & Child Welfare Bureau). In 1952 the Government of India took over the school and attached Ram Chand Lohia MCH Centre to it. Total capacity of the school was 24 Health Visitor trainees from all over India. Duration of the course was of one and a half year for matriculates who were qualified midwives, which was replaced by

two and half years integrated course for health visitor in 1954.

The School aims at providing training facilities to various categories of Nursing Personal in community health as well as M.C.H. and family welfare services through the attached Ram Chand Lohia MCH and Family Welfare Centre.

The Institution is imparting the following courses at present:

(i) **Auxiliary Nurse-Cum-Midwife Course**

This course is under Indian Nursing Council and eligibility criteria for the course is 12<sup>th</sup> pass. 40 students completed their training in August, 2018. 40 students have been admitted for session 2018-20. Total number of students are 78 i.e. 38 students for 2017-19 and 40 students 2018-20.

(ii) **Certificate Course for Health Workers (Female) under multipurpose workers scheme:** This course is of six months' duration. Students are admitted twice a year i.e. in January and July every year with admission capacity of 20 in each batch. 20 students admitted July, 2018 batch, completed their training in December, 2018. 20 candidates are undergoing the course presently and will appear for the final exam in June, 2019.

(iii) **Post Basic B.Sc (Nursing):** Administrative approval of the Ministry has been granted for conducting Post Basic B.Sc (Nursing) at this institution.

### 16.25.1 Clinical Experience

The students are sent for their clinical experience in Rural and Urban Health Centre, different Hospitals like Safdarjung Hospital, RML Hospital, Lady Hardinge Medical College and Kalawati Saran Children's Hospital in Delhi.

### 16.25.2 Ram Chand Lohia MCH and Family Welfare Centre

Students are also posted for Urban Health Experience through Ram Chand Lohia MCH and Family Welfare Centre. The Centre gives integrated MCH Family Welfare Services to over 40,000 population. Weekly clinics are conducted like Antenatal Care, Post Natal Care, Well Baby Immunization, Family Planning Clinics, door to door services are also imparted to the community by the students. Exhibition and Health education are also organized in the community by MCH centre through students & staff.

### 16.25.3 Other Activities

Health Education Programme is organized in the school, centre as well as in the community

- **Pulse Polio Programme** - The students and staff participate in all the Pulse Polio programs organized in Delhi, Perfect Health Mela etc.
- **SNA Activities** - Regular SNA activities are done at LRHS as extracurricular activities.

### 16.25.4 Budget

The total budget for the institution and welfare of staff is Rs.4,73,00,000 (Rs. Four crore Seventy-three lakh only) for the year 2018-19.

## 16.26 HLL LIFECARE LIMITED (HLL)

### Introduction

HLL Lifecare Limited (HLL), under the administrative control of MoHFW, was incorporated in the year 1966. HLL's first plant began operations on 05<sup>th</sup> April 1969 at Peroorkada in Thiruvananthapuram District in the State of Kerala, in technical collaboration with M/s Okamoto Industries Inc. Japan. Today, with seven manufacturing plants, HLL has grown into a multi-product, multi-unit organisation addressing various public health challenges facing humanity.

HLL is a Mini Ratna, Schedule B Central Public Sector Enterprise. HLL is the only company in



the world which manufactures and markets such a wide range of contraceptives. Today, HLL has a capacity to produce 190 Crore condoms annually, making it one of the world's leading condom manufacturers, accounting for nearly 10 percent of the global production capacity. With a vast array of innovative products, services and social

programmes to meet the country's healthcare needs, HLL Lifecare Limited is firmly on track, with its motto of 'Innovating for Healthy Generations'.

### 16.26.1 Financial Results 2017-18

The Company's financial performance, for the year ended March 31, 2018 is summarized below:

(Rs. in Lakhs)

Financial particulars	Standalone		Consolidated	
	2017-18	2016-17	2017-18	2016-17
Revenue from operations	1,07,538.27	1,05,434.98	1,21,754.07	1,16,086.77
Other income	1,316.49	1,035.73	557.68	1,190.29
Total income	1,08,854.76	1,06,470.71	1,22,311.75	1,17,277.06
Profit/(Loss) before tax	(6,486.94)	(4,059.51)	(8,770.08)	(3,144.70)
Tax expense	471.40	(1,521.31)	1,767.17	(927.93)
Profit/(Loss) for the year	(6,958.34)	(2,538.21)	(10,537.25)	(2,216.77)

### 16.26.2 Physical Performance: 2017-18

A review of HLL's manufacturing activities during 2017-18 is given below:

Sl. No.	Product	Unit	Installed Capacity	Quantity Manufactured (Previous year)	Capacity utilization (%)
1	Condoms	M.pcs	1876.00	1846.52 (1846.63)	98%
2	Blood Bags	M.pcs	12.50	7.39 (9.26)	59%
3	Suture	L. Doz	6.00	1.31 (2.03)	22 %
4	Copper - T	M.pcs	5.50	2.38 (3.70)	43%
5	Steroidal OCP	Million cycle	96.80	43.78 (34.91)	45%
6	Non-Steroidal OCP (Saheli)	Million Tablets	30.00	41.37 (32.96)	138%
7	Sanitary Napkin	M.pcs	392.00	251.93 (276.32)	64%
8	Pregnancy Test Card	M. pcs	26.00	12.55 (12.55)	48%



### 16.26.3 Major Marketing Initiatives and Achievements

The significant marketing initiatives and achievements of the company during the year 2017-18 are stated below:

- Re-launched MOODS deodorants in a new youthful range of fragrances and packaging which registered a sale of ₹2.56 Cr.
- MOODS was introduced on online pharmacies – Netmeds.com and leading online grocery stores -Grofers.
- Entry of MOODS condoms, personal lubricants and Velvet into leading organized retail chains such as WH Smith, Big Bazaar, Reliance Retail.
- Launched new variants of Happy Days sanitary napkins – Extra-large and Ultra to increase the range of offerings to the consumers.
- Co- Branding of Blood Banks-Glow Sign Board at Stanley hospital Chennai CO-Branding at GKuppuswamy Naidu Hospital and IMA Kanpur.
- Hand hygiene campaign was conducted to create awareness among patients about nosocomial infection.
- Patient awareness programs were conducted to create awareness on topics like Breastfeeding and dos and don'ts after caesarean.
- Launched Hinstat internal haemostat in January 2018.
- Participated in 61<sup>st</sup> AICOG in January, 2018 at Bhubaneswar.
- Taken up new Business - procurement & supply of Drugs to CGHS.
- Got new entry in Karnataka State (Karnataka State Drugs & Logistics) for the supply of

Ayush products on nomination basis under 4G exemption and got orders worth Rs. 5 Cr.

- Got new entry in NCT, Delhi (Education Department) for the supply of Sanitary Napkins in 17-18.
- Established 45 new AMRIT pharmacies taking the total count of AMRIT to 128 spanning across 22 States.
- As on 31<sup>st</sup> March, 2018 AMRIT has served 62.85 Lac patients who have benefitted with a savings of Rs. 325.19 Cr.
- Received and successfully executed orders worth Rs.37 Cr from Ministry of External Affairs for procurement and supply of drugs to Syria, Yemen, Mozambique, Tanzania, Somalia, Madagascar and Swaziland.
- Successfully implemented various projects for installation of Sanitary Napkin Vending Machines and Incinerators - 350 nos in schools, colleges and other public locations across the country under the CSR initiative of Hindustan Petroleum Corporation Limited (HPCL) and Hindustan Zinc Limited(HZL).
- Installed 400 Sanitary Napkin Vending Machines and Incinerators in Tribal girl's hostels in association with Tribal Welfare Department, Madhya Pradesh.
- Installed 600 Sanitary Napkin Incinerators and supplied sanitary napkins as part of the SHE PAD project in association with Kerala State Women Development Corporation (KSWDC).

### 16.26.4 Subsidiaries and Joint Ventures

As on 31<sup>st</sup> March 2018, HLL has five subsidiary companies and one joint venture Company. The summary of performance of the subsidiary and joint venture companies is provided below:

#### a) HLL Biotech Limited [HBL]

HLL Biotech Limited (HBL), the wholly owned

subsidiary company has completed its Sixth year of incorporation on 12<sup>th</sup> March 2018. The authorized share capital of the Company as on 31<sup>st</sup> March, 2018 stood at Rs. 285.00 Cr which is same as the previous year and the issued, subscribed and paid up equity share capital as on 31<sup>st</sup> March 2018 stands at Rs. 274.89 Cr. HBL received manufacturing license on 5<sup>th</sup> February 2018 for LPV and Hepatitis B products as a manufacturer under labelling and packaging operations.

HBL successfully obtained Test license for RTF bulk for LPV (Diphtheria, Tetanus, pertussis (whole cell) Hepatitis - B (rDNA) and Haemophilus Influenza type B conjugate vaccine). HBL established its marketing network in Tamil Nadu and Kerala for Liquid Pentavalent Vaccine (PENTAHIL) and Hepatitis B (HIVAC-B) vaccine. The efforts of the marketing team has facilitated HBL make inroads into well-established hospitals like CMC, Vellore, Stedford, Be Well, Amrita and Iqraa Multispecialty Hospital, Calicut.

On Quality operations/Quality Assurance, HBL has developed and established “Quality Management System” by implementing High level policy documents and Standard operating procedures across all functional departments.

During the year, HBL also established an independent Quality Control unit equipped with qualified lab equipment having experienced and trained personnel to carry out testing for all incoming raw materials, packing materials, intermediate products and final products.

Facility validation and readiness of manufacturing blocks like Rabies Bulk and BCG are expected to be completed. On developmental front JE vaccine will complete immunisation studies and will be ready with pre-clinical trial material.

#### **b) Goa Antibiotics & Pharmaceuticals Limited [GAPL]**

The authorized and paid up share capital of GAPL is ₹25.00 Cr. and ₹19.02 Cr. respectively without any change as on 31<sup>st</sup> March 2018. The

shareholding of HLL Lifecare Limited (holding company) in GAPL is 74% and balance 26% is held by EDC Limited.

During the year under review, the Revenue from operations dropped by 28% as compared with the previous year. The net profit of the Company was less by 85% as compared with the year before.

#### **Fully automatic Tablet Manufacturing Facility**

GAPL proposes to set up a new fully automatic tablet manufacturing facility with WHO GMP certification for manufacture of tablets. The estimated capacity of the new tablet manufacturing line could be 300 million tablets per shift per annum. This facility shall cater to the requirement of institutional customers with bulk quantity requirements in short span of time. Estimated investment for the project is Rs. 8.34 Cr. and annual turnover expected for the year 2020-21 is Rs.19.37 Cr.

#### **Cephalosporin Project 2020-21**

To enhance production capacity and expand product range GAPL plans to setup state-of-the-art Cephalosporin range of formulation manufacturing facility in the category of tablets and capsules. Further, a new DPP line would be included in the facility with WHO GMP compliance as the existing facility is obsolete.

The new facility will be designed to meet current international GMP compliance requirements with the intension to explore the possibility of formulation exports to non-regulated as well as regulated markets.

The investment for the facility would be around Rs. 38 Cr. In the first year of production, 1 Cr 82 lakh tablets and 70 lakh Capsules is planned with estimated revenue of Rs. 12.76 Cr. in 2021-22.

#### **Upgrading existing facility**

GAPL plans to upgrade the Quality Control Laboratory to meet current regulatory compliances and strengthen in-house sample testing capabilities.

In order to meet the current GMP Guidelines and to enhance the shift productivity, it is planned to replace the old machines at allopathic manufacturing facility in phased manner.

**c) HLL Infra Tech Services Limited. (HITES)**

HITES was incorporated on 3<sup>rd</sup> April 2014 as a wholly owned subsidiary of HLL Lifecare Limited to carry on the business of providing services viz., Infrastructure Development, Facilities Management, Procurement Consultancy and allied services, foreseeing the enormous scope of business in these segments.

During the year under review, HITES achieved growth in Turnover and Profit, besides achieving many milestones and scaling new heights during the period under review. The turnover of the Company increased to Rs. 86.32 Cr. as against last year's Turnover of Rs. 36.55 Cr. The profit also increased to Rs.11.25 Cr. as against the previous year's profit of Rs. 4.08 Cr.

Expansion of healthcare sector is one of the most inspiring success stories of modern era. Development of health care sector always plays a key role in building the nation. Taking advantage of this, HITES utilized the opportunities and shown remarkable improvement in business development.

HITES has also started providing service to private sector clients. HITES entered into an agreement with Cosmopolitan Hospital, Trivandrum for expansion of their facilities at Trivandrum and signed MoU with M/s Techno Global Ltd Kolkata, under which HITES will render consultancy support to establish medical colleges, nursing colleges, para-medical and medical based campuses of Techno India University.

HITES has entered into MOU with M/s KITCO Ltd. Kerala for strategic alliance to jointly undertake execution of healthcare infrastructure projects. HITES developed online portal for specification of medical equipment, where client can access the medical equipment specifications

online. During the year, HITES has been awarded with the phase II procurement of medical hospital for the Republic of Seychelles.

**d) HLL Medipark Ltd. (HML)**

HLL Medipark Ltd was incorporated on 20<sup>th</sup> December, 2016, as a wholly owned subsidiary of HLL Lifecare Ltd, for the implementation of Medipark in Chengalpattu in Tamil Nadu. Medipark is envisaged as an exclusive industrial cluster with the state-of-the art infrastructure and integrated eco system for the manufacture of medical devices and equipments along with knowledge management infrastructure in a sprawling 330 acres of land. The Medipark will be a one-stop facility for manufacturing units and would stimulate innovation and R&D, develop new technologies, prototyping and commercialization, quality assurances through its accredited laboratory & calibration centres and become a hub for the sector in the country. The project is aimed to strengthen the "Make- in- India" drive of the Government of India thereby reducing the dependence on imports and create a strong base for the growth of indigenous manufacturing.

Medipark is expected to attract various investors in the medical devices and equipment sector. Apart from boosting the investment in the country and providing affordable medical devices, it will usher a new era of affordable health care delivery in the country and would enhance employment opportunities.

The statutory approvals are received for the commencement of construction activities and the financial closure is in the final phase with SBI funding the project to the tune of Rs. 74 Cr.

The authorized and paid-up share capital of HML as on 31<sup>st</sup> March, 2018 is Rs. 50 lakhs and Rs. 10.01 lakhs respectively. The authorized share capital was increased to Rs. 13.00 Cr. to facilitate the Company to raise equity capital for project finance.

Department of Commerce, GOI accorded approval for the grant support of Rs. 9.56 Cr for the EMI/EMC laboratory, which is part of knowledge management infrastructure and will be a key differentiator of the Medipark.

**e) HLL Mother & Child Care Hospitals Limited (HMCCHL)**

In December 2016, Director General (Medical & Health Services), Government of Uttar Pradesh had issued a tender notification inviting proposals for Operationalization of 100 bedded Mother & Child Hospital (MCH) wings at 20 district hospitals in Uttar Pradesh (the project). The project has to be executed on EFOMT (Equip, Finance, Operate, Maintain and Transfer) basis, wherein the successful bidder has to finance, equip and operate the MCH wings of District hospitals for a period of 10 years.

Out of 20 Hospitals envisaged under the SPV there are 13 Category A and 7 Category B hospitals to be managed by HLL Lifecare Limited [HLL] /Special Purpose Vehicle formed by HLL. Category A hospitals will have to provide full range of maternal and child healthcare services including facilitation of normal deliveries, complicated deliveries and neo-natal care. Category B Hospitals will have to provide services concerning only complicated deliveries. Basic/Normal delivery cases will be attended by DH in Category B centres. The timeline stipulated for project execution is 270 days from the signing of Agreement.

Accordingly, HLL Mother & Child Care Hospitals Ltd. was incorporated on 1<sup>st</sup> August, 2017 as a wholly owned subsidiary Company of HLL Lifecare Limited. Financial year 2017-18 is the first financial year for HLL Mother & Child Care Hospitals Limited [HMCCHL].

**f) LifeSpring Hospitals (P) Limited [LSH]**

LifeSpring has been in existence for almost 10 years. During these periods, LifeSpring has evolved a unique model for providing high quality maternal and child health care at affordable rates

for low- income population group, which meets a social objective while being sustainable.

**The initiatives taken by the LSH are as under :**

- Strengthening the outreach and consolidating the Community Extension Centres (CEC). Now, there are ten (10) CECs.
- Focus on capturing value in ANC check-up. The metric of “Percentage of antenatal women converted to deliveries” was discarded and the new metric of “Number of total unique women carried in the month” was adopted.
- Increasing focus on non-delivery in-patient services to the women. This measure has the potential to increase the occupancy in hospital, engage General Surgeons who can contribute to reduction in clinical risks associated with Obstetrics, and also contribute to overall increase in revenue.
- Increase service provision in the newborn care by providing double surface phototherapy service for babies having neonatal jaundice.
- Introduced a Finance scheme to the customers, who cannot afford company’s prices for its services and are willing to pay in instalments. The company has tied-up with Bajaj Finserv to facilitate the availing of finance facility by the customers.
- In addition, to laterally expand its services and prepare itself to serve the next level of economic segment, LSH has partnered with other agencies to provide the following services:
  - Infertility treatment upto IUI.
  - Stem Cell Banking.
  - LSH also continued the strategy of engaging partners to provide Ultrasound Machines and Radiologist services at its hospitals to lower

costs and risks associated with compliance of Pre-Conception & Pre-Natal Diagnostic Techniques Act 1994. New machines were put up in Alwal and Kukatpally. This not only led to improved customer satisfaction but also to increase in revenue from USG.

- The initiatives mentioned above have yielded the following results:
- Maintaining or increasing the monthly revenue of the company despite a decline in

the number of deliveries.

- Stabilizing and growing the total number of pregnant women served per month.
- With the help of these initiatives, LSH closed the financial year with an after tax profit of ₹46.37 lakhs.
- Overall, LSH helped 53,539 women to deliver their babies since inception in February, 2008.



