

# Medical Education, Training & Research

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## 15.1 INTRODUCTION

The Centre has set up regulatory bodies for monitoring the standard of medical education, promoting training the research activities. This is being done with a view to sustain the production of medical and para-medical manpower to meet the requirements of health care delivery system at the Primary, Secondary and Tertiary levels in the country. This chapter discusses the status of these activities conducted by the various bodies and institutions.

## 15.2 MEDICAL COUNCIL OF INDIA

The Medical Council of India was established as a statutory body under the provisions of the Indian Medical Council Act, 1993, which was later, replaced by the Indian Medical Council Act, 1956 (102 of 1956). The main functions of the Council are (1) Maintenance of uniform standard of Medical Education at undergraduate and postgraduate level; (2) Maintenance of Indian Medical Register; (3) Reciprocity with foreign countries in the matter of mutual recognition of medical qualifications; (4) Provisional/permanent registration of doctors with recognized medical qualifications, registration of additional qualifications, and issue of good standing certificate for doctors going abroad (5) Continuing Medical Education, etc. The provisions of IMC (Amendment) Indian Medical Council Act, 1993, whereby Section 10A was introduced and came into deemed effect from 27<sup>th</sup> August, 1992 (initially promulgated as an ordinance). As per the amended Act prior permission of the Central Government is mandatory for opening of a new medical college, increase in an admission capacity and starting of new or higher course of studies. The eligibility and qualifying criteria for opening of a new medical college is laid down in Establishment of Medical College Regulations, 1999. The minimum standard requirements for 50/100/150/200/250 students admissions are contained in the minimum standard requirements Regulations, 1999.

As per the newly inserted Section 3(B)(ii) in Indian Medical Council (Amendment) Act, 2010, the Board of Governors shall grant independently permission for establishment of new medical colleges or opening a new or higher course of study or training or increase in admission capacity in any course of study or training referred to in Section 10A without prior permission of Central Government including exercise of power to finally approve or disapprove the same.

At present, there are 362 medical colleges in the country out of which 266 medical colleges have been recognized under Section 11 (2) of Indian Medical Council Act, 1956 by Medical Council of India. The remaining 96 medical colleges have been permitted under Section 10(A) of Indian Medical Council Act, 1956 for starting MBBS course. Out of these 362 medical colleges, 168 medical colleges with annual admission capacity of 20574 students are in Government Sector and 194 medical colleges with annual admission capacity of 25055 students are in Private Sector. The admission capacity both in Government and Private medical colleges are about 45,629 students per year. During the academic year 2012-13, 13 new medical colleges in private sector and 13 medical colleges in Government sector including 6 AIIMS with admission capacity of 3895 students were granted permission. The Post Graduate intake capacity of these colleges is about 22850 students annually.

The Central Government has a Centrally Sponsored Scheme for Strengthening and Up-gradation of State Government Medical Colleges starting/increasing Post Graduate seats in existing disciplines with priority given to the disciplines like Anatomy, Forensic Medicine, Obst. & Gynaecology, Paediatrics, Anaesthesiology, General Medicine, General Surgery, Microbiology, Physiology, Pharmacology, Community Medicine, Geriatric, Transfusion Medicine and Bio-Chemistry. Under this scheme, an amount of Rs. 1350 crores has been

earmarked for this purpose. With the implementation of the scheme, approximately 4000 more PG seats would be available.

Till November 2012, 72 State Government Medical Colleges from Andhra Pradesh, Assam, Bihar, Chandigarh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Uttarakhand, Uttar Pradesh and West Bengal have been granted funds under the scheme.

### 15.3 DENTAL COUNCIL OF INDIA

The Dental Council of India is a statutory body constituted by an Act of Parliament viz. Dentists Act, 1948 (XVI of 1948) with the main objective of regulating the Dental Education, Dental Profession, Dental ethics in the country and recommend to the Govt. of India to accord permission to start a Dental College, start higher course & to increase of seats. For this purpose the Council periodically carries out inspection to ascertain the adequacy of courses and facilities available for the teaching of Dentistry.

This Council had received 322 applications in prescribed form/ Scheme from the Central Government for (i) establish new dental colleges (ii) starting MDS Courses (iii) increase of seats in BDS/MDS Courses and (iv) starting of PG Diploma Course, for evaluation & recommendation in accordance with the provision of the Section 10A of the Dentists Act, 1948. During the said period, the Council had recommended to the Central Government to grant its permission to (i) establish 6 new dental colleges, (ii) start MDS course in 255 specialities at 75 dental colleges (iii) start PG Diploma course in 1 speciality at 1 dental college (iv) increase of admission capacity in BDS courses at 5 dental colleges, increase of admission capacity in MDS courses in 166 specialities at 45 dental colleges and increase of admission capacity in PG Diploma course in 1 speciality at 1 dental college. The Central Government on recommendation of the Council had permitted 6 new dental colleges, for starting of MDS course in 245 specialities at 73 dental colleges, for increase of seats in BDS course at 6 dental colleges, for MDS course at 45 dental colleges in 166 specialities and for PG Diploma course at 1 dental college in 1 speciality.

This Council had recommended to the Central Government to allow/ renew its permission for 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup>/5<sup>th</sup>/6<sup>th</sup> year in BDS course at 37 dental colleges and for 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup>/

5<sup>th</sup>/6<sup>th</sup> year with increased intake capacity in 27 dental colleges, allow/renew its permission for 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup> year in MDS course at 73 dental colleges in 227 specialities and for 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup> year with increased intake capacity at 22 dental colleges in 72 specialities, allow/renew its permission for 2<sup>nd</sup>/3<sup>rd</sup> year in PG Diploma course at 5 dental colleges in 12 specialities. The Central Government on recommendation of the Council had allowed/ renewed its permission for 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup>/5<sup>th</sup>/6<sup>th</sup> year in BDS course at 37 dental colleges and for 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup>/5<sup>th</sup>/6<sup>th</sup> with increased intake capacity at 27 dental colleges, allowed/renewed its permission for 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup> year in MDS course at 73 dental colleges in 229 specialities and for 2<sup>nd</sup>/3<sup>rd</sup>/4<sup>th</sup> with increased intake capacity in 84 specialities at 26 dental colleges.. During this period 1182 inspections of the various Dental Colleges in the country had been carried out by the Council's Inspectors/ Visitors.

This Council had taken decision to recommend to the Central Government for recognition of the BDS/MDS/ PG Diploma qualifications awarded by 32 Indian Universities under Section 10(2) of the Dentists Act, 1948. The Government of India on the recommendation of the Council had issued 43 notifications of recognition of BDS/ MDS qualifications awarded by the 32 Indian Universities under Section 10(2) of the Dentists Act, 1948. The Council had recognised the Dental Mechanic Course at 7 dental colleges and Dental Hygienist Course at 4 dental colleges.

The Govt. of India, Ministry of Health and Family Welfare, Nirman Bhawan, New Delhi has sanctioned an amount of Rs.19 lakhs as Grant-in-aid to the Council during the period for the year 2011-12.

### 15.4 PHARMACY COUNCIL OF INDIA

The Pharmacy Council of India (PCI) is a body constituted under section 3 of the Pharmacy Act, 1948 to regulate the profession and practice of Pharmacy. The objectives of the Council is to prescribe minimum standards of education required for qualification as a Pharmacist, uniform implementation of educational standards, approval of course of study and examination for Pharmacists, withdrawal of approval, approval of qualifications granted outside India and maintenance of Central Register of Pharmacists.

The Council arranged 657 inspections of diploma and degree institutions and held a number of Meetings of the Executive Committee and Central Council during the last

one year as a result of which Approval of 242 Diploma & Degree institutions was extended u/s 12 of the Pharmacy Act; 89 new Diploma & Degree institutions were granted approval u/s 12 of the Pharmacy Act; 22 new Pharm. D. institutions were granted approval for the conduct of course and 11 new Pharm. D. (Post Bacalaureate) institutions were granted approval for the conduct of course.

At present 686 institutions with 40,858 admissions for Diploma in Pharmacy and 822 institutions with 50,613 admissions for degree in Pharmacy has been approved by the Pharmacy Council of India.

Continuing Education Programmes (CEP) play an important role in the growth of the knowledge bank of the Pharmacist. The PCI from its own resources is giving a financial assistance of Rs. 10,000/- per course subject to ceiling of 12 courses to the State Pharmacy Councils for the conduct of CEP for Pharmacists. PCI further decided to give a financial assistance of Rs. 10,000/- to one pharmacy institution per state once in a year for conduct of orientation programme for pharmacy teachers. The Council has taken up the matter with the State Govts./ State Pharmacy Councils for setting up of Drug Information Centres for dissemination of knowledge. The Council is constantly pursuing with the State Governments for appointment of inspectors to ensure implementation of section 42 of the Pharmacy Act 1948.

## 15.5 DEVELOPMENT OF PARAMEDICAL SERVICES

A Centrally Sponsored Scheme named “Establishment of National Institute of Paramedical Sciences and Eight Regional Institute of Paramedical Sciences as well as developing the existing RIPANS, Aizawal as the 9th RIPS and manpower development to support State Government Medical Colleges through one time grant” has been initiated by M/o H&FW during the 11th Plan period at the cost of Rs. 1156.43 crores to be shared in the ratio 85:15 between Centre and the State Governments.

The Scheme aims to augment the supply of skilled paramedical manpower and promote paramedical training through standardization of such education/courses across the country. This Capacity Building scheme will also lead to:-

- Reduction in regional imbalances in availability of Paramedics

- Introduction of courses in New/Cutting Edge Disciplines
- Augmentation of Capacity for Planning, Monitoring, Evaluation etc.
- Provision of quality assured services through in-service training, action research, onsite support etc.

The Scheme has two components:-

- i. Establishment of one National Institute of Paramedical Sciences (NIPS) at Najafgarh, Delhi and eight Regional Institutes of Paramedical Sciences (RIPS) at Bhubaneswar, Lucknow, Coimbatore, Chandigarh, Hyderabad, Bhopal, Patna and Nagpur at a total cost of Rs. 804.43 crores.
- ii. To support State Govt. Medical Colleges for conducting paramedical courses through one time grant at a cost of Rs. 352.00 crores.

Under the scheme Rs. 107.90 crore has been released so far as per details given below:-

- (i) Rs. 86.00 crore has been released to HLL Lifecare Ltd., the Project Management consultant for construction of NIPS & RIPS.
- (ii) Rs. 0.685 crore has been released to PHFI to support MoHFW towards preparation of a business Model for the establishment of NIPS & RIPS as well as faculty development.
- (iii) Rs. 21.22 crore to Five Govt. Medical Colleges to start new courses and increase intake capacity of existing courses.

## 15.6 INDIAN NURSING COUNCIL

### Introduction

The Indian Nursing Council is an autonomous body under the Government of India, Ministry of Health and Family Welfare. Indian Nursing Council Act, 1947 enacted by, giving statutory powers to maintain uniform standards and regulation of nursing education all over the Country.

**Aim:** Indian Nursing Council prime responsibility is to set the norms and standards for education, training, research and practice with in the ambit of the relevant legislative framework.

**Inspections:** First Inspection is conducted to start any nursing program prescribed by Indian Nursing Council.

Periodic inspections are conducted as per the requirement of the institution for new programmes as well as enhancement of seats.

**Income:** A sum of Rupees 10.14 crores has been received from the nursing education institutions towards inspection/affiliation fees and publication from **01/04/2012 to 31/10/2012**.

**Institutions Recognized by Indian Nursing Council:** Number of Nursing Institutions recognized up to 31<sup>st</sup> October 2012 is as follows:

Programme	Total
ANM	1642
GNM	2670
B.Sc. (Nursing)	1578
P.B.B.Sc. (Nursing)	696
M.Sc. (Nursing)	535
Post Basic Diploma Programme	256

**Number of Registered Nurses:** 12,67,020 Nurses, 6,11,458 ANM's and 52,984 Health Visitors have been registered with various State Nursing council upto 31<sup>st</sup> December 2011.

**National Consortium for Ph.D. in Nursing:** Under National Consortium for Ph.D. in Nursing constituted by Indian Nursing Council to promote research activities, in various fields on Nursing in collaboration with Rajiv Gandhi University of Health Science, supported by WHO. Total 204 students have been enrolled.

#### New Initiatives

1. Indian Nursing Council has initiated pro active measures to relax certain norms with regards to student patient ratio, student teacher ratio, experience, having constructed building instead of five acre land, allowing sharing of physical and clinical facility to run different programmes.
2. Any organization which needs to establish GNM/ B.Sc. (N) shall have own parent hospital of 100 beds.
3. Syllabus for different speciality nursing programme one year Post Basic has been developed for Training of nurses in various speciality courses. 15 Speciality courses have been developed.
4. **Nurse Practitioner programme:** The Council has developed Nurses Practitioner in midwifery and is under implementation in various states.

#### International Linkage

At present India is a member of International Council of Nurses (ICN), which is a global professional Association since April, 2011. The website of Council is [www.indiannursingcouncil.co.in](http://www.indiannursingcouncil.co.in) & [www.indiannursingcouncil.org](http://www.indiannursingcouncil.org) are being updated regularly.

#### On-line Registration of institution including teaching faculty:

Indian Nursing Council has developed web based teaching faculty details wherein institute has to update their teaching faculty details on Indian Nursing Council website. This will be online registration for INC Teaching faculty, including students enrolled every year.

#### Capacity building of Auxiliary Nursing & Midwifery (ANM) tutors:

In order to strengthen pre-services education of Auxiliary Nursing & Midwifery (ANM) Training programme. Indian Nursing Council in collaboration with Ministry of Health & Family Welfare and with technical collaboration with Johns Hopkins Programme for International Education in Gynecology and Obstetrics (JHPIEGO) has initiated the project. The main objective: higher functioning educational institutions, better prepared Nurses and Midwives workforce who are competent, confident and ready to work upon graduation, especially in rural areas with an overall objective to improve the quality of nursing and midwifery education provided in ANM Training Schools. Five Colleges of Nursing have been identified as the National Nodal Centers (NNCs).

A Learning resource package for the ANMTC faculty that includes the Facilitators guide and the Participants Handbook, has been developed.

Three batches of 6 weeks trainings for the ANM faculty were conducted ( I batch 15<sup>th</sup> of November to the 20<sup>th</sup> of December 2011; II batch 12<sup>th</sup> march to 21<sup>st</sup> April 2012; III batch 12<sup>th</sup> June to 21<sup>st</sup> July 2012). 35 Participants from the states of Bihar, Uttarakhand and Jharkhand were trained. The demonstration of initial success of this program has played a catalytic role in generating interest among the other states in the country and they are willing to sponsor the faculty from their ANMTCs for the trainings. With the evident results, it is sure that the pre-service nursing and midwifery education in India would be strengthened and well educated, competent ANMs



would be available shortly to serve the community and help the country meet the Millennium Development Goals 4 and 5.

### 15.7 RAJKUMARI AMRIT KAUR COLLEGE OF NURSING

The Rajkumari Amrit Kaur College of Nursing, New Delhi, a subordinate organization of the Ministry of Health and Family Welfare was established in 1946 with the object of developing and demonstrating model programmes in Nursing Education. The College works in close association with health centres, hospitals, medical centres and allied agencies for teaching undergraduates, post-graduates and also for continuing education of Nursing personnel. The college provides advisory and consultative services on nursing education matters to the States, Union Territories and some Developing Countries.

**Admission and Graduation:** The admission to B.Sc. (Hons.) Nursing, Master of Nursing and M.Phil in Nursing are made on the basis of merit in the selection test as laid down by the Academic Council of the University of Delhi.

- i) Total admissions made in July, 2012  
**B.Sc. (H) Nursing 1<sup>st</sup> year = 65**  
**Master of Nursing 1<sup>st</sup> Semester = 24**
- ii) Total No. of students who graduated in 2012:  
**B.Sc. (H) Nursing = 51**  
**Master of Nursing = 24**
- iii) No. of foreign students admitted  
 During the Academic Session, 2012-13  
**B.Sc. (H) Nursing = 03**  
**Master of Nursing = Nil**
- iv) No. of participants in Short term courses:  
**National Level = 72**

#### Budget

(Rs. in crores)

Year	Plan		Non-Plan	
	B.E.	Expenditure	B.E.	Expenditure
2011-12	0.90	0.72	5.60	5.30
2012-13	1.05	0.39	6.00	3.50
	(Up to October, 2012)		(Up to October, 2012)	

#### Teaching and Research

The college has implemented the revised curriculum for B. Sc (H) Nursing programme under semester system scheme as per Delhi University guidelines from the academic year 2010-11. The B.Sc.( Hons.) Nursing, Master of Nursing were conducted as per the schedule for a total 281 students.

#### Community Health Nursing

The field experience was given for students in urban and rural community setting i.e., MCH and Family Welfare Center & Maternity Home, Sri Niwas Puri (MCD) & RFTC Chhawla respectively. Educational visit were arranged at various health agencies like WHO, Shanti Avedna Ashram, National Centre for Disease Control (NCDC), Water Works, Sewage Disposal Plant, Mother Dairy, TNAI, INC etc. Specific activities like Health Education, Mass health Education project and Camps, family planning motivation, Domiciliary Midwifery cases, Post natal care & Comprehensive Family Care were also done. Master of Nursing students with Community Health Nursing elective were provided field experience at Greater Noida Community, to survey the old age People to find the need for Old Age Home at Greater Noida initiated by TNAI. The report of survey was presented at TNAI.

#### Medical-Surgical Nursing

The post graduate students under Medical-Surgical Nursing elective were offered the areas of specialization for advance study i.e Intensive Nursing Care, Cardiothoracic and Cancer Nursing. Their clinical postings were at Rajiv Gandhi Cancer Institute and Research Centre, New Delhi, AIIMS, Amrita Institute of Medical Science, Kerala and Amla Cancer Center, Kerala. Department also organized a state level workshop of 7 days for nursing personnel from service as well as education side on Cardiac Nursing. The B.Sc(H) Nursing students were provided supervised clinical experience in Medical surgical area and also in different specialty areas i.e Neurology, Cardiology, Skin and VD , Nephrology, Cancer, Ortho, T.B, Eye, ENT O.T, Gynae, Burns and plastics of different hospital.

#### Pediatric Nursing

The Pediatric field experience was offered at Paediatric Medical-Surgical Wards, Neonatal Nursery & Under Five

& Child Guidance Clinics of S.J.H., Creche at AIIMS and Frank Anthony Public School, Lajpat Nagar, New Delhi. During Summer Field Experience, the students were posted in Kalawati Saran Hospital and visited Chacha Nehru Children Hospital, Geeta Colony, Delhi.

### **Psychiatric Nursing**

B. Sc (H) Nursing students were provided clinical experience in Psychiatric Nursing at Lady Hardinge Medical College and Hospital (LHMC & H) and Dr. Ram Manohar Lohia Hospital. They were posted in the Psychiatry ward, Psychiatry OPD, ECT Room, Yoga Room and various clinics in the Psychiatry Department. They also conducted group projects & organized various programmes in the General OPD as well as in the ward. Beside these students went for visits to various organizations IHBAS, Dilshad Garden, Vishwas Half Way Home, NOIDA, NDDTC, New Delhi.

### **Obstetrics and Obstetrical Nursing**

Clinical experience in Obstetrical Nursing was given at Safdarjung Hospital, New Delhi in different areas i.e. Antenatal Clinic, Labour Room, & Management Anaemia, Post Natal Ward, Maternity O.T, Nursery & Family Welfare Clinic. Group projects were conducted on Antenatal care, Post natal care and Breast feeding in different maternity wards. Students also celebrated "Breast feeding Week and 'New born week by organizing health education/ exhibition sessions. Department organized a workshop on Quality care; Advancement in Obstetrical Nursing for Nursing staff educators and administrators.

### **Nutrition and Dietetics**

In Nutrition and Dietetics students were acquainted with Normal, Therapeutic and Public Health Nutrition, Individual practical experience in the Nutrition Lab pertaining to simple preparation of beverages. Complementary food for infants, nutritious snacks for vulnerable groups was done.

### **Continuing Education Programme**

From Continuing Education Department two national levels short-term courses i.e. one on 'Patient Safety' from 13<sup>th</sup> February, 2012 to 17<sup>th</sup> February, 2012 and another on "Advancing & Empowering Nursing Education" from 27<sup>th</sup> February to 2<sup>nd</sup> March, 2012 were held. Five State level workshops were conducted for updating the skills of

nursing personnel's working in Delhi and individual study programmes were planned and coordinated for visiting nurses, health professionals and students from other states.

### **Rural Field Teaching Centre**

Rural Field Teaching Centre, Chhawla provides an integrated comprehensive health and family welfare service to the community. Special emphasis is given on MCH services family planning, immunization, nutrition and health education programme by the student and staff of rural unit in collaboration with the staff of RHTC, Najafgarh. Staff and students also participated in National Health Programmes like Malaria Control Programme, Dengue Control Programme, revised National Tuberculosis Control Programme, AIDS Control Programme, Diarrhoea Disease Control Programme etc. The centre also has DOTS and Microscopic centre for screening and treatment of T.B. & MDRTB patients. In addition, the centre provides mobile van clinic services to seven villages with special emphasis on primary, secondary and tertiary level. RFTC, Chhawla is also a 'Team Movement Point' for pulse polio programmes. Various group projects & health assessment camps were also organized. One day orientation program was also done for different educational institute.

### **Library**

The College Library has total 20154 books. During year 2012-13, 107 books, 32 journals, many news paper & magazines were purchased The total expenditure on books and journals during the period was Rs. 6,82,127/- . Xerox facilities were provided to the students and staff.

### **Health Office**

Detailed medical examination was done for all new entrants. Other activities of the Health Office are periodical check-up, treatment of minor ailments, follow-up, immunization, individual counselling and guidance. College faculty are engaged in many areas of research in different fields of nursing and nursing education and providing consultative and advisory services and are participating in some projects and meetings at national level. The College has constituted Anti-Tobacco Squad as a part of Delhi University Smoke Free Project. A College Complaint Committee of 9 members including two outside members has been formulated for dealing with cases of Sexual Harassment. Several faculty members

have participated and organized short course and workshops, published and presented papers.

### Scholarships

- 40 B.Sc (H) Nursing students were awarded Merit Scholarship by the Department of Welfare for SC/ST/OBC & Minority, Government of N.C.T of Delhi.

### Achievements

- The College continued to work as Programme Study Centre for Ph.D. programme offered by Rajiv Gandhi University of Health Sciences under the Ph.D. Consortium initiated by Indian Nursing Council and R.G.U.H.S.
- The College is functioning as Sub-recipient for GLOBAL FUNDS for AIDS, TUBERCULOSIS AND MALARIA (GFATM) Project.

## 15.8 EXISTING SCHEME OF DEVELOPMENT OF NURSING SERVICES

In order to improve the quality of Nursing Services, the following programme have been implemented during 2012-13

1. Up-gradation of Schools of Nursing attached to Medical Colleges into Colleges of Nursing. Under the revised one time assistance of Rs. 6.00 crores approved for upgrading a School of Nursing into College of Nursing in order to increase the availability of graduate nurses, the funds are released to the Institute subject to the condition that State Government/Institution will bear the recurring expenditure. The financial assistance is meant for civil works including addition and alteration of school and hostel building and for furniture, audio- visual aids.

A sum of Rs. 4.18 crore has been released during the year 2012-13 to School of Nursing at Ajmer, Rajasthan.

2. National Florence Nightingale Award for Nursing Personnel. National Awards for Nurses are given as a mark of highest recognition for the meritorious services of the nurses and Nursing profession in the country. This award has been revived from 2007 onwards with the consent of Hon'ble President of India and named as National Florence Nightingale Award". 36 Nursing personnel had been honored

with this prestigious award. Each award carries a Certificate of Merit and Cash Award of Rs. 50,000/-. Two nursing personnel have been honoured with special award post humously for the first time in 2012.

## New Scheme of Strengthening/Upgradation of Nursing Services under Human Resource

**Opening of ANM /GNM Schools:** Cabinet Committee on Economic Affairs (CCEA) has approved this Ministry's proposal for opening of 132 ANM Schools and 137 GNM Schools for XI plan period. A Sum of Rs. 64.03 crore has been released during 2012 – 13 for Opening of 3 ANM and 14 GNM Schools in Andhra Pradesh, Odisha, Uttarakhand, Gujarat and Jharkhand states. For the North eastern region, a sum of Rs.26.93 crore has been approved so far for release under the scheme to the State of Nagaland for opening three ANM and one GNM schools and to Meghalaya for opening of 4 GNM schools.

## 15.9 ALL INDIA ENTRANCE EXAMINATION FOR ADMISSION TO MBBS/BDS COURSES, 2012 CONDUCTED BY CBSE

The All India Pre-Medical/Pre-Dental Entrance Examination was conducted in two stages (Preliminary & Final) by Central Board of Secondary Education (CBSE) on 1.4.2012 and 13.5.2012 for 15% All India Quota seats in Medical/Dental courses all over the country. Total 2,75,742 candidates appeared for Preliminary Examination. Out of which 30,792 candidates had been declared qualified for final stage examination. The final examination result was declared on 1.6.2012 and 2,738 candidates were placed in merit list and 10952 candidates were placed in wait list. Allotment was made in 135 Government Medical Colleges and 30 Dental Colleges for 2510 MBBS seats and 273 BDS seats respectively.

Allotment of Colleges and courses to the successful candidates were made as per their rank by online counseling conducted by Ministry of Health & Family Welfare for the academic year 2012-13 in three rounds. The whole admission process for 15% All India Quota of MBBS/BDS seats was successfully completed by 14.9.2012.

## 15.10 ALL INDIA ENTRANCE EXAMINATION FOR ADMISSION TO 50% POST-GRADUATE SEATS-2012 CONDUCTED BY AIIMS NEW DELHI.

In compliance with directions of the Hon'ble Supreme Court of India, the All India Institute of Medical Sciences,

New Delhi conducts the All India PG Entrance Examination on all India basis.

The Entrance Examination was held at 156 Centers in 15 capital cities in the country on 8.1.2012. A total of 71,968 candidates were registered and 69,069 candidates appeared in the examination for admission to MD/MS/Diploma and MDS courses. The result was declared on 3.3.2012 for enabling the allotment of seats for the merit/wait list candidates in 102 Medical Colleges and 24 Dental Colleges all over India. There were 5245 recognised/approved seats in MD/MS/Diploma Courses and 168 recognised/approved seats in MDS course under the 50% All India PG Quota for the academic year 2012-13. The allotments were made to the successful candidates through online counselling conducted by Ministry of Health & Family Welfare, Government of India. The whole allotment process of 50% All India PG Quota Counselling-2012 was successfully completed by 21.6.2012.

### **15.11 ALLOCATION OF MEDICAL/DENTAL SEATS FROM CENTRAL POOL**

#### **MBBS and BDS Seats**

A Central Pool of MBBS and BDS is maintained by the Ministry of Health & Family Welfare by seeking voluntary contribution from the various States having medical colleges and certain other Medical Education Institutions. In the academic session 2012-13, 238 MBBS and 28 BDS seats were contributed by the States/UTs and medical institutions. These seats were allocated to the beneficiaries of the Central Pool, viz., States/Union Territories, which do not have medical/dental colleges of their own, Ministry of Defence (for the wards of Defence Personnel), Ministry of Home Affairs (for the children of para-military personnel and Civilian Terrorist Victims), Cabinet Secretariat, Ministry of External Affairs (for meeting diplomatic/ bilateral commitments and for the children of Indian staff serving in Indian Mission abroad), Ministry of Human Resource Development (for Tibetan Refugees) and Indian Council for Child Welfare (for National Bravery Award winning children).

#### **MDS Seats**

There are 4 MDS seats in the Central Pool contributed by Government of Uttar Pradesh, which are allotted to the in-service doctors sponsored by the States/Union Territories without MDS teaching facility on a rotational basis. For the academic session 2012-13, in-service doctors

sponsored by the States of Manipur and Sikkim were nominated against these seats. One doctor of Nepal was also nominated against one MDS seat.

#### **Post-Graduate Medical Seats for Foreign Students**

There are 5 P.G. medical seats in the Institute of Medical Sciences, Banaras Hindu University, Varanasi, reserved for foreign students in a calendar year. The foreign students against these seats are nominated by the Ministry of Health & Family Welfare on the advice of Ministry of External Affairs. During the year 2012, these seats were allocated to the candidates from Nepal (2 seat) and Mauritius (3 seats).

### **15.12 NATIONAL BOARD OF EXAMINATIONS**

#### **Introduction**

The National Board of Examinations (NBE) was established in 1975 on the basis of the Report of a Working Group set up by the Govt of India. The National Board functioned as a wing of the National Academy of Medical Sciences from 1975 to 1982 and the Govt of India, after a review, took a policy decision to make it an independent autonomous body with effect from 1<sup>st</sup> March, 1982 under the Ministry of Health & Family Welfare.

The Governing Body of NBE comprises of the President, 4 Vice-Presidents (to be nominated by the Central Govt) and Director General of Health Services; Director General- AFMS; President- Dental Council of India; Chairman- Board of Governors, MCI; President- IMA; President- NAMS; Secretary- Higher Education, Ministry of HRD; Financial Advisor- Ministry of Health & FW; Chairman- UGC and Executive Director- NBE as ex-officio members. Besides this, the Govt of India nominates representatives of the medical faculties of various universities, one non-medical scientist and 4 persons of high standing in the field of medicine. NBE conducts examinations in more than 66 disciplines of modern medical leading to award of Diplomate National Board (DNB) and Fellow National Board (FNB) Qualification.

The Diplomate qualifications awarded by the National Board of Examinations have been equated with post graduate degree and postdoctoral level qualifications of Universities by the Govt of India, Ministry of Health & Family Welfare. Considering the fact that India has the expertise in various sub-specialty areas with centers having high tech equipment and trained manpower performing exceptional quality work and also keeping in



mind the need to increase manpower that can render highest degree of professional work the National Board also conducts Fellowship programme in 16 sub-specialties. Besides, the NBE also conducts entrance examination and centralized counselling for admission to these courses. NBE has also been entrusted for conduct of Screening Test for Indian nationals with FMG qualifications since its inception in 2002.

### Activities Undertaken

**Grant of Accreditation:** The Board grants accreditation to institutions/hospitals in public and private sector all over the country for the purpose of training of candidates in various specialties. During 2010-11, the Board granted accreditation to 125 fresh departments of various hospitals/institutions accounting for an annual intake capacity of 163 students in different specialties. In addition, 519 specialties of accredited institutions/hospitals were given renewal for 930 seats for a further period of three years.

**Conduct of Examinations:** The NBE conducts the following Examinations:

**DNB Final:** It is an exit examination leading to the award of DNB qualification. This examination is conducted alongwith CET for broad specialties and super-specialties twice in a year in the months of June and December. Post MD/MS/DM/M.Ch candidates can appear directly in the Final Examination of that specialty.

**Centralized Entrance Test (CET):** There is a common CET for all broad specialties. Candidates who have completed their compulsory internship after graduation are eligible to take the CET examination. The CET is of the MBBS standard, consisting of two objective type paper of 3 hours duration.

**Centralized Entrance Test (super-specialties):** This examination is held once in a year in the month of January for entry to various DNB Super specialty courses.

**Centralized Entrance Test (post-diploma):** The CET for post-diploma has been introduced in the current year as the admission of post-diploma candidates to DNB secondary seats is to be made through the centralized counselling.

**Fellowship Entrance:** This examination is held once in a year in the month of January for entry to fellowship courses.

**Fellowship Exit:** These examinations are held in the month of March- April for assessing the candidates who have undergone 2 years of training.

**Screening Test –** The Govt of India, after taking into account the expertise and experience gained by the Board in the conduct of fair examinations entrusted the conduct of Screening Test for Foreign Medical Graduates to NBE since its inception from 2002 onwards. The examinations are held in March and September every year as per the screening test regulations and directions of Hon'ble Supreme Court of India.

**Summary Chart:** A statement indicating the number of candidates appeared in the different examinations and those passed is as under:

Examination	Appeared	Passed
i) CET (Broad specialties)	27764	17245
ii) Final Theory (June + December)	7678	3648
iii) Final Practical (June + December)	5142	2885
iv) FMG Screening Test	13271	3575
v) Post Doctoral Fellowship Entrance	556	198

**Conduct of Centralized Counselling:** Earlier, the admission of candidates to the hospitals/institutions against the DNB accredited seats both for primary and secondary seats in various specialties was made by the hospitals/institutions at their own level. To bring in an element of transparency and fairness, the National Board of Examinations introduced the admission of candidates against these seats on the basis of centralized counselling of candidates who qualify the Centralized Entrance Test (CET) conducted by the NBE.

**Continuing Medical Education Programme / Workshop:** The main objective of the NBE is to conduct high and uniform standards of postgraduate and postdoctoral examinations in the disciplines of modern medicine. For smooth implementation of this, the trainers as well as the trainees need to be given adequate exposure to the fundamentals of the system. During 2011-12, the NBE conducted 8 CME programmes for DNB candidates.

**Collaboration with National and International Institutions:** Satellite based interactive CME (teleconferencing) sessions for DNB candidates and institutions and interactive CME radio-counseling sessions.

The NBE has entered into an agreement with the IGNOU in this regard in 2006. These sessions provide two way audio and one way video interaction between the subject experts and DNB students and is held once a week.

NBE is working closely with international organizations as Global Pediatrics Education Consortium and FAIMER for strengthening the medical education network.

**Regional Offices:** The two Regional Offices of National Board of Examinations have operationalized at St. Johns Medical College, Bangalore and National Institute of Medical Sciences, Hyderabad to facilitate the concerned hospitals and candidates for the states of Karnataka, Kerala and Tamil Nadu & states of Andhra Pradesh, Odisha, Madhya Pradesh and Chhattisgarh respectively. The matter is already under process for opening of Regional Center at Chennai shortly.

**CET – Online Exam:** From this year onwards NBE has started to conduct the CET examination online. Appx 16,500 candidates were appeared in this session.

#### **Conduct of National Eligibility cum Entrance Test (NEET)**

National Board of Examinations shall be conducting National Eligibility cum Entrance Test as approved by the Hon'ble Supreme Court of India. In December 2010, based upon the approval and directions of Hon'ble Supreme Court, Ministry of Health & Family Welfare, Government of India has decided that the National Eligibility cum Entrance Test shall be held for admission to Post Graduate Medical courses in the country. As per the notification issued for conduct of National Eligibility cum Entrance Test (NEET), it has been specified that the admission to all Post Graduate courses shall be on the basis of NEET w.e.f. admission session 2013.

**17th Convocation of NBE:** National Board of Examinations conducted its 17th Convocation on 01-02-2012 at Siri Fort Auditorium, New Delhi. The Hon'ble Speaker, Lok Sabha Smt. Meira Kumar and the Hon'ble Union Minister for Health & Family Welfare Shri Ghulam Nabi Azad were the Chief Guest and Guest of Honour respectively. The convocation was attended by a large number of luminaries in medical field, high level dignitaries, distinguished teachers, medical students. Approximately 1500 candidates were awarded the degree and mementos in person and Gold medals were also distributed to meritorious candidates in the said ceremony.

The entire ceremony was celebrated with great enthusiasm and dedication by the NBE.

#### **15.13 NATIONAL ACADEMY OF MEDICAL SCIENCES (INDIA)**

The National Academy of Medical Sciences (India) was established in 1961 as a registered Society with the objectives of promotion of knowledge of Medical Sciences in India and its practical application to problems of national welfare, recognition and encouragement of merit in all branches of Medical Sciences, acting through properly constituted National Committees for medical scientific subject for undertaking medical scientific work of national and international importance as the Academy may be called upon to perform by the public and the Government etc. It was inaugurated at New Delhi on 19th December, 1961 by Pandit Jawaharlal Nehru, the first Prime Minister of India.

It is a unique institution which fosters and utilises academic excellence as its resource to meet the medical and social goals. Over the years the Academy has recognized the outstanding achievements of Indian scientists in the field of medicine and allied sciences and conferred Fellowship and Memberships. Fellows and Members are chosen through a peer review process consisting of screening by the Advisory Panel of Experts and the Credentials Committee, election through voting by the Council and by all the Fellows.

As on 28th September 2012, the NAMS has on its roll 6 Honorary Fellows, 812 Fellows and 5355 Members (MAMS1650 and MNAMS-3707).

The 52nd Annual Conference of the Academy was held at Dr. M.G.R. Medical University, Chennai from 12-14 October, 2012. A highlight of this year's Annual Conference at Chennai was the Scientific Symposium on "Nanomedicine: Perspective & Potential". Scrolls of Fellowship and Membership was given to the newly elected Fellows and Members of the Academy at the ceremonial occasion of the Convocation of Academy. Twelve Orations and Five Awards has been awarded to eminent Bio-medical Scientists of the Country for the year 2011-12. The CME programme on "Advances in Surgery" was held on 12th October, 2012.

The Annual General Body Meeting of NAMS was held on 13th October, 2012 evening.

The Academy has been recognized by the Government of India as Nodal Agency for Continuing Medical Education for medical and allied health professionals and is advising the Government of India in several matters of National Health Policy and Planning. National Academy of Medical Sciences encourages and sponsors nationwide CME programmes, Symposia and Workshops in basic sciences and applied clinical disciplines; high priority is accorded to activities that would result in the practical application of recent advances in medicine and promotion of research in areas of national health priority.

**CME:** Since 1982, CME programme is an important activity of the NAMS to keep medical professionals abreast with newer/current medical problems of the country and to update their knowledge for better delivery of medical education, patient care and health care at large. In this financial year 2012-13, eight CME proposals have been sanctioned for financial assistance.

The CME programme also covers Human Resource Development by sending Junior Scientists to Centres of excellence for providing training in advanced methods and techniques. Four Scientists/Teachers have been selected for advanced training at specialized centres during 2012-13.

**Intramural CME Programmes:** The CME Programme Committee identifies, from time to time, topics of national and academic relevance for funding as intramural CME Programmes. The Academy provides TA/DA and honorarium to Fellows who attend the CME programmes as Observers.

**Emeritus Professors of NAMS:** In order to strengthen the intramural CME Programmes, the Academy has appointed 43 eminent Fellows of the Academy for Emeritus Professorship. The Emeritus Professors have been assigned the responsibilities viz. (i) to identify one or more medical colleges where intramural CMEs of NAMS can be organized and where lectures can be given by designated emeritus Professors who will also strengthen the Postgraduate Medical Education through clinical rounds, case discussion or laboratory exercises, (ii) to suggest topics/subjects related to their expertise for intramural CME and would assist in organizing and conducting these with NAMS support, (iii) to undertake travel to any part of the country at least once a year and visit one or two medical institutions to deliver lectures, seminars and also contribute towards academic activities and training of Postgraduates.

**NAMS Tele-education Programme:** NAMS has made a major effort to improve the outreach of CME programme by establishing tele-linkages between medical colleges so that more medical colleges can participate and benefit from CME programmes.

Annals of National Academy is the flagship publication of the NAMS and serves as an important tool for dissemination of recent advances to fellows and members of the Academy.

The NAMS web site <http://nams-india.in> serves as the window to the global medical community and provides all the necessary information about the Academy on the major events at NAMS.

#### **15.14 ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI**

All India Institute of Medical Sciences (AIIMS) was established in 1956 by an Act of Parliament as an institution of national importance. AIIMS was conceived to be a center of excellence in modern medicine with comprehensive training facility. This was in pursuance to the recommendations made by the Bhore Committee in 1946.

The institute has been entrusted to develop patterns of teaching in undergraduate and postgraduate medical education in all its branches so as to demonstrate a high standard of medical education to all medical colleges and other allied institutions in India, to bring together at one place educational facilities of the highest order for the training of personnel in all important branches of health activity, and to attain self sufficiency in postgraduate medical education.

For pursuing academic programmes, the AIIMS has been kept outside the purview of the Medical Council of India. The Institute awards its own degrees. The AIIMS continues to be a leader in the field of medical education, research and patient-care in keeping with the mandate of the Parliament.

The Institute is fully funded by the Government of India. However, for research activities, grants are also received from various sources including national and international agencies. While the major part of the hospital services are highly subsidized for the patients coming to the AIIMS hospital, certain categories of patients are charged for treatment/services rendered to them.

AIIMS has a manpower of over 10,000 including over 750 faculty members, supported by a large number of resident doctors, nurses, paramedics, scientists, non-medical officers and staff.

Till date, the Institute has produced 5022 specialists (MD, MS, MDS, MHA-144/2012). 1259 super-specialists (DM/M.Ch.-61/2012), 2596 MBBS doctors (42/2012), 944 Ph.Ds (73/2012) and 718 Postgraduates (M.Sc & M.Biotech.-52/2012) in allied health and basic sciences. The institute has also trained 2481 nurses and paramedical professionals including 93 B.Sc-Hons. Level persons till date.

These figures of course include 465 degrees awarded by the Hon'ble President, AIIMS, Sh. Ghulam Nabi Azad, Minister of Health & Family Welfare on the occasion of 40th Institute Annual Convocation held on 16.10.2012. Hon'ble President of India, Sh. Pranab Mukherjee is the Chief Guest of this Annual Convocation.

AIIMS has been active in sharing its knowledge and expertise through CMEs, Conferences and Workshops. Under short term training scheme, the institute provided postgraduate training to 42 foreign nationals including 8 WHO fellows, elective training to 49 foreign graduates and short term and long term training to 845 doctors and other health-care professionals from all over the country.

The institute is committed to high quality and standards in research and medical education, besides providing compassionate patient care services. Our faculty and scientists are engaged in frontline research in areas like human genomics, immunogenetics with organ transplant programme, molecular medicine, structural biology and protein structure, aiming at new drug development. They are also practising newer diagnostics and intervention procedures through imaging sciences in cardiovascular and neurosciences. Ultrasound guided procedures in fetal medicine, neonatology and cancer are also being routinely practised. Technology-driven innovations for patient care using biocompatible implant devices, like cardiac stents, cochlear implants, knee & hip joints through collaborative bio-design are intensely experimented and clinically practiced.

Many platform based technologies for diagnosis of diseases and undertaking research in pathology, laboratory medicine, virology, medicine and pediatrics are deployed in the institute.

Pioneering patient care works in areas like cardiothoracic surgery, neurosurgery, orthopedics, corneoplasty and retinal therapy, diabetes, robotic and other minimally invasive surgery have been done by my faculty. The doctors at the trauma-care centre have conducted clinical research and developed a safe practice protocol and guideline for acute and emergency care medicine. Newer skill acquisition methods through medical simulation systems for medical education including practical skill development in experimental laboratories and surgical situations are being put into operation for the benefit of students and resident doctors.

They are learning routine and critical care medicine at various stations such as Anesthesia and Trauma care area through these medical simulations. We have also a strong rural health training programme at Ballabgarh community hospital for training both under- and post graduates in rural and public health practices.

During the last academic year the faculty and the scientists of the institute have published over 1700 research papers in national and international journals, written books and monographs and also contributed a large number of chapters in books. Over 500 young scientists at different positions like research fellows, research associates and Ph.D. students have been engaged in significant research projects. 632 research projects are in progress and they brought extramural funds of Rs. 65.4 crore, which is 25% increase from last year's funds and that was very creditable.

146 research projects were successfully completed this year, bringing new knowledge and useful research data at the institute. Rs. 3 crore institutional funds were also distributed to young faculty for undertaking 126 new research projects, involving newer areas like stroke, brain tumour, stem cell studies, drug designing, protein research, genetics and immunology. This was a commendable initiative by the research section, which has been fully organised and augmented under a Dean and a Sub-Dean. A Research advisory council with Director, AIIMS as its chairman took several steps to enhance our research capabilities including identifying cutting edge research areas during the year as evidenced from the projects undertaken and publications made during the year under report.

During the institute's foundation day celebration on the 25th September, 18 faculty members were awarded for



their outstanding research publications during the preceding year with cash prizes and certificates of excellence. A health exhibition was also shown on this occasion showcasing institute's contribution to health sciences. This was a reflection of the kind of research activities undertaken during the past 3 years. For the first time a "AIIMS Foundation Day Lecture" was instituted and Professor Robert Huber from Germany, a distinguished scientist and a Nobel laureate gave this lecture on protein structure and its impact on modern medicine. This was a very inspiring experience for the young doctors and students.

Presently, the AIIMS hospitals have a total bed strength of 2424, including day care beds in dentistry. During the preceding year, the institute attended to 25,78,396 patients in OPD and Casualty, admitted 1,72,036 patients and performed 1,37,019 surgical procedures. The institute has maintained an ideal parameter in patient-care services with an average bed occupancy of over 80%, and average hospital stay of about 6 days. The AIIMS hospitals reported a net death rate of below 3%, with a combined crude infection rate of 8.3 % in the hospital.

New postgraduate courses (DM, MCh, MD) were started last year, in pulmonary medicine, surgical oncology and geriatric medicine. Departments of Geriatric Medicine and Pulmonary Medicine and Sleep Disorders have been established. These departments are running OPD and separate wards for indoor patients. The work on building a Convergence Centre, which will house all modern platform based state-of-the-art technology for our faculty, scholars and students to undertake research is in progress is progressing at a fast speed. It will indeed become the knowledge hub which will allow us to store and manage our large clinical material and research data for enhancing our capability in research. This block should be completed by next year.

While AIIMS is recognized as a national symbol of excellence in medical sciences and patient care, it is also intensely watched and monitored by the Government, the media and the people at large. So we are constantly striving for continuous improvement and development and also focus on newer areas like translational medicine through collaborative efforts. It is true that our quality care to people has attracted a large patient load which has forced us to compromise on some of our priorities, affecting the academic and research activities of the Institute. This is

indeed a big challenge for all of us. We have to protect its academic character to maintain its stated objective.

## **Medical Education**

### **i) Undergraduate Medical Education**

This year the Institute admitted 77 students to its MBBS course. 24 students to B.Sc Nursing (post-certificate) course, 74 students to B.Sc (Hons) in Nursing Course, 19 students to B.Sc. (Hons.) in Ophthalmic Techniques and 09 students to B.Sc (Hons.) in Medical Technology in Radiography.

This year a new beginning in the form of an integrated a self enrichment orientation programme for fresh MBBS students was made. This is aimed at groom new entrants and make them confident. This program focused on improving communicative understanding and collaboration with senior students of these students as well as orient them about various work stations at AIIMS. Specially designed orientation programmes in research and patient care, including communication and soft skill acquisition were also offered to the new Resident doctors and Assistant Professors in this year.

### **ii) Post-Graduate Medical Education**

The Institute provide full time postgraduate and post-doctoral courses in 57 disciplines. In the year under review, many postgraduate students qualified for various courses.

During 2012-13 session, 31 students were admitted to various M.Sc/M.Biotechnology course, 22 students were admitted in M.Sc Nursing course and 178 students were admitted in MD/MS/MDS/MHA course (83 in January session and 95 in July session, i.e. for the courses commencing in January 2012 and July 2012). The details for SC, ST and OBC seats in postgraduate courses as indicated against each for 2012 is below). The total no. of admissions in post-doctoral and superspeciality courses i.e. Ph.D, M.Ch, D.M. in various specialities done in January session as well as in July session 2012.

### **iii) Continuing Medical Education**

The Institute organized a number of workshops, symposia, conferences and training programme in collaboration with various national and international agencies during the year. Professionals from various institutions all over the country participated in these seminars and workshops and benefited with update knowledge. Guest and Public

lectures were organized by visiting experts and faculty of AIIMS.

**iv) Training for Long term/Short term, WHO-in-Country Fellowship and Elective Training to the Foreign Nationals Students.**

The institute is also providing short/long term training, WHO-in-Country Fellowship and Elective training to the Foreign Nationals students.

**v) Training for Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Classes (OBC) Candidates.**

The AIIMS has provision for reservation of seats for SC, ST, OBC and OPH candidates in all undergraduate and postgraduate academic courses (except superspecialities) as per Govt. of India guidelines. The details of reservation provided for and no. of seats filled for SC, ST and OBC candidates in different courses in year 2012 is as under:

**B.Sc (Hons) Nursing**

Number of seats reserved for Indian National students = 77

Number of seats reserved for Foreign National students = 05

Total Seats = 82

No. of Seats: B.Sc (Hons) Nursing Advertised in different categories						No. of seats filled in different categories					
Year	Total Strength	Gen.	SC	ST	OBC	Total Admission	Gen.	SC/ST/OBC on merit treated as Gen.	SC	ST	OBC
2012	77	39	11	06	21	74	39	12	10	06	19

**B.Sc (Nursing) Post-Certificate Course**

Advertised in different categories		No. of seats filled in different categories					Remarks				
<b>Separate roster has been prepared for 15 seats for B.Sc (N) PC for outside candidates and 10 for AIIMS candidates from July session 2012 onwards</b>											
<b>15 seats for outside candidates</b>											
Year	Total	Gen	SC	ST	OBC	Total	Gen	SC	ST	OBC	No. of seats transferred from SC/ST/OBC to open
2012	15	8	2	1	4	14	11* (1* ST on merit)	0	2**	1	*4 seat transferred to UR as 3 OBC and 1 SC candidates were not available **one SC seat transferred to ST (1 seat remain vacant)
<b>10 seats for AIIMS candidates</b>											
2012	10	5	2	1	2	10	6* (1*SC, 1* ST on merit)	1	2**	1	*1 seat transferred to UR as 1OBC candidate not available **one SC seat transferred to ST

## M B B S

Number of seats reserved for Indian National students = 72

Number of seats reserved for Foreign National students = 05

Total Seats = 77

No. of Seats: Advertised in different categories						No. of seats: filled					Remarks
Year	Total	Gen	SC	ST	OBC	Total	Gen.	SC	ST	OBC	
2012	72	37	11	5	19	72	37*	11	5	19	*5 OBC Candidates Selected on merit treated as General Candidates
* Since 2011 combined Merit was made and those who were selected in General Merit list were not counted as reserved candidates											

## B.Sc (Hons) Para Medical Courses

(Ophthalmic Techniques & Medical Technology in Radiography)

### B.Sc. (Hons.) in Ophthalmic Techniques from July session 2012 onwards

Year	Total	Gen.	SC	ST	OBC	Total	Gen.	SC	ST	OBC
2012	19	10	03	01	05	19	10	03	01	05

### B.Sc. (Hons.) in Medical Technology in Radiography from July session 2012 onwards

Year	Total	Gen.	SC	ST	OBC	Total	Gen.	SC	ST	OBC
2012	09	05	01	01	02	09	05 (including 1 reserved candidate on merit)	01	01	02

## TOTAL SEATS ADVERTISED AND FILLED FOR M.SC./M. BIOTECH/M.SC NURSING COURSES IN 2012

### M. Sc./M. Biotechnology

Year	No. of Seats: M.Sc./M.Biotechnology advertised in different categories					No. of seats filled in different categories.				
	Total	UR	SC	ST	OBC	Total	UR	SC	ST	OBC
2012	51	26	8	4	13	31	21	2	0	8

## M. Sc. Nursing

Year	No. of Seats: M.Sc. (Nursing) advertised in different categories					No. of seats filled in different categories.				
	Total	UR	SC	ST	OBC	Total	UR	SC	ST	OBC
2012	22	11	3	2	6	22	16 (One OBC on merit treated as UR)	2	0	4
NOTE: If requisite number of suitable candidates were not available to fill up the seats reserved for SC/ST and OBC, the same were filled by candidates from the general category.										

## (MD/MS/MDS/MHA)

Session & year	No. of Seats (MD/MS/MDS) advertised in different categories. (Advertisement is twice in a year)					No. of seats filled in different categories					No. of seats transferred from SC/ST/ OBC to open
	Total	Gen	SC	ST	OBC	General	SC	ST	OBC		
Jan, 2012	123	79	14	9	21	83 (including 8 reserved candidate on merit)	17	2	21	4	
July, 2012 (including MHA)	170	86	25	13	46	95 (including 5 reserved candidate on merit)	19	5	46	14 (5 remain vacant)	
<ul style="list-style-type: none"> <li>Till January 2012 No reservation was applicable on MHA seats and M.Ch (direct 6 years course).</li> <li>From July 2012 reservation was applicable on MHA also.</li> </ul>											

## Research

As per the mandate given to the All India Institute of Medical Sciences, research forms an important component. AIIMS has been at the forefront of conducting high quality research, both in the fields of basic and applied sciences. During the year under review, the faculty of the AIIMS drew extramural grants for various research projects from national and international agencies.

## Patient-Care Services

The hospital has maintained its tradition of services and quality of patient care, in spite of ever increasing number

of patients that come to this hospital from all over the country as well as from abroad. Presently, AIIMS hospitals have a total bed strength of 2424, including day care beds in dentistry. During the preceding year a total of 25,78,396 patients attended the general outpatient department and specialty clinics of the main hospital and other centres of AIIMS. A total of 1,72,036 patients were admitted during the year in the various clinical units of the Main Hospital and other centers at AIIMS. A total of 1,37,019 of surgical procedures performed during the year in different surgical disciplines at AIIMS.

## Centre/Department wise information regarding important achievements and newer facilities



## **Department of Cardiology**

In the preceding year, the Department of Cardiology catered to nearly 1,00,000 outpatients, of which over 70,000 were new registrants. Over 27,000 patients underwent echocardiography and about 3600 diagnostic cardiac catheterizations were performed. 1,500 patients underwent interventional procedures including coronary angioplasty, balloon valvuloplasty and device implantations. The Department is conducting several research projects across a wide spectrum of cardiac disease.

## **Department of Neuroanaesthesiology**

One new facility (PAC Clinic) was started. Anaesthetic management for 2,294 neurosurgical procedures (Elective-1732; Emergency 562) and 332 neuroradiological procedures (180 diagnostic, 152 therapeutic) was performed. More than 2,800 patients were managed in Neurosurgical and Neurology ICU. A total 688 patients (173 new and 515 old) were seen in pain clinic OPD (219 were treated with nerve blocks). A total of 943 patients (827 new and 116 old) were seen in PAC clinic OPD. Five research projects (01 funded, 04 departmental) completed while 15 research projects (02 funded, 13 departmental) were going on.

## **Department of Neurology**

The Department of Neurology was adjudged the best neurology department in the country by CNN-IBN poll. It has published and pioneered research in the field of Stem Cell in the treatment of sub acute ischemic stroke. New treatment options for trigeminal neuralgia with botulinum toxin was initiated. The department was awarded a center of Excellence grant for state of art treatment for epilepsy.

## **Department of Neuro-Surgery**

In the year, various faculties of Department of Neurosurgery published total 83 research publications in various national and international journals of repute. In addition 13 abstract, 44 chapters and one text book, were published. The faculties performed 3271 major and minor surgeries, 588 gamma knife treatments and attended 61 national and international conferences and workshops. The department along with its trauma center unit (JPNTC) has organized 11 conferences and 11 workshops during the year. The year was full of academic activities and total 34 research projects (includes funded, collaborative, intramural, and departmental projects) funded by different

national and international agencies were started. This year new operative equipments were installed and started in the department (Intraoperative MRI, Gamma Knife Perfexion and 1.5 Tesla MRI adjacent to G.K. Centre), Extended GK (Fractionated GK therapy) and Skill Development Workshop. New Operative procedures like MRI guided brain surgery started. The Centre of Excellence commissioned as a National facility for difficult to treat epilepsy funded by Dept of Biotechnology, Ministry of Science and Technology this year.

## **Department of Biophysics**

Research in Biophysics department is concerned with determining the molecular basis of biological processes and identification of molecular targets for the rational structure based drug design. Structures of various bacterial proteins from Mycobacterium tuberculosis, Acinetobacter baumannii and Pseudomonas aeruginosa that are targets for the design of new antibacterial drugs have been discovered. A anticancer protein has been isolated from plant and a peptide inhibitor has been designed against breast cancer. 'Apolipoprotein A1' has been identified as a biomarker to differentiate primary from metastatic ovarian cancer.

## **Department of Pathology**

The Department of Pathology has been involved in advanced research on areas of hepatitis, malabsorption syndromes, neurooncology, muscle pathology and nano medicine. In this year, the following advancements have been done:

- i) To characterize the hepatitis E virus protease and demonstrate that the hepatitis E virus enters the cell by clathrin mediated endocytosis.
- ii) In the area of neuro oncology, we have characterized similarities and differences between molecular profile of paediatric and adult gliolastoma cases.
- iii) We have introduced various molecular tests in the routine diagnosis and prognostication of brain tumors.

## **Department of Laboratory Medicine**

Laboratory Medicine is the principal and central laboratory of AIIMS which caters to its hospital and emergency services of various Centres. The Department has performed 84,58,289 investigations this year in its Clinical

Chemistry, Clinical Haematology, Clinical Microbiology and Clinical Pathology Sections.

### **Department of Biostatistics**

Department of Biostatistics contributed to the teaching program for various undergraduate and postgraduate courses at the Institute. Besides routine teaching activities, department had organized a series of evening classes for the residents, Ph.D students and junior faculty members in the Institute on Essentials of Research Methodology and Biostatistics. With a view to build capacity of the researchers in the Institute, four workshops of five days duration each on “Hands on Data Analysis using STATA Statistical software” was conducted. Department was involved in more than twenty funded collaborative research projects. Faculty members were resource persons in more than fifteen workshops on biostatistics and research methodology.

### **Dr. Rajendra Prasad Centre for Ophthalmic Sciences**

During the last one year number of projects were completed which included installation and commissioning of 16 Slice CT Scan, Digital Radiography System, Computerization of OPD and Casualty and installation of AHU with HEPA filters in OT. Many other projects like Air Conditioning of OPD, one more GA OT, Computerization of Wards, installation of touch screen information kiosks for OT, Casualty and OPD areas are also going on. A modal new ward with Air conditioning New Hospital bed, soft music, new Ladies and Gents Toilet was inaugurated by the Director on 05.10.2012.

The Centre has organized several conferences/workshops/symposia during the above mentioned period.

On the occasion of World Sight Day, a mega eye care festival was organized by our Centre at AIIMS-II, Village Badsa, Jhajjar district Haryana. This was the first patient care facility started at AIIMS, Jhajjar. During the two-day event, a total of 4490 persons were seen comprehensively including 1654 school children screened for visual problems and refractive errors. A total of 420 patients have been booked for free cataract surgery and will be operated at Dr. R.P. Centre. A total of 1645 spectacles have been dispensed/booked for free spectacles.

### **Department of Gastroenterology and HNU**

#### **1. Research:**

- Upgradation of Molecular Biology Laboratory

- Appointment of a dedicated molecular biologist in a Clinical department.
- Development of a model for assessing severity and prognosticator of acute liver failure.
- AIIMS Excellence Award: Second and third prize

#### **2. Patient management:**

- Acquired new ‘state of art’ endoscopic equipment which are routinely used for patient management.
- Acquired ICG for assessment of functional capacity of liver.

### **Jai Prakash Narayan apex Trauma Centre**

Besides providing efficient and quality care to injured patients admitted Trauma Centre which is equipped with modern gadgets e.g. Spine fixation under “O” ARM control (first of its kind in India and Mobile CT Scan positioned in Neuro-Surgery ICU).

**Patient outcomes:** One of the biggest achievement of JPNA Trauma Centre since its inception has been the continuous improvements in patient outcomes for severely injured patients. For example, in-hospital mortality for severe head injured patients has been brought down from 36% in 2009 to 23% in 2012.

**Empowerment of Nurses:** Another major achievement (which goes hand in hand with improving patient outcomes is the empowerment of nurses at JPNA Trauma Centre. This empowerment has been possible through CME, skill upgradation and formation of special cadre of nurses like NIS (Nursing Informatic Specialists), TNC (Trauma Nurse Coordinators), HICN (Hospital Infection Control Nurses) and WCn (Wound care nurses).

**Research and Publication:** Nurses from JPNATC have won more than 70 awards for research in international and national meetings in the last four years which is the highest number won by any centre in India. JPNATC also leads in research publications with more than 50 publications in the year 2012.

**Education and Training:** JPNATC is making significant contribution towards capacity building in the Country in both basic life support and advanced trauma life support

in collaboration with NDMA and Ministry of Health to improve trauma care all across India.

### **Department of Medicine**

Department continues to provide comprehensive care including free antiretroviral therapy to more than thousand patients with HIV/AIDS. Various aspects of IRIS, HIV-associated TB and adherence to antiretroviral drugs have been looked into. Department continues to provide DOTS and specialized care for MDR TB patients. Major research areas have been MDR TB and hepatotoxicity of ATT. Department has set up Intermediate Reference Lab for diagnosis of MDR-TB and has biosafety level 3 laboratory to conduct specialized tests for HIV and TB patients. Department studied association of obstructive sleep apnoea (OSA) with metabolic syndrome, insulin resistance and TNF- $\alpha$ , IL6 ACE polymorphism. Department is managing a wide range of complicated cases of infectious diseases including malaria, dengue, opportunistic infections etc. Department has undertaken research to look at body compositions and have come out with newer definitions, which are appropriate for Indians. The department is providing specialized diagnostic and clinical care facilities for challenging rheumatologic problems. Research has been focused towards high dose methotrexate in RA, antiphospholipid syndrome, atherosclerosis in RA and SLE, ILD and pulmonary hypertension in systemic sclerosis.

### **Department of Cardiac-anaesthesiology**

An Educational Book “Seminars in Cardiac-Anaesthesia” was published, organized a Workshop on ECMO, IACTA Annual Conference also organized.

### **Department of Dermatology and Venereology**

Department of Dermatology and Venereology is a modern Dermatology set up with state of the art lasers (pulsed dye laser, carbondioxide with scanner, Nd:Yag and diode), phototherapy (narrow band UVB) and photochemotherapy (PUVA) facilities, various allergy tests including Radio-allergosorbent assay (RAST), patch, photopatch and skin prick tests, several specialized surgical procedures such as vitiligo grafting, melanocyte transfer and advanced diagnostic assays for pemphigus like ELISA test and Wester Blot. The department has formulated guidelines for the treatment of various challenging disorders like bullous disorders including pemphigus, alopecias, parthenium dermatitis, porphyrias,

mycetoma, etc. which are followed throughout the country and it is a referral center for the management of vesicobullous disorders.

### **Department of Pediatrics**

Department has started a High Dependency Unit for sick child patients in the children ward. Department has also launched an interdisciplinary program on translational research in child health comprising multiple sub-specialities of Pediatrics.

### **Department of Radiodiagnosis**

The institute has a well equipped multi-modality general radiology department with state-of-the-art equipment. Over 2.5 lakh radiological and imaging studies were performed during the last year. The new equipments added during the last year include a high-end ultrasonography machine with shear wave elastography which is the first installation of its kind in India and a high-tech fluoroscopy machine which has been installed in the new private wing of the department. A 1.5 Tesla MRI scanner with fully loaded features is currently in the process of installation in the department and will be functioning by the end of the year. A continuing medical education program on ‘Musculoskeletal and Breast Imaging’ was jointly organized with PGI, Chandigarh and Maulana Azad Medical College, Delhi which was specifically focused to postgraduate students. The department was involved in over 40 research projects last year and is currently involved in over 50 ongoing projects which is expected to take it to new heights. The department faculty published over 80 research papers in the previous year. With many more research projects and education programs to come; the department serves as a role model to other institutes in the country.

### **Department of Obstetrics and Gynaecology**

#### **Clinical Care**

A total of 3542 major and 7237 minor Gynaecological operations performed during 2012 which included innovative open, laproscopic and hysteroscopic surgical procedures. The prenatal diagnosis techniques in Fetal medicine Centre established in 1991 can anticipate, diagnose and treat conditions not possible in a comprehensive manner elsewhere. The IVF centre established in 2008 has given hope to many infertile couples at a subsidized cost.

## Research

The department has carried out clinical research in infertility, fetal therapy, contraception and medical abortion. Research has been done on prevention of cervical cancers and introduction of HPV Vaccine.

## Education

The department organizes 'National CME in Obst. & Gynae' in collaboration with NBE, NAMS and WHO every six months. It is unique teaching programme covering MD syllabus in six modules over 3 years. The faculty has contributed chapters in national and international books and book "The Book of Obstetrics" was published in 2011.

## Department of Pulmonary Medicine and Sleep Disorders

- Commissioning of 9-bedded Pulmonary Medicine Ward and 10-bedded ICU was done.
- The DM (Pulmonary and Sleep Medicine) academic program has been started with the first two DM students enrolled.
- New interventional procedures such as Medical Thoracoscopy/Pleuroscopy and Endobronchial Ultrasound were started by the department.
- Postgraduate Pulmonary Medicine Update was organized on September 8-9, 2012. This was attended by approximately 170 students from all adjoining states.

## Department of Otorhynolaryngology and Head and Neck Surgery (ENT)

The department has recently procured the equipments for cutting edge technology in diagnosis and treatment of various complex ENT disorders. These include the equipment for sialoendoscopy for salivary glands. The department also has a navigation system for navigation during skull base and advanced endoscopic sinus surgery. The department faculty has also started performing transoral robotic surgery for oral and oropharyngeal cancers. This technique is first of its kind in the country. The department is also committed to provide cutting edge quality education and training to its residents as well as delegates from India and abroad. The department has also established a state of art temporal bone dissection lab which shall provide the facilities for training of

postgraduates in performing otologic and neuro-otologic surgeries. The department plans to organize the workshops for temporal bone dissection for Indian and Foreign delegates in future. The department successfully organized a national conference of Neuro-Otologic and equilibriometric society of India in preceding year that was well attended and applauded by all national and international delegates.

## Department of Forensic Medicine and Toxicology

1977 postmortem were performed including Trauma Centre in 2012. Department is running DNA Finger Printing Laboratory where training is provided to short term trainees of institutions from all over India. This laboratory of the department performs tests for medicolegal cases referred by Delhi Police, SDM of Neighboring States, CBI and Hon'ble courts of India.

## Department of Orthopaedics

Newer and highly complex surgeries in the field of trauma, tumor, hand, spine, joint replacement, arthroscopic surgery and paediatric orthopaedics are done on a regular basis. The department has facility for comprehensive physiotherapy and rehabilitation of the patients. Department also have facility for bone banking including cadaver bone banking. A number of research projects funded by ICMR, DST, DBT and CSIR are being carried out in the department. The department continues to published articles in indexed journals of repute. Many faculty members are on the editorial boards of various indexed medical journals. The faculty members have actively contributed in many CMEs at national and international levels.

## National Drug Dependence Treatment Centre (NDDTC, Ghaziabad)

A total of 73,070 patients (old & new) were seen in the OPD, ward and other clinics. In the laboratory, total biochemical investigations and drugs of abuse screened during this period were 48,380. The centre has carried out several in-service training programmes for doctors and nurses on Substance Use Disorder (SUD) as a part of national programme. In addition, health personnel from Bhutan have also been trained on SUD.

The Centre has recently been designated as WHO Collaborating Centre. Several activities are ongoing as a part of this. Currently, National and International agencies are funding twelve ongoing research projects in the centre.



A total thirty articles have been published in various peer reviewed national and international journals during this period. NDDTC offers Ph.D in Addiction Psychiatry.

### **Department of Psychiatry**

A total of 34,107 patients (old and new) were seen in OPD, ward and other clinics. Total Number of Serum Lithium levels done: 628. The department is involved in training of Postgraduate students (MD-Psychiatry), Ph.D programme in clinical Psychology, undergraduate medical students and students of BSc Nursing. The department provides opportunities to the postgraduate students on consultation-Liaison psychiatry, adolescent services and community care in CRHSP Ballabgarh.

### **Centre for Dental Education and Research (CDER)**

The Department of Orthodontics in collaboration with Central Scientific Instrument Organization (CSIO) has developed and tested, the 2D Cephalometric Analysis System (AutoCEPH) Cephalometric. The Department of Orthodontics in association with Department of Radio-Diagnosis, CSIO, IIT Bombay and National Informatics Centre has completed the CollabDDS an interactive system which will allow live collaboration for orthodontic/dental and medical uses for medical/dental diagnosis and education through National Knowledge Network. The Department of Orthodontics has applied for patent of two innovative mandibular positioning devices which are use for correction of small lower jaw.

### **Cardio Thoracic Sciences Centre**

Existing facilities have been improved to strengthen patient care. The new CT6 ward with pediatric cardiology ICU has become operational. The CT-3 ward has been renovated with capacity enhancement and has become fully functional.

Important areas of continuing research include stem cell research, applications of advanced cardiovascular CT and MRI, genetic polymorphism studies in coronary artery disease patients, nuclear cardiology studies related to stem cell labeling, cardiac dyschrony evaluation, assessment of myocardial viability and various projects funded by ICMR. In addition to this, community health and stress management programs are being actively promoted.

### **Examination Section**

AIIMS invites online registration of application (e-applications) forms for the entrance examinations of

various courses run by the Institute with Online Integrated Payment facility. Hence, our complete application process is paper less. In 2012 the AIIMS, New Delhi conducted MBBS entrance examination of 6 new AIIMS like institutions for the Session 2012-13 for which the admission process has been completed. AIIMS, New Delhi assisted in conduction of entrance examinations of MBBS/ Postgraduate/Post-doctoral disciplines of other Institutions of national importance. AIIMS, New Delhi assists the Ministry of Health and Family Welfare in various meetings for various examination related issues including National Eligibility Entrance Test. Examination Section also conducts Written Tests/Skill Test/Interviews for recruitment to the various posts of AIIMS as per recommendations of Valiathan Committee.

**Promoting the 'Raj Bhasha':** The question papers for MBBS entrance examination is also printed and provided in Hindi for the candidates who opts Hindi as medium of question paper. The question papers of various recruitment tests are also printed bilingual.

### **Department of Pediatric Surgery**

Department has made original contributions in Biliary atresia, Portal Hypertension, Esophageal atresia and Tracheo esophageal fistula, Neonatal surgery, pediatric Neurosurgery and pediatric Thoracic surgery. A state of the art Endoscopy (bronchoscopy, esophagoscopy, cystoureteroscopy) and the computer based pressure profile investigations like uroflowmetry, urodynamic study, anorectal manometry, esophageal pH monitoring etc are being offered to the children.

### **Department of Transplant Immunology and Immunogenetics**

The Department of Transplant Immunology and Immunogenetics has developed a database of 'novel HLA alleles and unique haplotypes' that regulate immune responses in the Indian population. This has enhanced the capability of Asian Indian Donor Marrow Registry to find HLA matched donors for haematopoietic stem cell transplantation. The Department has established a set of informative SNPs for chimerism analysis for efficient monitoring of the engraftment status following transplantation.

In the field of renal transplantation, the Department has established Luminex based technologies for defining donor specific antibodies (DSA) with even very low titres. These

services are now regularly offered in clinical patient care with the ultimate aim of reducing the risk of graft rejection. The department has successfully established and is providing services of FACS based diagnosis on primary immunodeficiency disorders on routine basis. In addition to this, Leukemia Phenotyping is also provided with high degree of authenticity for patient care.

In the area of HIV research, the research carried out by the Department of Transplant Immunology and Immunogenetics has revealed that a comparative genomic approach with higher mammalian species like the Chimpanzee and involving a set of chemokine genes and their copy number variations could help define protection conferring genes. It is known that Chimpanzees despite having a set of HLA genes as that of man do not get afflicted with the AIDS virus.

In the field of autoimmunity, the studies conducted by the Department have shown that compared to the Caucasian population, Indian patients with Type 1 diabetes have multiple of HLA-DR3 positive disease conferring haplotypes, each with a high relative risk. These data are very valuable in developing 'predictive medicine' approaches to this disease.

#### **Department of Nephrology**

Department of Nephrology is providing integrated comprehensive care for nephrology patients in a government set-up in the country, at a lowest cost. Department is doing approximately 130 renal transplants every year including cadaver transplants. Department has doubled the number of dialysis in last one year. Department is providing bed side facility of hemodialysis to large number of departments within the institute for convenience of patients and for patients who are sick enough to be shifted to department. Nationally and internationally recognized work is being done on tuberculosis and hepatitis in patients with kidney disease and chronic kidney disease epidemiology. Department is the only centre contributing to world's largest transplant registry; Collaborative Transplant Study, Germany. Department is center for keeping CKD registry of India. We have recently started a task force project on CKD funded by ICMR, New Delhi. Department has regularly conducting school children and public education in relation to kidney disease. We are also center for coordinating Dialysis Physician Certificate course jointly conducted by IGNOU and Ministry of Health and Family Welfare for

providing trained manpower in the country for dialysis. Department had regularly conducted patient education program in print and electronic media on chronic kidney disease.

#### **Department of Biochemistry**

Five MBBS students were awarded the prestigious KVPY fellowship from DST. Short term training imparted to 6 WHO fellows from Burma and Korea and eight PG/UG students. There are 35 ongoing research projects in the department funded by national and international agencies. 49 publications and 39 abstracts published in indexed national and international journals.

Patient care laboratory is providing clinical service for tumor markers, free of cost. A multiple epitope based immunogen has been developed for plague. Immunological response in mouse model completed. Currently testing in vivo protective study. Research work done on importance of T regulatory cells in leprosy, and on a chimeric vaccine for HPV 16 having both prophylactic and therapeutic potential.

#### **Centre for Community Medicine**

Five funded research projects were completed during the year and another nine research projects are currently ongoing. In addition, eleven research projects in collaboration with other departments of AIIMS are ongoing. Nine thesis by the postgraduate students were completed during the year. Thirty three research papers were published from the Department. Comprehensive Rural Health Services Project (CRHSP) at Ballabgarh and the Urban Mobile Health clinic provided health care services to one lakh patients during the year (80,000 in rural centre and 20,000 in urban centre).

#### **Department of Reproductive Biology**

Department is now actively involved in five ongoing funded and 3 non-funded research projects. Department has published 7 research papers in this year.

#### **Department of Anatomy**

The Department of Anatomy has established a state of the art eLearning Facility and Learning Management System to cater to the teaching and learning activities using high speed intranet. The Department has helped in conducting several cadaveric workshops which have facilitated the training of specialists from different surgical

disciplines. Research activities are being pursued in the various areas, including, effects of sound, environmental toxins and hormones on developing and aging brain, mechanisms of pain, preeclampsia, male infertility, and genetic basis of Stevens-Johnson syndrome, molecular analysis of endothelial dystrophies, and mutational analysis of growth hormone deficiency.

### **Department of Urology**

The Department of Urology is equipped with the state of the art devices and provides a wide range of services, specializing in non-invasive, minimally invasive techniques, microsurgery, laparoscopic and robotics. The department organized an “Live Operative Robotic Urologic Surgery Workshop on Current and Future Trend of Robotic Surgery at AIIMS on 4.07.2012. During this workshop a wide variety of robotic surgical procedures were demonstrated by International and National faculty. It continues to conduct research in basic and clinical aspects of Urology in collaboration with various departments in the Institute with both intramural and extramural funding. The department published over 40 articles in peer reviewed journals over the last one year. Over 7500 surgical procedures including 130 robotic surgeries were performed during the last year.

The department has taken new initiatives in the field of Advanced Robotic Surgery and has done a pioneering work in establishing Pre-Peritoneal approach for doing Radical Prostatectomy with a the robot for the first time in the country besides robot assisted inguinal lymphnode dissection for Ca penis, retroperitoneal lymphnode dissection for testicular tumour and Zero Ischaemia time Partial Nephrectomy for Renal cancers.

### **Department of Physiology**

The Department of Physiology hosted the 57th Annual Conference of Associations of Physiologists and Pharmacologists of India and an International Symposium on Systems Biology in Physiology/Medicine. The Molecular Medicine Laboratory of the Department of Physiology is involved in developing gene-related personalized medicine in reproductive health.

The Autonomic Functions Laboratory provides autonomic function tests for in-house patients with large variety of clinical disorders. The pain laboratory provides dedicated services towards mitigating chronic pain by magnetic stimulation in the referred patients from the Department of Neurology/Rheumatology. Integrated health clinic of

the Department provides De-Stress Yoga based programme to the students, staff and their family members.

### **Department of Nuclear Magnetic Resonance (NMR)**

The department organized a two day ‘Workshop on in vivo MR Spectroscopy’. The department runs six funded projects, 4 departmental non-funded projects and 29 inter-departmental projects. Dr. N.R. Jagannathan edited a special issue on “Tumor microenvironment in cancer treatment and metastasis” for the Wiley International journal NMR Biomed.

### **Department of Biotechnology**

The 2 years Masters postgraduate programme in Biotechnology is a highly popular course and was graded as A+ by an independent national level assessment committee. Key features include interdisciplinary teaching in Medical biotechnology, developing strong experimental and analytical skills and mentorship of the PG students by the Faculty.

Under the Inter Academy programme on Science Education, 4-5 students availed the Summer Research Fellowship and worked on Biotechnology related research projects. Robust Ph.D. programme in infectious diseases and cancer.

Molecular epidemiological insights into regional variation in drug-resistant pattern of falciparum malaria. Identification of potential drug and vaccine targets for the most common human malaria parasite *P. vivax*. A unique vitamin C-based cell infection dormancy model for TB has been established. This model has provided unique insights into host interactions with dormant bacteria to mimic latent TB infection.

The whole genome sequence of several Indian *M.tuberculosis* clinical isolates was deciphered. Sequence analysis has provided valuable clues related to sequence diversity and virulence features of the pathogen. Risk of tobacco-related oral cancer in persons with single nucleotide polymorphisms in genes associated with DNA mis-match repair, apoptosis and inflammation. Identification of protein prognostic markers and novel drug targets for oral cancer.

### **College of Nursing**

This academic year 55 B.Sc (Hons.) Nursing, 22 BSc Nursing (PC) students and 19 M.Sc nursing students



graduated from the college. The college of Nursing has conducted eight local and two national workshops and trained more than 700 nurses. In addition we have conducted orientation/briefing sessions for 11 groups of visitors from various educational institutions from India.

### **K. L. WIG Centre for Medical Education and Technology**

K.L. Wig Centre for Medical Education and Technology provides state of the art facilities of media and learning resources besides regular faculty development programs. Keeping in line with the recommendations made by Valiathan Committee, the Centre has currently diversified its activities to cover the whole spectrum of health professionals, starting from faculty to resident doctors, nursing and dental professionals, besides undergraduate students of AIIMS.

For the first time, a comprehensive self enrichment program was organized for the MBBS entry students and Orientation Programs were also organized for 113 newly joined Faculty and 79 resident doctors of AIIMS. Workshops were organized for the Senior/Junior Residents, Pool Officers, Ph.D students on issues such as scientific writing, informational retrieval in health sciences and making effective presentations using media. During the last year a massive training program was organized for 1285 Group D Employees of AIIMS for their capacity building and effective functioning as members of health team. This program was held in 31 batches, for six months, in collaboration with twelve departments.

### **Department of Microbiology**

Novel diagnostic technologies have been developed for malaria, gonorrhoea and mycoplasmas based on demonstration of malarial pigment, DNA biosensors and recombinant proteins.

Department is participating in National and International Quality assurance programmes for diagnosis of HVI AIDS and gonorrhoea. The Virology section of the Department is also the apex laboratory for influenza, Dengue and Chikungunya diagnosis and surveillance.

### **15.15 JAWAHARLAL INSTITUTE OF POSTGRADUATE MEDICAL EDUCATION & RESEARCH (JIPMER)**

JIPMER is committed to provide high quality medical care to all sections of the society. It conducts undergraduate,

postgraduate, super speciality and Ph.D. courses in various disciplines to train competent and caring medical professionals and to undertake health and medical research for the ultimate benefit of the society. JIPMER has developed into a vibrant organization with conducive atmosphere for medical care, medical education and research.

After becoming an Institute of National Importance in 2008 by an act of Parliament, JIPMER now conducts all its examinations and awards its own degrees. JIPMER is fully funded by the Ministry of Health and Family Welfare, Government of India but for extramural grants for research activities. Most of the patient care services are free or highly subsidized for patients attending JIPMER Hospital.

The admission to first year MBBS course in JIPMER is through All India Entrance Examination. For the academic year 2012-13, the annual intake was increased from 116 to 145. A total of 38,930 applications were received and 29,108 candidates appeared in the Entrance Examination for the first year MBBS Course, 2012-13 session. Out of the 15,021 candidates who qualified in the Entrance Examination, 138 candidates were admitted based on their category merit rank. Seven candidates nominated for the Academic Session 2012-13 by the Government of India were admitted.



College of Nursing was started by JIPMER during the year 2006 with an annual intake of 75 students. Admissions were made to the B.Sc. (Nursing) course based on an Entrance Examination for the 2012-13 session. The B.Sc. (MLT) course was started by JIPMER in the year 1985 for training professionals in medical laboratory technology in an integrated fashion for all branches of laboratory technology. During the academic year 2012-13, 30 candidates were admitted to this 3 year course. B.Sc. Allied Medical Sciences course (3 years)



in the disciplines of Dialysis Technology, Operation Theatre Technology, Perfusion Technology and Radiotherapy Technology with an annual intake of 4 students in each discipline were started during the year 2010-11 and B.Sc. Neuro Technology was started during the year 2011-12. JIPMER also conducts EMT (Emergency Medical Technician) certificate course with the annual intake of 20 students and with the objective of training personnel to handle trauma victims/emergencies during the golden hour of pre-hospitalization including onsite and hospital care. Eighteen students were admitted during the year 2012-13 for this 12 month course.

Post graduate courses (M.D. / M.S.) are conducted in 22 disciplines. A total of 124 seats are available for the 22 postgraduate courses. At present Super Speciality Programmes (D.M. / M.Ch.) are conducted in 14 disciplines with a total intake of 28 seats. One year fellowship programme is conducted in 5 disciplines with an intake of 13 seats.

Ph.D programmes are conducted in 8 disciplines and a total of 18 seats. JIPMER has been conducting M.Sc. (Medical Biochemistry) course for the last 33 years. For the academic year 2012-13, nine students were admitted on the basis of the Entrance Examination to this 3 year course in M.Sc.(Medical Bio-Chemistry) and 2 year course in M.Sc.(MLT-Microbiology). The main objectives of this course are to facilitate skill development in biochemical diagnosis. JIPMER also runs courses for M.R.T. (Medical Record Technician) and M.R.O. (Medical Record Officer) in which sponsored government servants from various institutions are imparted training in the Department of Medical Records.

The Department of Medical Education conducts a popular ten day residential National Course on Educational Science for Teachers of Health Professionals twice every year in the months of February and September. The purpose of this National Course, which is organized in a workshop mode, is to impart training to medical and paramedical teachers to facilitate development of skill based and need based graduate medical and paramedical education.

JIPMER organizes conferences, workshops and other training programmes in various disciplines at national, regional, state and local levels to promote continuing medical education and training for faculties of different fields.

The Institute has been in the forefront of medical research and after the conversion of the Institute into an Institution of National Importance, the research activities have increased significantly with the availability of more funds and with the increase in the number of faculty members. Intramural research grants were given to twenty seven research projects for faculty and sixty eight MD/MS/PhD/ MSc dissertation and thesis projects. Several research projects with extramural funds have also been started.

JIPMER Hospital has daily average number of outpatient attendance 5,788 and daily average number of inpatient attendance 1668. Under the Rashtriya Arogya Nidhi (RAN) forty four patients were benefited and Rs. 27,01,619/- was utilized during the year. In the year 2012-13, a total of 15,83,649 outpatients were treated in JIPMER Hospital. In the year 2012-13, a total of 59,613 admissions were made in the Hospital. A total of 31,83,986 investigations were carried out in the year 2012-13. Total number of deliveries conducted were 11,143. Total number of operations performed were 33,018. The total attendance in Emergency Medical Service (Main Casualty) was 2,02,848 and the total attendance in OG Casualty was 17,694. JIPMER catered to people from the states of Puducherry, Tamil Nadu, Andhra Pradesh, Karnataka, Kerala and other states.



JIPMER also has extension programmes in the form of Rural Health Centre and Urban Health Centre in Puducherry and outreach centre in Karaikal, Puducherry to provide medical care to the needy people who may find it difficult to approach the main Hospital.

Various infrastructural developmental projects have been undertaken in JIPMER in recent years. Phase I projects including Trauma Care Centre, College of Nursing, upgradation of existing Regional Cancer Centre,

Auditorium, New Guest House and Super Speciality Block have already been completed. Work is in last stages for projects of phase II development which consist of Teaching Block, Women and Children Hospital Block, Hostel Complex and augmentation of existing departments. Teaching Block will include Departments of Anatomy, Physiology, Biochemistry and Medical Education and Academic Section, Examination Section, Dean's Office and Examination Halls. Women and Children Hospital Block will include Departments of Obstetrics and Gynecology and Pediatrics with their outpatient and inpatient facilities, Hostel Complex will have facilities to accommodate 1100 students with facilities for canteen, dining, sports and gymnasium. Augmentation of existing Departments is being undertaken by utilizing the space vacated by Super Speciality Departments, Radiotherapy, Obstetrics and Gynecology, Pediatrics, Anatomy, Physiology, Biochemistry and Medical Education. Phase II development also includes augmentation of Regional Cancer Centre. After completion of the phase II projects, phase III projects including Multi disciplinary Advanced Research Centre, Learning Resources Centre, Screening OPD and Geriatric Unit, Super Specialty Block Annex, Modernization of Old Hospital block and Institute Block, International Students' Hostel, RCC phase III and Additional power supply to JIPMER campus (110 KV substation) will be started. In addition to construction works filling of various posts of faculty and other staff is also being undertaken. During the year 2012-13, 29 Group A faculty, 24 Group B staff and 59 Group C staff have been recruited.

On the academic side, the total number of seats in P.G. programs (M.D. / M.S.) has been increased from 88 to 124. New courses started during the year 2012-13 included B.Sc. Cardiac Laboratory Technology (4 seats), B.Sc. Nuclear Medicine Technology (4 seats), D.M. Nephrology (2 seats), D.M. Medical Oncology (2 seats), M.Ch. Plastic Surgery (2 seats), M.Ch. Paediatric Surgery (2 seats), Fellowship in Cardiac & Neuro Anesthesiology (4 seats), Fellowship in Critical Care Anesthesiology (3 seats), Ph.D. Anatomy (2 seats), M.Sc. Medical Physiology (3 year course with 4 seats), M.Sc. Cytopathology (2 year course with 4 seats) and M.Sc. Nursing (25 seats in 5 disciplines).

The Third Convocation of JIPMER will be held on 30.06.2012. The Honorable Prime Minister of India delivered the Convocation address. The Hon'ble Union Minister of Health & Family Welfare – Presided over the

function. During the convocation 311 degrees were awarded to MBBS, B.Sc. PG(MD/MS), DM / MCh and Ph.D students who have successfully completed the course during the year 2011-12. Endowment prize and medals in various disciplines were awarded to 79 students.

### 15.16 POSTGRADUATE INSTITUTE OF MEDICAL EDUCATION & RESEARCH, CHANDIGARH (PGIMER)

The Postgraduate Institute of Medical Education and Research, Chandigarh was declared as an Institute of "National Importance" and became an Autonomous Body by an Act of Parliament (Act 51 of 1966), on 1st April, 1967. The Institute is fully funded by the Government of India. The main objectives of the Institute are:-

- To develop patterns of teaching of undergraduate and postgraduate medical education in all its branches so as to demonstrate a high standard of medical education.
- To bring together as far as may be in one place educational facilities of the highest order for training of personnel in important branches of health activity; and
- To attain self-sufficiency in postgraduate medical education to meet the country's need for specialities and medical teachers.

The Institute has excelled in all the three areas namely-patient care, medical education and research. The patient care load over the years has been increasing exponentially and now it is becoming unmanageable. From an annual attendance of 1,25,163 out patients and 3,328 admissions in 1963-64, the figure has gone up to **18,14,277** outpatients and **68,175** admissions, with an annual rate of increase of about **20 to 30%**.

In spite of the resource crunch, the Institute continues to excel in quality research, and the clinicians and basic scientists produced **878** papers during the year and **123** scientists were awarded fellowships, orations and other national and international awards. Last year various departments of the Institute completed 200 research projects funded by DST,WHO, DBT, ICMR and other outside agencies and **577** research projects were being continued and supported by national, international and PGI research funds.

Postgraduate Institute of Medical Education and Research has already completed detailed Software requirement

specifications. This would involve on-line patient records based on patients ID, online ordering of laboratory investigations, health database of disease, patients billing and support services. However, the final approval is pending with the Government of India. 51 Persons with disabilities have been appointed to various posts in PGI.

### Academic activities

Postgraduate Institute of Medical Education & Research, Chandigarh has been empowered to grant medical, dental and nursing degrees, diplomas and other academic distinctions and titles under the PGIMER, Chandigarh Act, 1966. Through out the year, the Institute remains occupied with conduct of examinations for admission to various Postgraduate courses viz. MD/MS, DM/M.Ch, Ph.D. and other paramedical & nursing courses viz. B.Sc. MLT and M.Sc. etc.

### Hospital Services

The Postgraduate Institute of Medical Education & Research, Chandigarh provides tertiary care in all the medical and surgical specialities to patients, who come not only from the adjoining states but also from far-off states like Odisha, West Bengal and Bihar.

The total bed strength of the PGI has increased to 1948 beds. The number of patients who attended the Outpatients' Departments and those admitted during the last three years is as under:

	2011-12	2010-11	2009-10
OPD Attendance	18,49,015	16,62,391	15,46,639
Admissions	68,175	64,969	62,330

During the year **34,222 major surgeries and 98,955 minor surgeries** were conducted.

Emergency and critical patients were attended to round-the-clock.

A total number of 58,625 patients were attended in the emergency and 33,637 were admitted and 10,294 Major Surgeries and 1,505 Minor Surgeries. During the financial year 2011-12 Rs.2,66,19,145 was spent for subscription of 530 journals, Rs.63,86,348 was spent for online Medical Databases and Rs.531309 has been spent for the purchase of books.

### Engineering Wing

During the year 2011-12 (from April 2011 till Feb 2012)

Rs.3655.23 Lacs were spent under 'Non Plan' and Rs.708.14 lacs for new works under the 'Plan' head.

During the year 2011-12, this department completed the following major works.

1. A Modern Dialysis Unit for Nephrology and Kidney Transplant at Ground Floor, C Block, Nehru Hospital has been renovated and made functional at a total cost of Rs.270.00 Lacs.
2. The Ministry of Health and Family Welfare, Govt. of India, has sanctioned the works under OBC expansion scheme and work under 11th Five Year Plan for:-

#### i) Works under OBC Expansion Scheme

1. Expansion of Nehru Hospital (250 bedded), Rs. 92.97 cr.
2. National Institute of Paramedical Sciences & Hostels, Rs. 18.59 cr.
3. Hostels for:- (i) 192 Nos. Bachelor Doctors Hostel, (ii) 96 Nos. Married Doctors Hostel, (iii) 128 Nos. Nursing Hostel & Mess, Rs. 28.72 cr.
4. 120 No. Hostel for NINE, Class Rooms, Rs. 7.04 cr.
5. Residential Houses with furniture (i) Type II-VI 216 Nos, (ii) Campus Development, Rs. 240.04 cr.

#### ii) Works under 11th Five Year Plan- Sanction Conveyed by the MoH&FW

1. Advanced Cardiac Centre (Phase-II), Rs. 15.67 cr.
2. Advanced Eye Centre (Phase-II), Rs. 5.37 cr.
3. Modernization of Nehru Hospital, Rs. 87.82 cr.
4. Modernization of Research Block A&B, Rs. 48.33 cr.
5. Renovation of Residential Houses, Rs. 10.00 cr.
6. Renovation of Hostels, Rs. 7.17 cr.

### 15.17 LADY HARDINGE MEDICAL COLLEGE & SMT. S.K. HOSPITAL, NEW DELHI

The Lady Hardinge Medical College (LHMC), New Delhi was established in the year 1916 with a modest beginning of just 14 - 16 students. Over the years, the Institute has



matured as a pioneering Institute for Medical Education and now it has a present strength of 200 admissions per year for MBBS girl students. The 97th Academic Year (2012-13) of the College began with 866 undergraduates and 118 interns on the rolls. The College, which is affiliated to the University of Delhi since the year 1949, has continued to admit students from all over India, as well as from foreign countries. A separate out-patient block was started in 1958 to cater the needs of ever increasing population of Delhi.

The Hospital statistics for the period 2012-13 is as under:-

Bed Strength	877
OPD Attendance	351606
Indoor Admissions	24171+8996NB
Sterilization	648
Bed Occupancy	66%
Surgeries Major-4584 Minor 5567,	Total 10151
Deliveries conducted	8764

On obtaining the requisite approval the Comprehensive Redevelopment Plan (CRP) of Lady Hardinge Medical College & associated hospitals started at a great pace. It was a proud moment of the Institute that the Hon'ble Prime Minister of India Dr. Man Mohan Singh laid the foundation stone for the construction of new patient care, academic, hostel and residential facilities on 3rd November 2012. The progress of the construction activities is continued unabated and the deadlines set up for the 1st phase of CRP would hopefully be met.

### Department wise highlights and achievements during the year 2012-13

**Department of Medicine:** Department of Medicine is functional with six medical units. The Department is having modern intensive coronary unit, rheumatology clinic, medical ICU with four ventilators and two cardiac beds, four bedded thalassemia day care centre for adults (opened in August 2011) which is having a regular registered patient load of 30 patients. The department actively provided support of medical experts for the relief camp in the relief camp set up in Kokrajhar, Assam.

**Department of Microbiology:** Department is having facility for voluntary counselling test centre (VCTC),

Prevention of parent to child transfer (PTCT) for HIV patients, HIV DNA PCR lab under National Pediatric HIV Initiative to diagnose HIV infection in newborns up to 18 months under National AIDS Control Programme. The department is also having surveillance facilities for meningococcal Dengue fever.

**Department of Surgery:** Department of Surgery has the facility for endo-urological procedures like TURP (for BHP), TURBT (Bladder tumors), URS, Thoracic surgery for Carcinoma lung (lobectomy, pneumonectomy, mediastinoscopy), Vascular surgery procedures – making A-V fistula for CRF patients awaiting transplant / undergoing dialysis, Comprehensive surgical and medical management of Gastro-intestinal, Urological, Breast Cancer, Plastic & Reconstructive Procedures, Impedence, manometry for diagnostic and research purpose and Advance laparoscopic surgeries using high definition camera.

**Department of Ophthalmology:** The Department has achieved academic distinction in having 100% pass percentage result in MS (Ophthalmology) and Diploma in Ophthalmology. The department has participated in Motiabind Mukti Abhiyan Program of NCT Delhi and organized Comprehensive Eye Health Care Camps with NGOs. Recently the department has started operation facilities for 6 days a week in newly commissioned OT including surgical facilities for vitreo-retinal diseases with the help of latest acquired equipments like Plasma sterilizer, Operating microscope and Phacoemulsification unit.

**Department of Obst. & Gyne.:** Department of Obst. & Gyne. has undertaken various national and international research projects/training programmes & took up the initiative to establish the National Training Centre to train Master Trainers from State Nodal Centre's Nursing Schools to provide quality, skills based education and training in RCH at LHMC with help from MoHFW and WHO. The Department has also taken initiative in providing master trainers for training of trainers for BEmOC training by NIHF and MoHFW with senior faculty members as resource persons. WHO multi-country survey on maternal and newborn health, Role of Pregnancy Associated Plasma Protein A (PAPP-A), free a HCG levels, uterine artery Doppler and maternal factors in first trimester of pregnancy for prediction of Preeclampsia.

**Department of Community Medicine:** Department of Community Medicine is provide comprehensive health care



services in the community through Urban Health Center, Kalyanpuri, Primary Health Center, Palam and Mehrauli and Child Health Promotion Center at Kalawati Saran Children Hospital and also training programmes of students enrolled for Post Graduate Diploma in Maternal & Child Health from Indira Gandhi National Open University, training of nursing students in Community Health and Public Health administration, epidemiology and other public health related topics. Faculty members are also involved as Resource Persons in various training programs organized by National Institute of Health & Family Welfare, International Institute of Health Management Research, National Institute of Public Cooperation & Child Development, National Centre for Disease Control and Training Programs under various National Health Programs.

**Department of Physiology:** Guest Lecture on ‘Motivating medical student on topics of how to be successful and stay healthy and happy ’ by Dr Bindiya HSB Singh, MD FAAP, Director of Health Center Organization, Neonatologist, Paediatrician , Director Community Education and Outreach, SCVMC, Clinical Associate Professor Affiliated Stanford University, San Jose, CA, USA , On 4th October 2012.

**Department of Skin & STD:** Patch testing for diagnosis of allergic contact dermatitis in children and few new Dermatological procedures has been started in the Department.

**Department of Pathology:** The department has been chosen as one of the 7 centers for the project entitled “Creating the Virtual Medical classrooms a pilot” National Knowledge Network (NKN) project, New Delhi for teaching and also diagnostic for patient care Flowcytometry & Automated Coagulometer. Quadruple bags with integral filters for pre storage leukoreduction facility to blood bank.

**Department of Biochemistry:** Department has the facility for patients like Routine Clinical Biochemistry lab, Hormone lab, 24 hours Emergency lab. More than 6 lacs investigations are done annually and also Molecular Biology Lab. Department has provided hospital training programmes.

**Physical Medicine and Rehabilitation Department**

**Patients attended in PMR Department :**

New Patients	:	08652
		(Children-3712 &

		Adult 4940)
Old Patients	:	20812
No. of Patients in Physiotherapy	:	23799
No. of Patients in Occupational therapy	:	09403
No. of Patients in Clinical Psychology	:	00794
No. of Patients in Speech Therapeutic	:	01781
No.of admissions in Ward	:	00006
Referral (LHMC&KSCH)	:	00710

Budget allocated as BE 2012-13 is Rs.198 crore (Plan-Rs. 67.00 crore & Non-Plan- 97.00 crore)

**15.18 KALAWATI SARAN CHILDREN’S HOSPITAL, NEW DELHI**

**Introduction**

Kalawati Saran Children's Hospital is a premier referral Children’s Hospital of national importance. The hospital started functioning in the year 1965 with the objective of imparting comprehensive medical services for pediatric patients upto 18 years of age. At present it has 375 beds. Under the scheme for the improvement of KSCH (JICA) the bed strength of this Hospital is being increased to 500.)

The Hospital is currently one of the busiest children hospitals in the country and caters to a daily OPD attendance of 800-1000 children, and 80-100 new admissions per day from Delhi and neighboring states.

Kalawati Saran Children's Hospital has the unique distinction of having a separate Pediatric Emergency with direct inflow of patients. The hospital has a state of the art 20 bedded ICU providing intensive care to critically sick children.

The Department of Pediatrics with 30 faculty members, 47 senior residents and 57 junior residents is a busy Department. Neonatal wing of the hospital, catering to 15,000 deliveries a year, is the biggest neonatal unit in the country and is providing state of art services for premature and sick newborns including ventilator care. The Department has fully developed pediatric sub-specialties like Neurology, Nephrology, Gastroenterology & Nutrition, Hematology, Pulmonology and Endocrinology, making Kalawati Saran Children’s Hospital a super specialty hospital in the real sense.

Besides providing sophisticated tertiary level services, the hospital also provides promotive health services including

immunization, infant and young child feeding counseling and developmental evaluation. The hospital has served as a training Centre for ARI, UIP, IMNCI and other National Health programmes. It also houses the Diarrhoea Training and Treatment Unit, the first such unit in the country, which has also been recognized by WHO and Govt. of India as a training Centre for diarrhoeal diseases.

There is a separate Department of Pediatric Surgery with six faculty members and eight senior residents. M.Ch. Pediatric Surgery program started in August 2010 with 2 candidates. In year 2011, two candidates were admitted. In 2012 seat capacity increased to four per year and four candidates joined the course in August 2012. This program is affiliated to University of Delhi and with the approval of Govt. of India and MCI. The Department has a fully equipped Operation Theatre.

The Physical Medicine and Rehabilitation Department provides comprehensive rehabilitative services to children and adults with the various disabilities.

### Major Achievements

- The Regional Pediatric Centre for ART at KSCH has been recognized by NACO as National Pediatric Centre of Excellence (PCOE) for HIV/AIDS and has been given the responsibility of providing mentoring services to ART Centers in 9 states in north India.
- Kalawati Saran Children's Hospital is designated the National Nodal Centre for Facility Based Newborn Care.
- A National Nutritional Rehabilitation Resource and Training Centre was started in collaboration with UNICEF on 15th July 2012.

### 15.19 MAHATMA GANDHI INSTITUTE OF MEDICAL SCIENCES, SEVAGRAM, MAHARASHTRA

The Mahatma Gandhi Institute of Medical Sciences, Sevagram is India's first rural medical college. Nestled in the karmabhoomi of Mahatma Gandhi, in Sevagram, this Institute was founded by Dr Sushila Nayar in 1969. Kasturba Hospital has the distinction of being the only hospital in the country which was started by the Father of the Nation himself. Over the past 44 years the Institute has grown to be one of the top 25 reputed colleges of the country and has been accredited by National Assessment

and Accreditation Council (NAAC) in 'A' grade. The credit goes to Govt. of India, Govt. of Maharashtra and the Kasturba Health Society (KHS) who share the expenditure in the ratio of 50:25:25 respectively.

In one of the judgments passed by the full Bench of Bombay High Court in 1998 Mahatma Gandhi Institute of Medical Sciences (MGIMS) has been designated "as a unique Institute with a class of its own". This is because all these years MGIMS has stuck to its mission statement and has totally committed itself to the pursuit of professional excellence by evolving an integrated pattern of medical education that seeks to produce doctors who possess clinical acumen of global standards, a sound community orientation, good communication skills, integrity, accountability and humane approach. It has also stuck to its vision of providing accessible and affordable health care primarily to underprivileged rural communities.

The Institute believes that Gandhian values and principles are as relevant today as ever before. The entrance examination to the MBBS course includes a separate qualifying paper on Gandhian Thought. The students and staff of the Institute adhere to a unique code of conduct, where they are expected to wear handwoven khadi, participate in shramdan, attend all-religion prayer on every Friday evening, abstain from non-vegetarian food, alcohol and tobacco.

The Institute offers MCI recognized degrees and diplomas in 19 postgraduate disciplines and PhDs in seven departments. Since 1991, all graduates of the Institute have to serve for two years in rural areas and 96 non-governmental rural organizations have joined hands with the institute to fulfill this dream. This rural service is a mandatory eligibility criterion for getting post-graduation in this Institute. The Report of the Task Force on Medical Education of the National Rural Health Mission spells out the need to draw inspiration upon MGIMS Sevagram's, initiatives and experience in curriculum innovation and rural placement of its graduates. It suggests launching a participatory exercise with MGIMS and other like-minded institutions, so that national guidelines can be formulated. Several such visionary and innovative education strategies which started from the Institute have now been adopted by the government.

In September 2011 MGIMS was accredited with 'A' certificate by National Assessment and Accreditation Council (NAAC) and the certificate was awarded at the

hands of Prof. Ved Prakash Chairman UGC at a function held in Bangalore. On 22nd December 2011, MGIMS was awarded the WHO Award for Excellence in Primary Healthcare by the ICICI Lombard and CNBC TV 18 India Health Care Awards. More than 4000 health care service providers had participated for these awards in various categories. Through these awards CNBC-TV18 tries to put spot light on India's finest health care providers.

Both Tuberculosis and Leprosy are endemic diseases of major Public health importance. Every year the Institute awards Dr.PRJ Gangadharam Endowment Oration Award to eminent Indian personalities who have devoted their life towards control of tuberculosis. In Leprosy Manohar Diwan Award is presented every alternative year to an Indian doctor, scientist or academician for his/her contribution in the field of Leprosy eradication.

This year KHS has taken over the ailing Gandhi Memorial Leprosy Foundation (GMLF) under its ambit. This initiative will ensure continuity in the pioneering work done by GMLF in the field of Leprosy particularly with respect to its prevention cure and eradication. The Foundation was also giving the prestigious International Gandhi Award to persons or organizations dedicated towards the service of leprosy patients. The award for 2011 was presented by Shri M.Hamid Ansari, Vice President of India, to Dr.Chaire Velut and Dr.J.D.Samant at a function organized in New Delhi.

### Academics

**Increase in UG/PG seats:** Mahatma Gandhi Institute of Medical Sciences, Sewagram run by Kasturba Health Society had applied for increase in Under Graduate seats from 65 to 100 i.e. additional intake capacity of 35 seats. After due procedure and formalities, and from inspection conducted by the MUHS and the MCI the seats have been increased and from the academic session 2012 MGIMS will be admitting 100 students for the MBBS course which will pass out in 2016. The College had applied for increase in PG seats in the Departments of Paediatrics and Surgery. After due procedure and formalities, seat in MD Paediatrics and 1 seat in MD Surgery were increased.

**PG Diploma in Maternal and Child Health:** Dr.Sushila Nayar School of Public Health has been recognized by the Indira Gandhi National Open University (IGNOU) as a study centre for PG diploma in Maternal and Child Health

(PGDMCH). The first session of the course has commenced in July 2012.

**MGIMS goes Wifi:** The hospital is fully computerized and HIS installed is working most efficiently since 2005. Now in order to make our faculty, students and staff more efficient and well versed in knowledge of all kinds, the Institute has installed Broad Band (Wifi) facility all over the hospital and campus for easy access of information through internet. It has also distributed ipads, Mc Books to its students and faculty on interest free loan to be paid in installments.

**Skills laboratory to be started:** The construction of a skills laboratory is afoot under the Medical Education Unit. Several mannequins and simulators have already been procured. The simulators include those used to teach students basic and advanced life support, resuscitation, obstetric and surgical skills etc. The skills lab will help students hone their clinical and procedural skills in an artificially simulated environment before applying them on real patients.

### Hospital Activities

The Kasturba Hospital which has gradually expanded from a 15 bedded Hospital to a 780 bedded hospital primarily caters to the rural populace as three fourth of the patients that visit our hospital come from rural areas. Besides Wardha district the patient load comes to us from

<b>Total Beds</b>	780
Teaching-660	
Service Beds-100	
Private beds-20	
OPD	644343
Indoor patients	43340
Investigations	606245
X-rays	79770
Surgeries performed	11398
Blood Donations Camp	47

adjoining parts of Andhra Pradesh, Madhya Pradesh and Chhattisgarh. It acts as a tertiary care hospital with all the modern health care amenities but provides health services at affordable cost. It has a unique insurance scheme in which this year 50563 families, equivalent to 205742 members were insured.

In line with our objective to serve the poor, MGIMS had submitted a proposal to Govt. of India and the Govt. of Maharashtra to set up India's first rural Tertiary Cancer Centre at the Institute so that we can provide comprehensive cancer care including prevention, early detection, treatment, palliation and rehabilitation to the poor

cancer patients from rural areas who neither want nor can afford to go to cities for their ailment. The proposal has met the approval of both the agencies and funds have been released to set up the above centre at the MGIMS.

**MGIMS starts Hospital for Mother and Child Care at Melghat:** Melghat, a tribal region in Amravati district has high incidence of malnutrition and child mortality. This is due to lack of basic health facilities and nutritional support in the region. KHS has already been running an OPD and a 6 bedded hospital under its Tribal Research Health Project (TRHP) for the tribal people at Utawali, Melghat since the last 13 years. A new unit with another 30 beds for women and children is proposed to be constructed. For the time being inauguration was done and OPD was started in the old hospital on 1st January 2012. It is expected that the antenatal care and other facilities, along with health education of women in this remote region will finally result in health care reaching the mothers and children of Melghat. Number of patients availing the facility has already increased, major operations like caesarian section and Hysterectomy's have been conducted for the first time. A further impetus to the programme was given when doctors from MGIMS participated in a multi-disciplinary health camp on 23-24 March 2012. A total of 236 patients availed the services of the doctors at the camp and 24 patients needing major interventions were referred to Sevagram. It was a challenge to perform major surgeries in the resource – poor settings and surgeons from the Departments of Surgery, Orthopedics, ENT and Obst. and Gynae met this challenge head on. This camp has created a lot of goodwill and trust in this tribal area and the MGIMS team came in for a lot of appreciation from the villagers.

**Enhancement in facilities for the patients:** The proposal to add another 192 beds to the Kasturba Hospital is nearing completion and the building is almost ready for occupation. The Hospital Information System successfully installed Computerized Radiography (CR) Radiology Information System (RIS) and Picture Archiving and Communication System (PACS) in the department of Radio-diagnosis. This system enables radiology images to be sent digitally to the clinicians in the OPDs and Wards and also ensures convenient storage and retrieval of images. It does away with the cumbersome process of first developing the X rays, then the patients carrying it with him and ultimately losing it or not being able to produce it on follow up. In the year 2010 the old single slice CT

scan was replaced with a higher end model of 8 slices CT Scan. This year the old MRI will be replaced by 1.5 tesla machine to get better resolution and more advanced radiography.

**Laser Unit acquired in Ophthalmology:** Refractive errors account for 7% of blindness which can be corrected by changing the curvature of the cornea. Wardha district alone has approximately 1000 such cases and mostly in the young population; Lasix surgery can correct this refractive error as an outpatient procedure. The Institute has acquired an Excimer Laser Unit with Microtome and Corneal Topography system in the Ophthalmology department becoming one of the very few institutes to possess this equipment.

**Clinical Forensic Medicine Unit:** A clinical forensic medicine unit is planned to be started in the Accident and Emergency Centre in August 2012. Manned by experts from the Department of Forensic Medicine and Toxicology, this unit will help clinicians and casualty medical officers to deal with medico-legal cases with more ease and confidence. Plans are afoot to develop a unique forensic medical software which will generate computerized forensic and medico legal reports.

**MGIMS selected as Regional Centre for Adverse Drug Reaction Monitoring:** MGIMS Sevagram was selected as a regional centre for adverse drug reaction (ADR) monitoring under the Pharmacovigilance Programme in Nov. 2011. The Central Drugs Standard Control Organization (CDSCO), Directorate General of Health Services under the aegis of Ministry of Health & Family Welfare, Govt. of India in collaboration with Indian Pharmacopoeia commission, has initiated the Pharmacovigilance Programme to protect the health of the patients by assuring drug safety. The Department consolidates reports of ADR, checks for completeness of data and reports it to the National Coordinating Centre.

## Research

The focus of the Institute has been on community based medical research. Quality research has been the hallmark of this rural institute and the large number of funded projects awarded to the various departments is ample testimony to the potential of the researchers. Being located in Sevagram has never been a hurdle in acquiring either funds or facilities as the enthusiasm and the dedication of the faculty surpasses all other deterrents. The Institute



brings out biannually its own scientific journal named J MGIMS which is indexed in INDMED.

Awards & Fellowships	Faculty-13 Students-17
Publications	119
On-going Funded Research Projects	48
On-going Non Funded Research	59
Short Term Projects by ICMR	09
Research Projects completed	38
Nos. of Conferences Attended by the faculty	86
Nos. of Workshop/ Meeting attended by the faculty	139
Conference Organized by the MGIMS	50

### MGIMS Participation in National On-going Programme

**Universal Immunization Programme (UIP):** The Maternal and Child Health Cell in Kasturba Hospital is located in the General OPD. All vaccines under UIP are provided through the maternal and child health cell. In the year 2011-12, 10,222 doses of vaccines were provided to mothers and children.

The Department of Community Medicine works together with the District Health system in celebrating Village Health Nutrition Day (VHND) on a monthly basis in all the villages of the three PHC areas under the Department. Apart from immunization, the activities on Village Health Nutrition day include diagnostic, weight and nutritional check-up of children of 0-3 years, ANC check-up, PNC check-up and nutritional and health Education. The ASHAs, SHG members and adolescent girls are being encouraged to participate actively during the VHND. The Village Health Nutrition and Sanitation Committee (VHNSC) are entrusted with the responsibility of organizing the day.

**Revised National Tuberculosis Programme:** The GOPD in Kasturba Hospital operates a microscopy and a DOTS centre under the Revised National Tuberculosis Control Programme. Being a tertiary care hospital, the Microscopy centre examines the maximum number of patients out of the 14 microscopy centres in Wardha district. DOTS treatment is provided to three villages near Kasturba Hospital through DOTS centre. A total of 3262 chest symptomatics were screened in the microscopy

centre in 2011-12. Based on the sputum examination, 162 patients were identified to be sputum positive pulmonary tuberculosis cases. On behalf of Central TB Division, the Department of Microbiology is conducting a disease survey on the prevalence of tuberculosis in Wardha district. We are the first centre to start data collection as part of a multicentric trial being conducted in five such centres.

**National Leprosy Elimination Programme:** The General OPD in Kasturba Hospital also acts as a drug delivery centre for National Leprosy Elimination Programme. In the year 2011-12, 50 patients were registered as cases of leprosy and received treatment.

**Integrated Disease Surveillance Programme:** A regular programme for epidemiological surveillance is operational in MGIMS, Sevagram for several years. This programme is further strengthened after launch of IDSP in Wardha district. Under the Epidemiological Surveillance activity, daily data is collected from the Kasturba Hospital based on standard definition given under IDSP. Information regarding all the cases of communicable diseases availing OPD or inpatient services in Kasturba Hospital is reported on telephone to the district health authorities. A weekly report is also submitted to the district health authorities regularly. During the year 2011-12, a total of 721 cases of various communicable diseases were reported to the district health system. The Department of Community Medicine also provides consultation and helps the district health system in investigation of epidemics in case they occur in Wardha district. It is also a nodal centre to provide training of trainers to district level master trainers for the state of Bihar.

**Integrated Child Development Services:** Continuing education program for the Anganwadi workers are being done in the three PHC areas adopted by the Deptt of Community Medicine to improve the skills of Anganwadi workers. During these training programmes, effort is made to provide the workers with training on health as well as other issues of Early Childhood Development. The Deptt of Community Medicine is a state coordinating centre for the monitoring of ICDS in the state of Maharashtra. So far monitoring has been done in nine districts.

**National Cancer Control Programme:** The Department of Pathology is coordinating with National Cancer Registry Programme under ICMR, on development of an atlas of cancer, India. In 2001-02, the Department ran a Hospital based Cancer Registry. From 2003 to 2008 the

Department ran a Population based Cancer Registry which collated data from Wardha district, which was the only centre in the country which collected both rural and urban data. From 2010, the Rural Population Based Cancer Registry has been given permanent status under the National Cancer Registry Programme of ICMR.

**National Rural Health Mission:** The Deptt. of Comm. Medicine is conducting training of Accredited Social Health Activists (ASHA) for the District Health System, Wardha.

**Adolescent Health Programme:** The Department of Community Medicine, MGIMS, Sevagram has developed adolescent health programme for school going and non-school going boys and girls. The School Health Programme is operational in schools under the three PHCs adopted by the Department of Community Medicine, MGIMS, Sevagram. Health and Family Life education is provided by trained teachers in these schools. At village level, family life education is provided to the adolescents through Kishori Panchayat. For this purpose, the adolescent girls have been organized and Kishori Panchayats have been formed in all the villages under the three PHCs.

**National Programme for Control of Blindness:** The Deptts of Community Medicine and Ophthalmology run a Sentinel Surveillance Unit under the National Programme for Control of Blindness for Wardha district.

**National Vector Borne Disease Control Programme:** The Department of Community Medicine is actively involved in the evaluation of mass drug administration of DEC in Wardha district.

**Emergency Obstetric Care (EmOC) :** The Govt of India, State Government, FOGSI and AVNI foundation have chosen the Department of Obstetrics and Gynecology as a nodal centre for its EmOC programme to prevent maternal morbidity and mortality. Master trainers from 11 states have been trained under this programme.

#### **Funded Projects**

**40 Extramural projects have been sanctioned by various agencies in the following departments during the year under consideration.**

#### **Department of Anatomy**

- Anatomy Genetic Study in Human male infertility related to microdeletions of Y Chromosome in idiopathic cases of azoospermia and oligospermia Funded by ICMR.

#### **Department of Biochemistry & Jamna Lal Bajaj Tropical Disease Research Centre**

- Biochemistry Establishment of repository of filarial parasites and reagents, Funded by DBT.
- Establishment of Sub-DICS under BTIS Programme, Funded by DBT.
- National network for genotyping of human lymphatic filarial parasite *Wuchereria bancrofti* from different endemic areas, Funded by ICMR.
- Funds for Improvement of S & T Infrastructure in Universities and Higher Educational Institutions (FIST) programme, Funded by DST.
- JBTDRC, Tropical Disease Research Programme for TB diagnostics Bioinformatics Centre & Arogyadham, Funded by KHS.
- Assay for circulating tubercular antigen level by sandwich ELISA using cocktail of Affinity Purified Antibodies to ES-31, ES-43, EST-6 Antigens of diagnostic interest, in pulmonary and lymph node tuberculosis and HIV-TB coinfection, Funded by Tuberculosis Association of India.
- Sub-Distributed Information Centre under BTISnet Programme including additional grant for SEVAMED, Funded by DBT 2011-12.
- Naturopathy / Yoga Treatment –cum- Propagation Centre, Funded by CCRYN, Deptt. of AYUSH.
- Arogyadham and Herbal Garden Funded by KHS.

#### **Department of Community Medicine**

- Community Development of adaptation package for care for child development, Funded by World Health Organization.
- Surveillance of neonatal infection – An ICMR task force study, Funded by ICMR.
- National Quality Assurance Cell for EmOC and LSAS, Funded by World Health Organization.

- Prospective Observational Study of Rotavirus Infection in Infants in Sevagram, Funded by PATH/SIIL.

#### **Department of Skin and VD**

- Dermatology Sexually Transmitted Infections Clinic.

#### **Department of Medicine**

- Medicine HOPE-3 Study: Heart outcomes Prevention Evaluation, Funded by Population Health Research Institute, St. John's Medical College Bangalore.
- INSPIRE Study: Indian Stroke prospective Registry, Funded by Population Health Research Institute, St. John's Medical College Bangalore.
- INTERSTROKE Study: An indian pilot case-control study to determine the importance of conventional and emerging risk factors for stroke, Funded by Population Health Research Institute, St. John's Medical College Bangalore.
- SPREAD Study: A randomized controlled trial in secondary prevention of acute coronary syndrome, Funded by Population Health Research Institute, St. John's Medical College Bangalore.
- PREPARE Study: A household-level cluster-randomized trial to evaluate primary prevention interventions in CVD in three rural communities (population of 15,000), Funded by Population Health Research Institute, St. John's Medical College, Bangaluru.
- DIABETES Study: A randomized open trial comparing structured interventions by community health worker to standard care in patients with type 2 diabetes mellitus, Funded by Population Health Research Institute, St. John's Medical College Bangalore.

#### **Department of Microbiology**

- Microbiology Multicentric study on antimicrobial resistance monitoring of Salmonella typhi and Salmonella paratyphi – A : An attempt to make national guidelines to treat enteric fever, Funded by ICMR.
- Confirmation of diseases of public health importance under the IDSP (Integrated Disease surveillance

Project) State surveillance net work (Referral Lab.), Funded by Government of Maharashtra.

- Feasibility and cost-efficiency of decentralizing molecular testing for detection of tuberculosis using LAMP TB, Funded by FIND.
- Surveillance of Neonatal Infection, Funded by ICMR.
- Sentinel Surveillance Hospitals for Vector Borne Disease, Funded by Government of Maharashtra.
- Microbiology A population based surveillance of invasive disease caused by and Pediatrics S.pneumoniae or H.influenzae or N.meningitidis in children less than 5 years of age in India” (ASIP), Funded by CMC, Vellore.
- Obs/Gyn & Microbiology : Prevention of Mother to Child Transmission of HIV/AIDS, Funded by Government of Maharashtra, since 17 Sep, 2002 onwards.

#### **Department of Obst/Gynae**

- Obs/Gyn Emergency Obstetric Care, Funded by Govt of Maharashtra, Govt of India, FOGSI, AVNI Foundation.
- Amnisure Project, Funded by Amnisure Company, 2009 onwards.
- Thiamine Project, Funded by Foundation of Collaboration Medicine & Research, USA.
- Maternal Death Audit, Funded by GoI, FIGO, AVNI.
- Anaemia Project, Funded by CCRS (Ayush) GoI.
- HPV Study in women with cervical abnormality, Funded by Dr. Ambedkar Research Foundation, New Delhi.

#### **Department of Ophthalmology**

- Ophthalmology Sentinel Surveillance Unit (Under National Programme for control of Blindness), Funded by Ministry of Health & Family Welfare, GoI.

#### **Department of Pathology**

- Pathology Rural Population Based Cancer Registry of Wardha District, Funded by ICMR.

- Expression of vascular endothelial growth factor (VEGF) protein in endometrium of women with menorrhagia and its correlation with endothelial cell proliferation.
- Funded by ICMR.
- p53 and ras mutations in oral cancer in Central India, Funded by UICC and NIH, 2010 onwards.
- “HPV” Ahead , Funded by IARC.

### GENDER BUDGETING

#### Students Admitted

	Male	Female	% Female
<b>Medical Students</b>			
UGs-65	31	34	52.31%
PGs-61	35	30	46.15%
<b>Nursing Students</b>			
Kasturba Nursing School	-	37	100%

#### Patients Admitted

	Total Patients	Male	Female	% Female
Indoor	43340	20479	22861	52.74%
OPD	513826	254934	258892	50.38%

#### Total No. of Employees

Total Employees	Male	Female	% (Female)
1016	558	458	45%

### 15.20 NATIONAL CENTRE FOR DISEASE CONTROL

The Institute is under administrative control of the Director General of Health Services, Ministry of Health and Family Welfare, Govt. of India. The Director, an officer of the Public Health subcadre of Central Health Services, is the administrative and technical head of the institute. The Institute has its headquarters in Delhi and had 8 branches located at Alwar (Rajasthan), Bengaluru (Karnataka), Kozhikode (Kerala), Coonoor (TamilNadu), Jagdalpur (Chhattisgarh), Patna (Bihar), Rajahmundry (Andhra Pradesh) and Varanasi (Uttar Pradesh).

There are several technical Divisions at the headquarters of the institute i.e. Centre for Epidemiology and Parasitic Diseases (Dept. of Epidemiology, Dept. Parasitic Disease), Division of Microbiology, Division of Zoonosis, Centre for HIV/ AIDS and related diseases, Centre for Medical Entomology and Vector Management, Division of Malariology and Coordination, Division of Biochemistry and Biotechnology.

In each division there are several sections and laboratories dealing with different communicable diseases. The divisions have well equipped laboratories with modern equipments, capable of undertaking tests using latest technology. The activities of each division are supervised by an officer in –charge, supported by medical and non-medical scientists, research officers and other technical and paramedical staffs. The branches are also well equipped and staffed to carry out field studies, training activities and research.

#### A. Integrated Disease Surveillance Project (IDSP)

##### Background

Integrated Disease Surveillance Project (IDSP) was launched with World Bank assistance in November 2004. The project envisaged data collection on a number of communicable as well as non-communicable disease risk factors, but later focused on epidemic prone diseases only in 2007 on the recommendations of international and national experts. The project was extended for 2 years up to March 2012. The IDSP is proposed to continue as Integrated Disease Surveillance Programme in 12th Five Year Plan (2012-17) from domestic budget only. Annual outlay for 2012-13 (Rs. 63 Crore) has been approved.

##### Project Components

- Integration and decentralization of surveillance activities through establishment of surveillance units at Centre, State and District level.
- Human Resource Development – Training of State Surveillance Officers, District Surveillance Officers, Rapid Response Team and other Medical and Paramedical staff on principles of disease surveillance.
- Use of Information Communication Technology for collection, collation, compilation, analysis and dissemination of data.
- Strengthening of public health laboratories.



## **Current Status of IDSP Implementation**

Surveillance units have been established at all State and District Headquarters (SSUs, DSUs). Central Surveillance Unit (CSU) is integrated in the National Centre for Disease Control (NCDC), Delhi.

## **Human Resources and Training**

Considering the non-availability of health professionals in the field of epidemiology, microbiology and entomology at district and state level, Health Ministry approved the recruitment of trained professionals under National Rural Health Mission (NRHM) in order to strengthen the disease surveillance and response system by placing one epidemiologist each at state/district headquarters, one microbiologist and entomologist each at the State headquarters. The recruitment of 301 epidemiologists, 61 microbiologists and 22 entomologists has been completed under IDSP till September 2012. Induction training to 261 epidemiologists, 56 microbiologists and 16 entomologists has been completed. Training of State/District Surveillance Teams (Training of Trainers) and Rapid Response Teams (RRTs) has been completed in all 35 States/UTs.

The main focus of training for State level participants is on basics of disease surveillance, concepts of epidemiology and data management, whereas the district training focuses on correct procedures of data collection, compilation and reporting and outbreak response. A need based special two-week disease surveillance and Field Epidemiology Training Programme (FETP) have been initiated for the District Surveillance Officers. 530 District Surveillance Officers have already been trained in this special 2- week FETP.

## **IT Network**

The IT network has been established at 776 sites (connecting all the State/UTs and district headquarters, medical colleges, Infectious Disease Hospitals (IDHs), and premier health institutions) for data entry, data transference, analysis and video conferencing with the help of National Informatics Centre (NIC) and Indian Space Research Organization (ISRO) to provide the terrestrial and satellite connectivity. However, satellite connectivity is not available since September 2010. Recently, ISRO has allocated the bandwidth and has started migration of network from GSAT-3 to GSAT-12 to restart the satellite connectivity.

IDSP has started one stop portal (<http://www.idsp.nic.in>) for data access and transmission, trend analysis and free resources like training material, guidelines, advisories for health personnel related to disease surveillance.

A 24x7 call center was established in February 2008 to receive disease alerts on a Toll Free telephone number (1075). The information received was provided to the States/Districts surveillance Units for investigation and response. The call centre was extensively used during H1N1 influenza pandemic in 2009 and dengue outbreak in Delhi in 2010. About 2.77 lakh calls were received from beginning till June 2012, out of which more than thirty five thousand calls were related to Influenza A H1N1. IDSP direct contract with vendor for call centre has been terminated from 1 July 2012 as Health Ministry has approved outsourcing of call centre through NIC/NICSI. The Call Centre will be made functional soon.

## **Data Management**

Under IDSP data are collected on epidemic prone diseases on weekly basis (Monday–Sunday). The information is collected on three specified reporting formats, namely “S” (suspected cases), “P” (presumptive cases) and “L” (laboratory confirmed cases) filled by Health Workers, Clinicians and Laboratory staff respectively. The weekly data gives information on the trends and seasonality of diseases. Whenever there is a rising trend of illnesses in any area, it is investigated by the Rapid Response Team (RRT) to diagnose and control the outbreak. Data analysis and actions are being undertaken by respective State/District Surveillance Units. Emphasis is now being laid on reporting of surveillance data from major hospitals. Presently, more than 90% districts in the country report weekly surveillance data on epidemic prone diseases through e-mail or portal.

In addition, States and districts have been asked to notify the outbreaks immediately to the system. On an average of 30-35 outbreaks are reported every week to Central Surveillance Unit (CSU). A total of 553 outbreaks of epidemic prone diseases were reported and responded through IDSP in 2008, 799 outbreaks in 2009, 990 outbreaks in 2010 and 1675 outbreaks in 2011. In 2012, 1311 outbreaks have been reported till September. Earlier only a few outbreaks were reported in the country by the States/UTs.

Media scanning and verification cell was established under IDSP in July 2008 to detect and share media alerts with

the concerned States/Districts for verification and response. A total of 1937 media alerts were reported from July 2008 to September 2012. Majority of alerts were related to diarrhoeal, foodborne and vector borne diseases.

### Strengthening of Laboratories

50 identified district laboratories are being strengthened for diagnosis of epidemic prone diseases. These labs are also being supported by a contractual microbiologist to manage the lab and funds for reagents and consumables. Till date 35 labs in 25 states have become functional. More district public health labs will be strengthened for diagnosis/testing of epidemic prone diseases in the next five years.

In 9 identified States (Uttarakhand, Rajasthan, Punjab, Maharashtra, Gujarat, Tamil Nadu, Karnataka, Andhra Pradesh and West Bengal), a referral lab network has been established by utilizing the existing 65 functional labs in the medical colleges and various other major centers in the States and linking them with adjoining districts for providing diagnostic services for epidemic prone diseases during outbreaks. Based on the experience gained, the plan will be implemented in the remaining 26 States/UTs by linking at least 125 additional medical college labs with the districts in next five years.

In addition, a network of 12 laboratories has been developed for Influenza surveillance in the country. 11 labs have become functional, while the lab at Shillong will become functional shortly.

### Proposal for 12th Plan

- The IDSP is proposed to continue in 12th Plan with outlay of Rs. 851 crore from domestic budget only. Annual outlay for 2012-13 (Rs.63 crore) has been approved.
- All activities being undertaken presently to continue.
- All SSUs and DSUs will have capacity to collect and manage data and respond to outbreaks.
- Data would be collected from all districts through portal. Emphasis would be on collection of data from Major Hospitals.
- Medical colleges will be fully involved under IDSP.
- About 190 medical college labs will be linked to 500 district public health labs to support the diagnosis of epidemic prone diseases during outbreaks.

### B. Upgradation of National Centre for Disease Control

- Statutory approvals for upgradation of NCDC Building from the local authorities were received as under:

Archaeological Survey of India (ASI): 08.02.2011, Airport Authority of India: 28.02.2011, Delhi Fire Service: 08.04.2011, Heritage Conservation Committee (HCC): 18.10.2011, Delhi Urban Arts Commission (DUAC): 15.11.2011, Delhi Development Authority: 12.03.2012, Approval on Layout Plan by Standing Committee of MCD: 27.6.2012, Department of Forest & Wild Life, Govt. of NCT of Delhi: 03.8.2012, Authentication of Layout Plan by Chief Town Planner, Addl. Commissioner (Engg.) and Municipal Secretary, NDMC: 06.9.2012.

- The Building Deptt, NDMC has forwarded the individual Building plan to DUAC and DFS on 5.1.2012 and 8.11.2012 respectively and approvals are awaited.
- The National Buildings Construction Corporation (NBCC) has been engaged as an agency for construction of civil works and services. They have further engaged M/s. Era Infrastructure Engineering Limited for construction work by issuing Letter of Award (LOA) on 24th April, 2012. A major portion of site including old and new hostel, main park at main gate, animal house, gheese house, PVT building etc have been handed over to NBCC. The contractor has barricaded the site for construction under phase –I and started mobilization of construction material, equipment as well as leveling of the area by demolishing the buildings handed over to them.
- During the current Annual Plan, 2012-13, a provision of Rs.52.25 crore (Revenue: Rs.3.00 crore and Capital: Rs.49.25 crore) has been provided for upgradation of NCDC. For 2013-14 the proposed outlay is Rs. 1.94 crore under Revenue and Rs. 100.00 crores under Capital.
- 103 new Scientific & Technical posts have been created under upgradation of NCDC. 11(eleven) administrative posts have also been created recently.

## C. Division of Parasitic Diseases

### (i) Yaws Eradication Programme (YEP)

Yaws Eradication Programme (YEP) was launched as a centrally sponsored scheme in 1996-97 in Koraput district of Orissa, which was subsequently expanded to cover all the 51 Yaws endemic districts in ten states (Andhra Pradesh, Odisha, Maharashtra, Madhya Pradesh, Chhattisgarh, Tamil Nadu, Uttar Pradesh, Jharkhand, Assam and Gujarat). The programme aimed to reach the un-reached tribal areas of the country.

National Centre for Disease Control has been identified as the nodal agency for the planning, monitoring and evaluation of the Programme. The Programme is implemented by the State Health Directorates through the existing health care system. The number of reported cases has come down from 3751 to nil during the period from 1996 to 2004 and subsequently no case has been reported from any of the states till September 2012.

The programme envisaged achieving its objective through adopting following strategies:

- Case finding: active case search, passive surveillance, rumour reporting
- Treatment of cases and contacts
- Manpower development
- IEC activities
- Multisectoral approach
- Sero –survey in 1-5 year children

Around 16538 sera samples collected from 1-5 years children and examined. All the samples were found negative for Yaws by RPR/TPHA test.

Funds in the form of “Grant-in-aid” are being provided to the states for operational cost to undertake activities under YEP.

### (ii) Guinea Worm Eradication Programme (GWEP)

In 1983-84, National Centre for Disease Control (Formerly: National Institute of Communicable Diseases), was made the nodal agency by the Ministry of Health & Family Welfare, Govt. of India, for planning, co-ordination, guidance and evaluation of Guinea Worm Eradication Programme (GWEP). At the beginning of the Programme i.e. in 1984, about 40,000 GW cases were reported in 12,840 guinea worm endemic villages across 89 districts

of seven endemic states, viz. Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra and Rajasthan. The State of Tamil Nadu remained free from GW disease since 1982.

The last guinea worm case in India was reported in July 1996 in Jodhpur district of Rajasthan. World Health Organization certified India as guinea worm disease free country in February 2000. However, routine surveillance continues till the disease is eradicated from the globe.

## D. Zoonosis Division

The objectives of the division is to provide technical support for outbreak investigations, conduct operational research and trained manpower development in the field of zoonotic diseases and their control in the country. Diagnostic support is provided to State Governments for laboratory diagnosis of zoonotic infections of public health importance.

The Division has Reference Laboratory for Plague. It has also been recognized by the World Health Organisation as WHO Collaborative Centre for Rabies. Currently the work is being carried out on following Zoonotic diseases: Plague, Rabies, Kala-azar, Arboviral infections (Dengue, JE & Chikungunya), Toxoplasmosis, Brucellosis, Leptospirosis, Rickettsiosis, Hydatidosis, Neurocysticercosis and Anthrax.

The Central Animal Facility for breeding & maintenance of different species of laboratory animals is being supervised by the Division.

Major Role and Activities of Division during 2012 are as follows:

### a. Referral diagnostic services for the years

Diagnostic Services	2012 (01.04.2012 – 30.09.2012)
<b>Rabies</b>	
(a) Post-mortem diagnosis in animal brain samples by Negri body, FAT, BT	07
(b) Diagnosis in hydrophobia cases by	04
(c) Assessment of antibodies by ELISA test	
(i) Human	186
(ii) Animal	11

<b>Kala-azar</b>	
(a) Parasitological diagnosis by smear examination and culture	32
(b) Serological diagnosis by IFA test	113
<b>Toxoplasma</b>	
Serological and diagnosis by IFA test	154
<b>Brucellosis</b>	
Serological diagnosis by tube agglutination test	48
<b>Rickettsiosis</b>	
Serological diagnosis by Weil Felix test	285
<b>Hydatidosis</b>	
Serological diagnosis by ELISA	16
<b>Hanta Virus</b>	
Serology by ELISA	05
<b>Arboviral diseases</b>	
Serological diagnosis by IgM ELISA test for Japanese Encephalitis.	
(i) Human sera samples	290
(ii) Human CSF	424
IgM ELISA test for Dengue	276
IgM ELISA test for Chikungunya	77
<b>Plague</b>	
Serological diagnosis by PHA and PHI in rodent Sera	611
Culture for isolation of Y.pestis from rodent organs	3024
<b>Neurocysticercosis</b>	
Serological diagnosis by ELISA	132
<b>Leptospirosis</b>	
Serological diagnosis by ELISA	210
<b>Anthrax</b>	
<b>Viral isolation</b>	
Chikungunya	-
Dengue	15
JE	100
Rabies	Brain - 5 CSF - 2
<b>Lymes Disease</b>	Nil
<b>Hanta virus</b>	Nil

#### **b (1). Research projects undertaken**

1. To study the epidemiological profile of Kala-azar patients in Delhi
2. Serological studies in Toxoplasmosis in different Delhi Hospitals.
3. Comparative analysis of various serological tests in diagnosis of Toxoplasmosis.
4. Surveillance of Plague in different parts of the country.
5. Specificity of Passive haemagglutination Test for Y.pestis.
6. Use of ELISA in serological diagnosis of Neurocysticercosis.
7. Molecular characterisation of strains of Leishmania.
8. Sero-epidemiology of Brucellosis in high risk population in Delhi
9. Standardization of appropriate diagnostic methods for sero-diagnosis and sero-epidemiology of human and animal leptospirosis
10. Surveillance of arboviral infections in man and animals
11. Isolation of rabies virus in-vitro (Neuroblastoma 2A cell lines).
12. Study of prevalence of Rabies in peridomestic and wild rodents.
13. Standardization of Rapid Fluorescent Focus Inhibition Test (RFFIT) for rabies antibody titer.
14. Isolation of Chikungunya virus in mouse neuroblastoma cell lines.
15. Serological studies in clinically suspected cases of hydatid disease
16. Sero-epidemiological studies for rickettsial diseases (scrub typhus & Indian tick typhus) in patient with pyrexia of unknown origin

#### **b (2). Pilot Projects on Prevention and Control of Human Rabies and Control of Leptospirosis.**

The Zoonosis division is presently undertaking two projects as "New initiative" under 11th five year plan namely:-



1. Pilot Project on Prevention and Control of Human Rabies
2. Pilot Project on Control of Leptospirosis

**The Pilot Project on Prevention and Control of rabies** was carried out in five cities via Ahmedabad, Bangalore, Pune, Madurai and Delhi with the objective of reducing mortality due to rabies. Achievements were made with regards to management of animal bite cases, enhancing awareness in general community regarding timely and appropriate post exposure treatment, implementation of ID route for PEP, strengthening diagnosis capabilities, strengthening intersectoral coordination and strengthening IEC activities. The strategy was found to be feasible and implementable. During 12th Five Year Plan a proposal is placed for National Rabies Control Programme and 30 cities in the country will be included with above mentioned strategy alongwith intersectoral coordination with Animal Welfare Board for control of rabies in animals.

**The Pilot Project on Control of Leptospirosis** was carried out in four districts of Gujarat, two districts of Kerala, two districts of Tamil Nadu, three districts of Maharashtra and two districts of Karnataka. The focus of the project was to reduce morbidity and mortality due to leptospirosis. Achievements were made with regard to development of trained manpower, strengthened diagnostic laboratory, strengthened patient management facilities, development of intersectoral coordination and strengthened IEC-Prototype. The strategy was found to be feasible and implementable. During 12th Five Year Plan the strategy tested will be rolled out in all the endemic states.

#### **E. Centre for AIDS & Related Diseases**

Details of the activities carried out at this Centre  
Results of participation in National EQAS

- This Centre participated in National EQAS for HIV serology conducted by NARI, Pune. The Centre gave 100% concordant results of HIV serology.
- Centre participated in EQAS for CD4 cell estimation conducted by National AIDS Research Institute (NARI), Pune in collaboration with QASI, Canada, thrice during the year. The Centre consistently performed satisfactorily during the period.
- Participated in EQAS for VDRL/RPR testing conducted by Regional STD Teaching, Training &

Research Center, VM Medical College & Safdarjung Hospital, New Delhi. The results of qualitative RPR testing of the proficiency panels had 100% concordance with the report provided by Safdarjung Hospital.

#### **Dried Blood Spot (DBS) Testing**

- This Centre has been designated as one of the reference laboratories for testing of Dried Blood Spot (DBS) samples from high risk sites as part of HIV Sentinel Surveillance Round started from February, 2011 organized by NACO.
- A total of 32 high risk sites in the three states of Delhi (11 sites), Haryana (18 sites) and Jammu & Kashmir (3 sites) were allocated to this centre.
- This centre has completed DBS testing of 7376 samples received from 32 high risk sites from Delhi (11 sites, 2499 samples), Haryana (18 sites, 4413 samples) and Jammu & Kashmir (3 sites 464 samples) as part of HIV sentinel surveillance Round activities of NACO.
- Results of DBS testing were sent to the assigned Regional Institute to All India Institute of Medical Sciences (for Delhi) and Post –graduate Institute of Medical Education and Research, Chandigarh (for Haryana and Jammu & Kashmir) for further compilation of the report.

#### **Re-assessment of NACO State Reference Laboratories (SRLs) for HIV testing**

To ensure the quality of HIV testing under NACP, NACO has an external quality assessment scheme (EQAS) which has a designated apex laboratory (NARI, Pune), 12 NRLs and 118 SRLs. During the period the following NACO SRLs were assessed:

- State Reference Laboratories (SRLs) at Bangalore and Mysore
- State Reference Laboratories (SRLs) at BJMC, Pune and Government Medical College, Aurangabad
- State Reference Laboratories (SRLs) at Nair Hospital and LTMC, Mumbai.
- State Reference Laboratory (SRL) at Himalayan Institute of Medical Sciences, Dehradun.
- State Reference Laboratories (SRLs) at Government Medical College, Jammu and Government Medical College, Srinagar

- Technical audit of Consortium activity at NIMHANS, Bengaluru

#### **NABL Accreditation**

- Centre got NABL accreditation in the field of Medical testing according to ISO 15189:2007. Became first government laboratory in Delhi who got this accreditation.

#### **Short term training programmes conducted**

- A total of 16 summer trainees from various universities underwent summer training at this Centre.

#### **F. Microbiology Division**

**Coxsackie B Virus:** To find out the association between myocarditis and Coxsackie B virus, paired serum samples from 12 cases from different hospitals were received and tested. All the samples were found negative to Coxsackie B group (B1-B6) virus infection.

**Measles:** Sixty-three (63) clinically suspected cases of SSPE were reported to the laboratory. Nineteen (19) of these cases were confirmed by laboratory tests showing of high titre antimeasles antibodies in serum and CSF samples. No such case, so far, is reported following measles vaccination.

Twenty-five (25) serum samples from suspected measles cases were received. Ten (10) were positive for anti measles IgM antibodies.

**Viral Hepatitis:** A total of 672 serum samples were received and tested for various markers of viral hepatitis. Out of the samples tested, there was serological evidence in 92 of Hepatitis E, 14 of acute and chronic Hepatitis B and 48 cases of Hepatitis C.

**Congenital Viruses:** These viral infections result in abortions and congenital malformation in infants. A total of 329 samples from women having bad obstetric history and congenitally malformed babies and viral encephalitic cases were tested for antibodies against Rubella, Cytomegalo virus & Herpes simplex virus infections. 140 serum and 90 CSF were tested for HSV encephalitis.

**Viral Encephalitis:** 111 cases from viral encephalitis from Delhi hospitals were received and tested for anti-measles anti HSV, anti Rubella, Vericella, mumps, EBV IgM, EV-71, and Anti Parvo B-19 antibodies.

#### **Influenza Surveillance:**

36227 Nasal and throat swabs from all over the country from suspected cases of Swine flu were tested for respiratory including Swine flu. Out of which 28132 were negative and 8095 were found positive for Influenza A H1N1 till date.

**Influenza Surveillance:** 890 clinical samples collected from Delhi under influenza surveillance and referred from suspected cases of influenza from Delhi and other states of the country were processed for rt-RT PCR for detection of influenza A; subtypes and influenza B infection. 66 cases were positive for pandemic influenza A wine flu; 8 cases were detected for seasonal influenza A (seasonal) untypable, 73 cases positive for Influenza B and 1 positive for influenza A (H3N2).

#### **National Polio Surveillance:**

**AFP Surveillance:** The Virology laboratory of NCDC has been accredited as WHO National Polio Lab to assist NPSP on lab based surveillance. In this regard, 12198+21 contact stool specimens, 6202 cases were received and tested. Isolates found positive for polio virus were processed for further typing and intratyping characterization. No wild poliovirus has been reported till date.

**Supplementary Surveillance:** As per Govt. of India, Ministry of Health & FW, NCDC has been selected to carry out supplementary surveillance by collecting sewage samples on weekly basis from 7 sites selected by NPSP to see the presence of any wild poliovirus in the sewage. In this regard, 245 sewage samples have been collected and tested at NCDC. Positive isolates were tested at NCDC, Delhi. No wild poliovirus since October, 2010 has been reported.

**Tuberculosis:** A total of 90 clinical samples (mainly sputum and few other samples like CSF, pleural fluid, Pus and urine) obtained from suspected cases of tuberculosis were subjected to AFB smear examination and Mycobacterial culture using LJ medium and liquid culture using rapid BACTEC method. Twenty-five (25) samples were found to be positive in culture (only 10 samples were found to be AFB smear positive). In addition, 136 serum samples obtained from different States of India and evaluated serological diagnostic RPR test kits for YAWS Diseases. Not found positive samples.

**Bacteriology:** 23 samples (including CSF, blood and slides) obtained from suspected cases of pyogenic meningitis were subjected to culture examination and rapid latex agglutination test for antigen detection. 156 clinical samples from suspected diphtheria cases in Delhi were processed for diphtheria culture. 128 urine samples were subjected to culture examination. Blood culture was carried out in 41 samples from cases of enteric fever. 34 pus, throat swabs and other samples were subjected to culture examination.

**Antimicrobial Resistance (AMR) Study:** Monitoring of carbapenems resistance in environmental, Community and Hospitalized Patients Having Urinary Tract Infections (UTI). Four hundred and forty eight samples (766 isolates) from environmental, Community and Hospitalized Patients Having Urinary Tract Infections (UTI) for AMR Studies.

**Diarrhoeal Diseases Laboratory:** A total of 322 stool samples and Rectal swabs were collected from different hospitals of Delhi out of which, 83 are positive for (74 *Shigella*, 1 *Inaba* and 8 *NAG*), 1 *Salmonella*, 5 *Shigella*, 19 Enteropathogenic *E.coli* and 2 were positive for *Clostridium difficile* toxin A & B.

**Environmental Laboratory:** A total of 136 (One hundred and thirty-six) drinking water samples belonging to different drinking water sources (collected during outbreak investigations of water borne diseases, samples from air-line caterers serving VVIP flights, referred samples from schools, hospitals, domestic sources etc.) were tested for bacteriological standards by the MPN Coliform method. 102 (75%) of these were found satisfactory, while the remaining 34 (25%) were unsatisfactory. Other than this, 196 sewage water samples collected and processed for polio virus surveillance in Delhi. Samples sent to Virological Lab, NCDC for polio virus isolation and 100 H2S strip vials were distributed for different surveillance and other outbreak investigations.

#### **Mycology Laboratory:**

Mycology Laboratory diagnostic services were provided to referred patients from different Government Hospitals / Medical Centers of Delhi.

Out of **35 clinical samples** (CSF - 17; Tissue - 09 ; Blood : 05 ; Pus – 1, Fluid – 01 and Swab - 2 were isolated.

In addition assisted in measles, jaundice, encephalitis and Diarrhoeal disease outbreaks and conducted applied research projects.

#### **G. Division of Biochemistry & Biotechnology**

The division provides laboratory support to epidemiological studies, surveys and outbreaks, operational research, and provides advisory role and other multifarious activities towards prevention and control of a cascade of epidemic prone disease of larger public health importance and also participates in teaching, training, and other academic and manpower development activities, conference, workshops, seminar, symposia etc organized by the Institute from time to time in connection of various National Health Programmes. The division is collaborating with different divisions of NICD and with outside organizations/ Institutes. The major thrust areas of activities are Hepatitis (HBV/HCV), HIV, H5N1 Avian influenza, H1N1 Swine Flu, , Dengue, Chikungunya, CCHF, Anthrax, *Neisseria meningitidis*, *Salmonella typhi* & paratyphi, Malaria, Leishmania and other epidemic-prone diseases. The division is also imparting drug resistance studies specially related to MDR-TB and NDM-1 and chemical analysis of water for fluoride, pesticide induced genotoxicity, iodine assay in salt and urine, free T3, free T4 & TSH assay for thyroid function under NIDDCP and estimation of biochemical profile, etc.

The division is providing summer training/project training to M.Sc/B.Tech students from different Universities/ Institutes and also conducting research activities leading to Ph.D degree from GGSIP University, Delhi. The division has two main laboratory wings.

##### **1. Biotechnology/Molecular Diagnostics Wing**

- i) *Biotechnology & Molecular Biology Laboratory*
- ii) *Molecular Diagnostics & Gene Cloning Laboratory*

Providing laboratory support for Molecular Diagnosis & Molecular Epidemiology, Specialized Training and Applied Research in the field of genomics of over 25 important epidemic-prone diseases of greater public health importance viz. Pandemic H1N1 (Swine flu), Dengue, Chikungunya, Hepatitis B & C, HIV-1, SARS, H5N1 (Avian influenza), Polio, Meningitis, Anthrax, Rabies,

Malaria, Leptospirosis, MDR-TB, CCHF, NDM-1, H1N1 etc. This includes the following major aspects :

- Fool-proof Molecular Diagnostic support for confirmation of pathogen.
- Tracing the origin and source of infection of emerging/re-emerging diseases.
- Tracking-down the route's of pathogen transmission.
- Identifying reservoirs sustaining transmission.
- Identifying new, emerging and re-emerging pathogens.
- Genotyping and Sub-typing of strains.
- Characterizing drug-resistant strains.
- Identifying links between cases and infections.
- Linking pathogen variants to endemicity and epidemicity.
- Monitoring impact of immunization programs.
- Monitoring the progress of disease control activities.
- Maintenance of "Gene Bank" of important disease pathogens.
- Molecular typing of drug resistant strains of bacterial pathogens etc.

## 2. Biochemistry Wing

### i) Clinical Biochemistry Laboratory

### ii) National Reference Lab for Iodine Deficiency Disorders

- Imparts specialized referral services and support to outbreak investigations for providing supportive data related to biochemistry profiles on clinical specimens collected during specific investigations and outbreaks.
- Analysis of iodine in salt and urine samples for Iodine deficiency disorders (IDD) analysis, thyroid function test in referred serum samples, chemical analysis of water for fluoride toxicity, and training under NIDDCP for man power development.
- Studies on heavy metal and pesticides induced Genotoxicity, chemical analysis of water, particularly fluoride content, etc.

### Broad mandate of the Division

- **Referral Molecular Diagnostic Support Services**
  - >3000 PCR/RT-PCR/gene fingerprinting/sequencing for other important disease pathogens

(e.g. H1N1, Dengue, HIV, HBV/HCV, Chikungunya, MDR-TB, NDM-1 etc) carried-out.

- >2,000 referral diagnostic tests for Pandemic H1N1 virus jointly with the Division of Microbiology.
- >200 novel gene sequences of important human pathogens accepted and allotted accession numbers by the Global Genome Bank (NCBI), NIH, USA.
- 1000 clinical diagnostic tests e.g. a cascade of biochemistry profiles including thyroid function test Free-T3, Free-T4, TSH were carried-out.

### ➤ **Specialized Training**

- Imparted training to students leading to Ph.D degree (one student awarded Ph.D degree in 2011 from GGSIP University, Delhi).
- Imparted training and teaching to students of perusing **MPH course** at NCDC under GGSIP University, Delhi.
- Specialized training imparted to > **35 M.Sc./B.Tech** students perusing from various **Indian** universities and nominees of **Indian Academy of Sciences**.

### ➤ **Applied Research**

- 15 application-oriented research projects on important infectious diseases are underway.
1. Molecular characterization and phylogenetic analysis of pandemic H1N1 and the human Influenza viruses.
  2. Genotyping & molecular characterization of dengue virus isolates with emphasis on phylogenetic studies.
  3. *In-vitro* and *in-silico* studies on HA gene fingerprints of Pandemic Influenza A (H1N1) virus.
  4. Early Infant Diagnosis (EID) of HIV-1 in infants born to HIV infected mothers by tracking HIV-1 pro-viral DNA fingerprints.
  5. Monitoring of vital mutation in genes of currently circulating influenza viruses.
  6. Molecular typing of HIV-1 drug resistance genes in Indian strains of HIV-1 subtype C
  7. Computational and molecular analysis of HIV 'Viral Protein-U' in pregnant women



8. Genotypic analysis of *nef* gene in HIV-1 infected rapid progressors and long term non progressors
9. Multi gene based molecular diagnostics & genetic heterogeneity of currently circulating Indian strains of HIV-1 subtype C.
10. Development of DNA and mRNA based molecular diagnostics arrays for detection of 65 Kda & 85B antigen genes of *M.tuberculosis* in endometrium biopsy from infertile women undergoing infertility management.
11. Full length genome nucleotide and in-silico deduced amino acid mutations and phylogenetic analysis of Indian strains of HBV
12. Molecular diagnosis, genetic heterogeneity and phylogenetic analysis of chikungunya virus isolates in different parts of the country.
13. Real time PCR standardization of Env, NS3, NS5A, NS5B genes of HCV viral load determination
14. Gene sequencing analysis in-vitro of AES causing viruses and in-silico designing of Si-RNA.
15. Determining the HLA class I alleles associated with disease protection, and those alleles associated with susceptibility to HIV disease in the Indian population

#### Support to Outbreak Investigations:

- Referral molecular diagnostic support given during various outbreaks:
  - Pandemic Influenza A (H1N1)
    - Provided highly specialized training to the lab in-charges and supportive staff of AI Labs under IDSP network.
    - Provided technical support and guidance to set-up many government and private laboratories in the country
    - Provided support to prepare QC Panels for validation,
    - Provided technical and logistic support to AI Labs under IDSP network.
- Dengue outbreak (Delhi, 2012)
- Chikungunya outbreak (Delhi, 2011-12)
- Influenza B outbreak (2011)
- Hepatitis C outbreak (UP, 2011)

#### H. Division of Malariology & Coordination

1. The division has a malaria laboratory to check/cross check blood smears of clinically diagnosed cases for the presence of malarial parasites, referred by various hospitals of Delhi and surrounding districts of Uttar Pradesh and Haryana state. During the year 2012 upto 30th September, 2012 a total of 998 blood smears were examined, of which 84 were found to be positive 73 for *P.vivax* and 11 for *P. falciparum*.

2. A total of 731 students from different institutes were given short term training as follows:

S.No.	Date	Institutions	No. of participants
1	05-01-12	IIInd yr P.C. B.Sc Nursing and IV yr B.Sc Nursing students of Laxmi Memorial College of Nursing, Balmatta, Mangalore	60
2	06-01-12	IIInd yr P.C. B.Sc Nursing and IV yr B.Sc Nursing students of Laxmi Memorial College of Nursing, Balmatta, Mangalore	64
3	11-1-12 to 13-1-12	Conducted short term training course for MD (Microbiology) students from Mulama Azad Medical College, Patel Chest, Medical sciences, Delhi University	10
4	13-1-12	4th year B.Sc & 2nd year Basic B.Sc Nursing students, from St. Andrews College of Nursing, Pune	43
5	02-02-12	2nd year B.Sc Nursing students of College of Nursing, RML, Delhi	50
6	07-02-12	Participants of "Diploma in Health Promotion Education" for paramedical health workers of Family Welfare Training & Research Centre, Khetwadi, Mumbai	18

7	07-02-12	GNM Nursing students of Dr. D.Y. Patil Institute of Nursing Education, Nerul, Navi Mumbai	60
8	07-02-12 to 08-02-12	Seven Senior Veterinary Officers of RVC, Indian Army of Remount Va Pashuchikitsa Corps Center aur College, C/O 56 APO	7
9	09-02-12	3rd year B.Sc Nursing students of College of Nursing, RML, Delhi	50
10	15-02-12	MBBS Army Officers of Army college of Medical Sciences, Delhi cantt	25
11	21-02-12	4th year B.Sc Nursing students of College of Nursing, Sir J.J. Group of Hospitals, Mumbai	55
12	23-02-12	M.Sc Nursing students of M.M. College of Nursing, Mullana, Ambala	5
13	16-03-12	Final year BHMS students of Dr. Padiar Memorial Homoeopathic Medical College, Chottanikkara P.O. Ernakulum, Kerala	35
14	19-03-12	First year students of Post graduate Diploma in Health and Hospital Management (PGDH HM) of International Institute of Health Management Research, Dwarka, New Delhi	35
15	23-03-12	IV year B.Sc ( Basic) Nursing students of St. Martha's Hospital, Bangalore, Karnataka	55
16	15-5-12	B.Sc IV year Nursing students of Sahyadri College of Nursing, Adyar, Mangalore, Karnataka	40
17	23-5-12	MBBS students of Army College of Medical Sciences , Delhi Cantt	11
18	20-6-12	Participants of Professional Development Course (PDC) in Management, Public Health and Health Sector reforms for District Medical Officers of Rajasthan	15

19	27-7-12	M.Sc Public Health Entomology students from Vector Control Research Centre, Puducherry	12
20	21-8-12	Medical Officers of Community Medicine , AFMC, Pune	11
21	27-8-12 to 30-8-12	MD students of Department of Community Medicine and Public Health, Chhattarpati Sahuji , Maharaj Medical University, Lucknow (U.P)	5
22	21-9-12	Visit of 65 Air warriors of AFINBC, Protection, AF Station Arjan garh, New Delhi	65
<b>Total</b>			<b>731</b>

### 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, providing technical support and to develop trained manpower in the field of vector-borne diseases and their control. 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 achievements are highlighted below:

#### Major achievements

1. Based on the entomological surveillance of Dengue vector mosquitoes early warning signals were issued to Municipal Health Officer, MCD, Delhi to take appropriate preventive measures to check the breeding of Aedes mosquitoes.
2. A training course on Vector Borne Diseases and vector control for DMO's sponsored by NVBDCP was organised by the division of CME & VM from 14 May to June 2012.
3. Dr Kaushal Kumar, HOD has participated a TOT on Scrub Typhus surveillance eco-entomology for Medical Officers of Kerala State from 23 to 29 October 2012.
4. First time map for distribution of presence of infected Aedes mosquitoes in Delhi were prepared. List of high-risk localities was communicated to Municipal

Corporation of Delhi and NVBDCP for action taken. Also presented this report in the meeting of Hon'ble Health Minister of Delhi Govt. and meeting on ACTION PLAN meeting organized by NVBDCP.

5. Reviewed a research papers received from Bulletin of the World Health Organization. Title: Dengue Surveillance and Control in Singapore
6. Consequent upon information of rodent mortality in residence of Hon'ble member of Parliament, at 4 - Safdarjung Lane, Delhi, on 16.07.2012 an rodent survey was under taken & two rodents namely Rattusrattus and Suncusmurinus were trapped . No ecto-parasite was detected from the rodents. None of the rodent organ was found positive for the causative organism of plague i.e. Yersinia pestis.

### On-going Research Projects

1. "Development of a protocol for entomological surveillance and for detection of early warning signals for Dengue outbreak in Delhi".
2. "Mapping of distribution of dengue vectors and dengue virus activity in different places in National Capital Territory of Delhi for detection of early warning signals for Dengue outbreak" (for all 12 MCD Zones & NDMC area of Delhi)—WHO approved project has completed in April 2012 and report submitted to WHO
3. Studies on the presence of Dengue/JE Virus in vector mosquitoes in some endemic areas in India.
4. Entomological surveillance of vector of Yellow Fever, dengue and chickungunya mosquitoes in and around international airports and sea ports and vector control measures thereof.
5. Studies on rodent-flea association at major Sea Ports of India.
6. Studies on the role of certain Anophelines in the transmission of malaria in parts of India with special reference to Papumpure district, Arunachal Pradesh
7. Entomological surveillance of vectors of Scrub typhus in selected urban, peri-urban and rural set up of Delhi, NCR and other parts of the country.

### I. Epidemiology Division

#### 1. Activities of the Division

1. Organization and coordination of training courses in Epidemiology to develop trained

health manpower. Development of teaching materials such as Modules, Manuals etc. on disease surveillance and outbreak investigation of epidemic prone communicable diseases.

2. Investigation of outbreak of diseases of known/ unknown etiology and recommend measures for its prevention and control to the States / UTs of the country. Provision of technical support to State government for investigation and control of disease outbreaks.
3. Provision of administrative and technical supervision to three branches of the Institute viz., Alwar (Rajasthan), Jagdalpur (Chhattisgarh) and Conoor (Tamil Nadu).
4. Provision of technical support to various National Health Programmes in the form of developing guidelines for control, manpower development, evaluation of different components / indicators.
5. Assisting the Director for publication of monthly Bulletin "CD Alert".
6. Carry out field research on different aspects of communicable diseases.

### 2. Outbreaks Investigated/ Rapid Health Assessment

During the period, officers from the division of Epidemiology carried out investigations of outbreaks in the country and suggested containment measures to the authorities. Some of the outbreak investigations are as follows:

- Dr. Himanshu Chauhan, Assistant Director visited Bhubaneswar, Odisha as a part of central team for Bird Flu containment activities from 7 – 16 February 2012.
- One Officer visited Muzaffarpur Distt. of Bihar for AES outbreak investigation from 12 – 23 June 2012.
- Dr Aakash Shrivastava, Chief Medical Officer visited Nagpur Region 24-29 July 2012 as part of the Central Government Team to investigate AES outbreak
- Dr. Himanshu Chauhan, Assistant Director visited Muzaffarpur Distt. Bihar for followup of AES outbreak investigation from 10-15 August 2012.

### 3. Manpower Development

National Centre for Disease Control (NCDC), Delhi is a WHO Collaborating Center for Epidemiology and training. The division of Epidemiology conducts regular training programmes and numerous other short-term training activities every year. The course curricula of these training programmes are designed and tailor-made to develop the necessary need-based skills for the health professionals. The participants to these courses come from different States/ Union Territories of India. In addition, trainees from some of the neighbouring countries like Nepal, Bhutan, Sri Lanka, Thailand, Timor Leste, Maldives and Indonesia also participate in some of the training programmes.

### 4. Training Courses Organized during the Reported Period

- Three months Regional Field Epidemiology Training Programme for the health personnel of South East Asia Region started on 23rd July 2012. A total of 11 participants from 7 countries attended the training programme.
- 8th batch of MPH (FE) was inaugurated on 1st Aug 2012 in which 8 students have joined.

### 5. Global Disease Detection- India Centre

**Global Disease Detection- India Centre** in collaboration with CDC Atlanta started functioning at NCDC in 2012. The objectives of the GDD-India Centre are to build epidemiological and laboratory capacity for detection & response to Emerging & Re-emerging infectious diseases. The focus will be on development of human resources, both in Epidemiology & Laboratory and sharing best practices for detection and response to emerging infections whenever required.

- Under GDD-India Centre, the following workshops were organised:
- Workshop on food borne infections/poisoning in collaboration with GDDIC and WHO-GFN from 18 - 20 January 2012 at NCDC, Delhi
- Joint ICMR-NCDC-NVBDCP-GDD-IC Workshop on Public Health & Research Priorities on Japanese Encephalitis/Acute Encephalitis Syndrome was organized at SGPGI, Lucknow from 24 – 26 May 2012.

**Epidemiological Intelligence Service (EIS)**, a specialty training programme modeled on US EIS training with emphasis on “learning by doing”, was launched on 4th October 2012. It is a Govt of India initiative in collaboration with US, Centre for Disease Control, Atlanta. A total of 8 Officers are attending the training programme.

**CD Alert:** An important tool for Rapid Dissemination of Information towards Control of Diseases.

CD Alert is a monthly newsletter of the National Centre for Disease Control, Delhi, Directorate General of Health Services, to disseminate information on various aspects of communicable diseases to medical fraternity and health administrators. It is widely circulated to different parts of the country including Directorates of Health Services of different States, Districts, Primary health Centres, Medical Colleges and individuals.

Many a times, the important topics covered in CD Alert have been reproduced, in part or whole, by Indian Medical Association for dissemination of knowledge.

The first issue was published in August 1997 on emerging and reemerging diseases and a total of seventy five issues have been published so far. Issues have been published on commonly known topics which have also been updated from time to time.

The CD Alerts give an inside view of the disease including the global scenario, Indian scenario and also the diagnostic facilities of the particular disease within our country. The CD Alert becomes a handy tool for the Rapid response Teams for management and containment operations in outbreak/ epidemic situations.

### 15.21 LADY READING HEALTH SCHOOL, DELHI

Lady Reading Health School, Delhi considered as one of the pioneer institutions and first of its kind for training Health Visitors was established in 1918 under the Countess of Dufferin Fund for training Nursing personnel for Maternity & Child Health service programme. 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 Visitors trainees from all over India. Duration of the course was 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 personnel 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

### **1. Auxillary Nurse-Cum-Midwife Course under (10+2) Vocational Scheme**

This course is affiliated to Central Board of Secondary Education. Admission capacity of the course is 40. All 40 students plus one student of 2009-11 batch appeared in the final examination in March, 2012 and all candidates passed out. At present 40 students were promoted to Class XIIth. The total numbers of ANMs students are 80. The class XIIth is the last batch under CBSE, who will be appearing in final Examination in March, 2013.

The Indian Nursing Council, in its General Body Meeting held on 26th June, 2011 had resolved that the eligibility criteria for A.N.M will be 12th Pass w.e.f. academic year 2012-13, accordingly 40 students have been admitted as per the revised INC criteria.

Delhi Nursing Council will be conducting the examination for the new ANM session 2012-13.

### **2. 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 were selected for January, 2012 to June, 2012 batch. But only 6 candidates joined the course and all passed out in June, 2012. 20 candidates were selected for July to December, 2012 batch and all of them have joined the course. These students will appear in final exam. in December, 2012.

### **3. Diploma in Nursing Education and Administration (DNEA)**

This course is of 10 months duration which starts on the 15th July every year with total admission capacity of 30 students. 10 students appeared in Final Examination in May, 2012 and all of them passed out the examination. At present 9 eligible students were selected but 4 students

joined the course and will appear in May, 2013 examination.

This is the last batch of DNEA Course as per the INC resolution. This course is to be stopped and Post Basic B.Sc (Nsg.) to be started for which proposal has been submitted to MoHFW for approval so that Lady Reading Health School can be upgraded to a College.

### **Ram Chand Lohia MCH and Family Welfare Centre:**

Under Lady Reading Health School Centre provides field practice area for Urban Health learning experience for the students. It gives integrated Maternity and Child Health & Family Welfare Services to over 40,000 population. Weekly clinics are conducted like Antenatal, Post Natal, well baby immunization, family planning clinics door to door services are also imparted to the community by our students and staff. Exhibition and Health education are also organized in the community by MCH centre through students & staff.

Programmes like regular survey are conducted to find out the latest status of Immunization and number of target couple in the community under Ram Chand Lohia Maternity Child Health & Infant Welfare Centre of Lady Reading Health School. The target couple detected during the period was 7054 which gives approximately 70% coverage of family planning and it is also found that there is 100% coverage of all immunization.

### **Other Activities**

Health Education Programme is organized in the school, centre as well as in the community by different approaches i.e. Film shows, baby shows, magic show, cultural programmes, puppet show, role play followed by group exhibitions, speech competition etc.

### **Budget**

The total budget for the institution & family welfare staff of Rs. 3, 00, 00,000 (Rs. Three crore only) for the year (2012-13) and most of the budget utilized in the designated area.

### **15.22 PASTEUR INSTITUTE OF INDIA (PII), COONOOR**

The Institute, registered as Society under the Societies Registration Act, 1960, started functioning as Pasteur Institute of Southern India, on 6th April 1907 and the Institute took a new birth as the Pasteur Institute of India

and started functioning as an autonomous body under the Ministry of Health and Family Welfare, Government of India, New Delhi from the 10th of February, 1977.

### Present Activities

- Production of DPT group of vaccines for supplying to UIP of Govt. of India and also TCAR vaccine in compliance with the revocation of production licence by the Ministry of Health and Family Welfare, New Delhi in February, 2010.
- Academic programmes like Ph.D. in the broad field of Microbiology, Biochemistry and Biotechnology (Part time & Full time) affiliated to Bharathiar University, Coimbatore and M.D (Microbiology) affiliated to Tamil Nadu Dr. M. G. R Medical University, Chennai.
- Institute has a Rabies Diagnostic Lab and treatment center to cater to the need of the general public.

### A. Production Division

The Pasteur Institute of India has been producing the DTP group of vaccines viz., DTP, DT and TT vaccines as its main product, along with sheep brain anti rabies vaccine. The Institute has successfully developed indigenous technology for manufacturing of Vero cell derived and purified vaccine for human use in 2011. The Sheep brain anti rabies vaccine, usually referred as ARV (NT) was phased out.

On receipt of the revocation order, this Institute concentrates to produce and supply of DPT group of vaccines and TCARV in the existing facilities. As well as action is being taken for the creation of newer cGMP infrastructure for DPT vaccine production. After the final certification by Central Drugs Laboratory, Kasauli, six batches of DPT vaccine consisting of 15 lakh doses were released on 26.06.2012 by the Joint Secretary to Govt. of India. Since then till October 2012, 109.50 lakh doses have been supplied to UIP of Govt. of India. Further, it is planned to supply a total quantity of 300.00 lakh doses for the year 2012-13.

### B. Bacterial Vaccine Division

The bacterial vaccine division comprises of three basic functional units, which has been producing bulks for the production of DTP group of vaccines.

- Diphtheria

- Tetanus
- Pertussis

The DTP vaccine production units have adopted modern fermentor technology to produce the toxin (Tetanus and Diphtheria) and bacteria (*B. pertussis*), which are the components of DTP group of vaccines. *PIIC is the first Institute in the country both in public and private sectors to adopt and install the PROSTAK system for clarification of toxin and concentration of formal treated toxin prior to ammonium sulfate fractionation step and concentration of Pertussis organisms.* The prostak units work on Tangential flow principle utilizing appropriate Micro and Ultra membrane cassettes for clarification/concentration of bacterial mass as well as toxoid concentration.

During the period 49.9 million doses of Bulk Purified Diphtheria Toxoid, 36.82 million doses of Bulk purified Tetanus toxoid and 42.00 million doses of Pertussis vaccine prepared. The Institute has the facilities to produce the Vero cell derived purified antirabies vaccine. During the reporting period 92000 doses of TCARV were prepared, concentrated and ready for purification.

**C. Quality Control Division:** The following processes were carried out in Quality Control Division.

- i) Quality Control Tests on Bacterial Vaccines ( DPT group of vaccines) and Tissue Culture Anti Rabies Vaccines
- ii) Sterility media preparation
- iii) Rabies Diagnostic Tests
- iv) In vivo tests and Regular Maintenance of Experimental Animal House

### i) Quality Control Tests

In Process Quality Control (IPQC) tests for 2 batches BPDT, 10 batches of BPTT and 18 batches of *B. Pertussis* pool samples, Aluminium Phosphate Gel samples (17 Nos) were tested for Aluminium Phosphate content and Quality Control tests like Sterility, Specific Toxicity, innocuity, potency and limits for preservative and adjuvants for 44 DPT bulks and 78 lots were carried out in QCD and the Sterility test was conducted for 122 samples.

### ii) Sterility Media Preparation Division

During this period the Sterility Media section was engaged in the preparation of sterility media to rule out the microbial

contamination on various samples and also for the checking of microbes in the classified sterile area in vaccine production. The following table shows the figures of various bacteriological media prepared and utilized.

Nutrient Agar	49.00 Litres	Prepared in Petri dishes and used for various testings
Sabourauds Agar	38.00 Litres	Prepared in Petri dishes and used for various testings
Alternate Thioglycollate broth fluid medium	1070.00 Litres	Used in the sterility testings as per I.P.
Soyabean Casein Digest broth	1130.00 Litres	Used in the sterility testings as per I.P.
Fluid Thioglycollate Broth	65.00 Litres	To use in the sterility test as per I.P.
Nutrient Broth	68.00 Litres	Used in various tests

### iii) Rabies Diagnosis Lab

127 sera samples both from Human, Domestic animals were subjected to Rapid Fluorescent Focus Inhibition Test (RFFIT) for the detection and quantification of Rabies Neutralizing Antibodies using Murine Neuroblastoma-2A cells and 96 well flat bottom Micro titre plates. This includes the samples received from our Dispensary from the patients reporting for consultation and to assess the post vaccination sero conversion for the protection against rabies infection.

### iv) Experimental Animal House

Production Labs and Quality Control Department conducted in vivo tests in the experimental animal house. These experimental animals were maintained in the Experimental animal house during the test period as per test procedure.

### Laboratory Animal Division

Number of animal supplied to internal users:

Mice : 14222 Nos  
Guinea Pig : 12529 Nos

Number of Animals Supplied to neighbouring Institute:

Mice : 1500 Nos

**Gel & Mixing Section:** During the period 33.5 million doses were formulated.

### Quality Assurance

“Quality Assurance” is a wide – ranging concept covering all matters that individually or collectively influence the quality of a product. It is the totality of the arrangements made with the object of ensuring that pharmaceutical products are of the quality required for their intended use.

The following activities were carried out in Quality Assurance Section.

- Regular monitoring of seed stock in cold storage for bacterial vaccine (DPT group of vaccine) and issue to the production laboratories based on the requirement.
- Maintaining the Standard Operating Procedures (SOPs), organogram and responsibilities for all sections of this organization and made amendments based on the request from time to time.
- Issue of Batch Processing Records (BPRs) to various sections and reviewed the same after the completion of the work.
- Environmental monitoring (viable & non-viable particle count) at DPT filling unit and TCARV filling area undertaken.
- Temperature log sheets were prepared and issued to various sections in our organization on monthly basis and reviewed.
- Cold chain monitoring during transport.
- Organized the internal self audit for all the sections.
- 63 DPT vaccine samples sent to Central Drug Laboratory, Kasauli for Inspection and final release. It amounts to 16.9 million doses.

### Academic Activities

- In addition to the usual library activities the industrial visit from different colleges and universities were entertained to the students to enrich their scientific knowledge and to create awareness in vaccine production and immunization procedures etc. During

the period, 50 batches of students have visited the Institute.

- During the period 3 students enrolled for project work and 5 students enrolled for short term training.

**Rabies Treatment Centre & Dispensary:** Dispensary has treated 1350 patients till Oct.2012 for animal bites with Anti Rabies Vaccine.

**Activities undertaken in respect of Establishment of Green Field Manufacturing GMP Facility for Production of DPT Vaccine at PIIC**

- HLL Lifecare Ltd. has been entrusted the responsibilities of establishing the Green Field GMP facility for manufacturing DPT vaccines at PIIC.
- After the extensive discussion with the officers of PIIC, M/s. HLL has prepared the Detailed Project Report and the conceptual lay-out in December, 2011.
- The Expenditure Finance Committee (EFC) meeting under the Chairmanship of Shri P.K. Pradhan, Secretary (HFW) was held on 1st March, 2012 for considering the expenditure proposed to be incurred during 2011-15 for revival of DPT group of vaccines manufacturing facilities as per cGMP norms at Pasteur Institute of India, Coonoor.
- Approval of the competent authority for the estimated cost of Rs.137.02 crore for the revival of DPT group of vaccine manufacturing facilities as per cGMP norms at Pasteur Institute of India, Coonoor was received from the Ministry of Health and Family Welfare, New Delhi on 22nd March, 2012.
- The layout has been submitted to the local municipal authorities for recommendation of the AAA/HACA committees.
- HLL has proposed to complete the construction of GMP establishment in 30 months after the initiation of the construction - i.e., by the end of 2014 - till then production of vaccines shall continue from the old facilities.
- The Equipment Validation takes 6 months and Process validation takes 6~9 months. Then the production of vaccine from the new facility will be initiated and completed with the certification of initial 3 consecutive batches by CDL, in 12 months.

- The proposed annual supply from the new facility will be : DPT- 60Mld; TT –55 Mld; DT- 15Mld- (Total- 130 Mld).

**Details of Grant-in-Aid received from the Ministry of Health & Family Welfare**

The Ministry of Health and Family Welfare, New Delhi has released a total sum of Rs.21.25 Crores to this Institute during the period vide the under mentioned Sanction Orders:

Sl.No.	Sanction letter No. and Date	Amount (in crore)
1.	Letter No.V.11011/03/2012-VI/1 dated 28.05.2012	2.50
2.	Letter No.V.11011/03/2012-VI/2 dated 28.05.2012	2.50
3.	Letter No.V.11011/03/2012-VI/3 dated 05.09.2012	1.25
4.	Letter No.V.11011/03/2012-VI/4 dated 05.09.2012	15.00
<b>TOTAL</b>		<b>21.25</b>

While releasing the Grant-in-Aid, the Ministry has, vide above letter informed that the normal expenditure of the Plan scheme including the administrative expenses of grantee institutions may be met from the above amount. The details of the head wise expenditure incurred are given below:

Sl.No.	Head of Account	Amount (in lakhs)
1.	Grants-in-General	389.26
2.	Grants for creation of Capital Assets	1191.43
3.	Grants-in-Aid Salaries (new)	504.02
<b>TOTAL</b>		<b>2084.71</b>

**15.23 ALL INDIA INSTITUTE OF PHYSICAL MEDICINE AND REHABILITATION (AIIPMR), MUMBAI**

**About the Institute**

All India Institute of Physical Medicine and Rehabilitation, established in 1955, is an apex Institute in the field of



Physical Medicine and Rehabilitation under the Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India.

### Objectives

To provide need based Medical Rehabilitation Services including provision of Prosthetic & Orthotic appliances for persons with neuro-musculo-skeletal (locomotor) disorders.

- To provide training at Under Graduate and Post Graduate level to all categories of Rehabilitation professionals.
- To conduct research in the field of Physical Medicine and Rehabilitation (P.M.R.).
- To provide and promote community based programmes of Disability Prevention & Rehabilitation for the rural disabled.

### Training of Rehabilitation Professionals

Graduate and Post Graduate Courses in Medical and Paramedical Courses are conducted by a team of highly qualified and dedicated Faculty. Health functionaries at the community level are also trained. The Institute has comprehensive facilities for research and teaching in the field of Rehabilitation and Allied Sciences and also having numerous publications and presentations to its credit.

**Departments of the Institute:** There are three main Department of the Institute namely: Medical Rehabilitation, Rehabilitation Engineering and Social Rehabilitation.

### Augmentation of Capacity

- **Prosthetic & Orthotic Department: Endoskeletal Trans-Femoral Prostheses**

The conventional Endoskeletal Transfemoral, Hip-disarticulation and Knee-disarticulation prostheses are bulky, heavy and consume a considerable amount of energy in walking. Taking into consideration these problems the Institute started fitting Trans-femoral amputees with a new design of Advanced/Hi-Tech Endoskeletal Prostheses making use of commercially available Endoskeletal components.

**Occupational Therapy Department: Wheelchair training track** is installed to improve patient's wheelchair skills. It improves upper extremity function, patient's safety skills and functional performance of patients.

### Special Services provided by various Departments

#### ➤ Physical Medicine & Rehabilitation Department

Evaluation for all types of locomotor disability consequent to disorders ranging from congenital, birth injuries, infective, metabolic, traumatic, hereditary or degenerative due to the aging process like Cerebral Palsy, Hemiplegia, Degenerative joint diseases, Spinal Cord Injuries etc.

**Autism** – Special focus is being given to children suffering from autism, learning disability and attention deficits to enable their optimal integration into the mainstream.

#### ➤ Prosthetic and Orthotic Department

- Prosthetic Fitting of a Bilateral Trans-Tibial amputee with Spinal Cord Injury (Paraplegia)
- Ortho-Prostheses for patients with Congenital Anomalies (PFFD)
- SPORT (Symmetric, Patient Oriented, Rigid, Three-Dimensional) Active Brace
- Moulded Insoles for Insensate Feet
- Endoskeletal Prosthesis for Rotation-Plasty Patients

#### ➤ Physiotherapy Department

- **Gait & Motion Analysis Laboratory**

Total number of subjects assessed – 92

- **Isokinetic assessment and training in muscle performance**

Total number beneficiaries – 198

Total number of sessions – 730

- **Balance assessment and training** – Assessment of static and dynamic balance is carried out using clinical test batteries which are indicative intervention.

Number of beneficiaries – 92

#### ➤ Occupational Therapy Department

Persons with Disability (PWD) are assessed for prevocational skills & isokinetic exerciser. Myotrainer and tester enabling identification of suitable sites in their limbs for operating PWD's having both lower limb weakness are given upper extremity strengthening exercise using

**‘Theravital’.** PWDs with spinal cord injury, myopathies and muscular dystrophy were assessed and prescribed for wheelchair with necessary modifications like removable arm rests, leg rests, foot rests and reclining back rests. Dynamic stair trainer used for giving functional training to the PWD’s for climbing stairs or ramps.

**Speech Therapy Department** – The Audiology and Speech Therapy Department is providing services to the people with impaired communication skills, due to speech, language and hearing problems through speech evaluation and therapy including hearing aid trial and guidance.

➤ **Medical Social Work Department**

Provides the psycho socio economic services for Persons with multiple and locomotor disabilities attending the Institute by involving and mobilizing the inherent potential and resources within the patient, family and the community through the Interdisciplinary Team Approach.

**Research & Development:** Development of Training Manual for Peripheral Health Worker with regards to CBR approach (awareness prevention strategy, screening and referral). Material developed with contribution from Institute experts. Report and the developed manual submitted to WHO.

**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.

**Details of the patients services during 2011-12.**

**I) Medical Out Patient Department**

- a. New Persons with Disabilities registered - 8638
- b. Follow-up PWD - 13265
- c. Total number of PWDs - 21903
- d. Number of Disability Certificate issued - 1513
- e. Number of Railway Concession issued - 861
- f. Number of Driving Certification - 480
- g. Number of Special Certificates - 25

**II) Medical in Patient Services**

- a. Admissions in ward for reconstructive Surgery and inpatient rehabilitation - 746

- b. Major reconstructive surgical procedure. - 457
- c. Minor Surgeries. - 2208

**III) Audiology & Speech Therapy Department**

- a. Number of PWD for speech and language disorder registered in the department - 597
- b. Number of audiometry tests and other hearing tests - 158
- c. Home exercise programme and counselling - 162
- d. Cases attended Therapeutic Treatment - 1207

**IV) Prosthetic & Orthotic Workshop**

- a. Registration of Supply of Orthotics to PWD - 3320
- b. Registration of Supply of Prosthetics to PWD - 547
- c. Maintenance and Services of Orthotics and Prosthetics - 3867

**V) Physiotherapy Department**

- a. New Patients - 5748
- b. Old Patients - 9180

**VI) Occupational Therapy Department**

- a. Total number of PWDs - 15956
- b. Mobility Devices/Aids Delivered - 1740

**VII) Vocational Guidance Department**

- a. Number of PWD evaluated for pre job Counseling and job placement - 275
- b. Number of PWD for evaluated for Intelligence and development test - 637
- c. Counselling of PWD for inclusive education, special education, self employment & other benefits - 731

**VIII) Vocational Training Workshop**

- a. Number of candidates assisted for self & open employment - 115
- b. No. of physically disabled for job environment evaluation and suitability for the job - 75
- c. Number of physically disabled enrolled for Vocational Training in various trades - 25

- d. Placement of the PWDs done in the various private sector with the help of NGO from New Delhi and local Employment Exchange - 36

### IX) Medical Social Work Department

- a. Total Number of PWDs for financial assistance for medical expenses during the hospitalization, free aids and appliances i.e. special C.P. chairs, wheel chairs, crutches, walker and rollators etc. through institute funds, Social Welfare Funds - 50

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

Founded in 1965 as an autonomous institute under the Ministry of Health and Family Welfare, Government of India, the All India Institute of Speech and Hearing (AIISH), Mysore, is the premier organization in the country which imparts education and training, facilitates research, provides clinical services and instructs the public on matters related to communication disorders.

#### 1. Education and Training

AIISH, being the leading and trend-setting institution in the field of communication disorders, offered a variety of practitioner-oriented academic programs pertaining to Speech, Language, Hearing and allied areas, during the period. Fourteen academic programs were offered and totally 586 students were admitted. One of these programs namely, Diploma in Hearing, Language and Speech (DHLS) was also offered at 11 other centers across the country through quasi-distance mode.

In addition to the regular, long term academic programs, the institute also organized 23 orientation programs and 15 workshops/ seminars/ conferences on recent trends and developments in the field, during the period. Also, the institute hosted eight lectures by eminent personalities including Dr. A.P.J. Abdul Kalam, former President of India, Dr. H. S. Venkatagiri, Professor of Psychology, IOWA State University, USA, Dr. Brett Swanson, Research Engineer, Cochlear Technology, Australia and Dr. M.N. Hegde, Professor of Speech-Language Pathology, California State University, USA.

The other educational milestones during the period include the establishment of *network connection* between the institute main campus at Mysore and its eleven DHLS

centers spread across the country, the implementation of *Choice Based Credit System (CBCS)* for the Postgraduate Programs, affiliation for the new *Postgraduate Diploma Program on Alternative and Augmentative Communication* by the University of Mysore, development and implementation of a *Computerized Faculty Evaluation Procedure* and the introduction of *National Library and Information Services Infrastructure for Scholarly Content (N-LIST)*, a web-based electronic information service of UGC-INFLIBNET.

#### 2. Research Activities

The institute promoted research related to communication disorders. Special emphasis was given to clinically relevant applied research on causes, control and prevention of the disorders, assessment and treatment issues as well as the testing and refinement of new technologies for the speech and hearing impairment. Totally, 20 funded research projects were completed and 26 projects newly initiated during the period. Also, 59 research projects were progressing in different departments. The funding for the research projects are sponsored by the institute itself as well as external agencies like Department of Science and Technology, Govt. of India and Indian Council of Medical Research. In addition to the funded research, 65 postgraduate and 45 doctoral level research works were also going on.

The research activities at the institute were augmented by launching two research laboratories namely, *Psychoacoustics Lab*, which is dedicated to auditory perceptual phenomena in individuals with normal hearing, individuals using hearing aids and cochlear implants, and *Neurophysiology Lab* which focuses on understanding how certain key neural areas or circuits in the brain work towards perceiving speech and processing of speech and language, during the period.

#### 3. Clinical Services

The institute offered a broad range of evidence-based diagnostic evaluation and treatment services for clients with communication disorders of all ages. The clinical services offered include assessment and rehabilitation pertaining to speech, language and hearing disorders, psychological disorders and otorhinolaryngological disorders. Speech and language assessment of 4755 persons were conducted and 16955 therapy sessions were held. Also, hearing evaluation of 7100 persons was

conducted and 1210 hearing aids were distributed to the needy ones.

In addition, specialized clinical services were also rendered on augmentative and alternative communication, autism spectrum disorders, cleft lip palate and other craniofacial anomalies, fluency, learning disability, listening training, motor speech disorders, professional voice care and vertigo. Totally, 27017 persons suffering from different types of communication disorders availed clinical services at the institute during the period. The detailed statistics is given below.

Clinical Services	No. of Clients Assessed	Therapy Sessions/ Surgery
Augmentative and Alternative Communication	93	452
Autism Spectrum Disorders	349	2079
ENT Examination	19026	-
Fluency Assessment	370	1589
Hearing Evaluation	7100	-
Learning Disability	445	-
Listening Training	1405	7842
Medical Speciality	592	-
Motor Speech Disorders	212	1020
Physiotherapy	585	8594
Pre-School Services	352	-
Psychological Assessment	3715	387
Speech and Language Assessment	4755	16955
Structural Craniofacial Anomalies Assessment	60	248
Vertigo Assessment	117	-

The institute up-graded its clinical services further by launching three more specialized clinics namely, the *Voice Clinic, Clinic for Adult and Elderly Persons with Language Disorders, and Centre for Hearing Implantable Devices* during the period. The Voice Clinic provides services to persons with voice disorders across ages. It offers a host of evaluation and management options for individuals with voice disorders. The clinic's comprehensive and evidence based approach to voice

care would ensure holistic improvement of the quality of life of persons with voice disorders. With the objective of providing services to adult and elderly persons, the institute launched the Clinic for Adult and Elderly Persons with Language Disorders. The centre for hearing implantable devices caters to the needs of persons with implantation of hearing devices. During the reporting period, biometric attendance was implemented for students at the clinic.

#### Outreach clinical services

In addition to the diagnostic and therapeutic services provided within its walls, the institute delivered outreach clinical services to the persons with communication disorders at remote locations. The major outreach activities during the period include the diagnostic services at its outreach clinical centers located in three remote villages of Chamarajanagar, Mandya and Mysore districts, tele- intervention service, infant screening for communication disorders in various hospitals and communication disorder screening camps at different localities in the state.

As a part of initiating a comprehensive online help for elderly citizens suffering from speech and communication, and swallowing disorders, a *web-based helpline for persons with Parkinson's disease* was launched during the period. The facility covers Frequently Asked questions (FAQs) by persons with Parkinson's disease and their caregivers, questionnaires that can be used to learn the extent of speech and swallowing problems in persons with Parkinson's disease, and the treatment section.

#### 4. Public Education

In order to create public awareness on various communication disorders such as stuttering, articulation disorders, aphasia, mental retardation, hearing and voice problems, the institute organized 6 monthly public lectures tailored for common man, during which expert practitioners in the field delivered one-hour lecture followed by question and answer session with the audience.

The institute also took various other steps to make the people aware of communication disorders such as preparation and distribution of various public education materials in print and electronic format on prevention and control of the disorders, and providing guidance and counseling to persons suffering from such disorders. In addition, awareness programs were also conducted as a part of screening camps.



## 5. Other Activities and Events

The other major activities and events took place at the institute during the period include the following:

- a. Official Language Implementation (OLI): The OLI program was successfully carried out during the period. Nine staff members were given Hindi training, one Hindi workshop was organized and Hindi week celebrated as a part of OLI. Also, a number of public education materials and other documents were prepared in official language. The Hindi version of the institute Annual Report 2009-10 received Karyalaya Darpan Smrithi Chinh, an award hosted by the Rajabhasha Sansthan, New Delhi.
- b. Extra-Curricular Activities: The institute annual day was celebrated on 9 August 2012 and the event was graced with the presence of Dr.A.N. Prabhu Deva, Vice-Chancellor, Bangalore University, Bangalore, Dr. B. Suresh, Vice-Chancellor, JSS University, Mysore and Dr.S.M.H.Quadri, Director, CSRTI, Mysore. The other extra-curricular activities conducted include one month Yoga Camp, Talents Day celebration, Independence Day celebration, honouring meritorious staff children and Natioanl Service Scheme shramadan activities.

## 6. Capital Work

Capital works cost `19.01/- lakhs were completed and works cost `2609.07/- lakhs were going on at the institute campus during the period.

### Financial Status

The financial status of the institute during the period is given below.

(in lakhs)

Type of Grant	Amount Sanctioned for the Year 2012-13	Amount Released
<b>Plan</b>		
Grant- in-Aid General	487.39	-
Grant- in-Aid Capital	2432.61	-
Grant- in-Aid Salaries	530.00	27.965

<b>Non-Plan</b>		
Grant- in-Aid General	270.00	-
Grant- in-Aid Salaries	900.00	509.58
Grant- in- Aid Salaries		
Oversight Committee		100.00

## 15.25 CENTRAL INSTITUTE OF PSYCHIATRY (CIP), RANCHI

The Central Institute of Psychiatry (CIP), Ranchi, established in 1918, is a subordinate office of Dte.GHS under the Ministry of Health and Family Welfare. The present capacity of CIP is 643 beds in 17 wards (9 male wards, 6 female wards, 1 emergency ward and 1 family unit). Drug therapies, psychotherapies, behavioural therapy, group therapy and family therapy are parts of treatment for mentally ill patients. Patient care, research and manpower development remain the major objectives of the Institute.

The various facilities provided by the Institute are as under:

1. Adult in-patient services. 3425 patients (2766 male and 659 female) were admitted in the Institute during January to September 2012. 3,303 patients were discharged and there were 6 deaths during this period. The average bed occupancy was 76.7%.
2. The ERNA Hoch Centre for Child and Adolescent Psychiatry caters to the needs of psychotic children, children with mental disorders and mental retardation. 5,160 patients (1481 new cases and 3679 follow-up cases) attend the OPD for treatment. There were 173 admissions and 174 discharges upto September 2012.
3. The SS Raju Centre for addition Psychiatry is the nodal centre in eastern India for manpower training and research in the field of alcohol and drug abuse. 732 patients were seen in the OPD in the De-addiction Clinic, 531 patients received admission and 523 were discharged upto September 2012.
4. The Charak Out Patient Department saw 53,375 patients (19,402 new cases and 33,973 follow-up cases) upto September 2012. The total No. of new psychiatry cases were 9986 (6908 male and 3078 female) while 31,827 psychiatry follow up cases were also seen upto September 2012. 84 Disability certificates were made in the period.

5. The Institute also runs Extension Clinics at West Bokaro, Hazaribagh and Gandhi Nagar. Regular camps, awareness programmes, workshops etc. are also conducted at these Centres. A total No. of 1414 patients were seen in the Outreach Clinics upto September 2012. School mental health programmes are also being run in 2 schools through the Outreach Programme.
6. The Institute also runs Special Clinics like Chronic Schizophrenia Clinic, Skin and Sex clinic, Neurology clinic, Sleep clinic, Epilepsy clinic, Staff OPD, Headache Clinic, De-addiction clinic, Child Guidance clinic, Mood Clinic and Obsessive Compulsive Disorder clinic. Total attendance of patients in these special clinics during the period January to September 2012 was 14,774.
7. The Department of Clinical Psychology is the oldest independent Department of clinical psychology in India and has gained excellence in the field of teaching, training, research and clinical services. There are 18 seats in M.Phil in Medical and Social Psychology and 4 seats in Ph.D(Clinical Psychology). The faculty includes 3 assistant professors, 1 clinical psychologist, 2 assistant psychologists and 1 lab assistant. 910 assessments and 906 therapies were carried out by the Department during January to September 2012. The Institute also runs a psychology laboratory which was established in the year 1949.
8. The Department of Psychiatric Social Work runs M.Phil in Psychiatric Social Work and 12 seats are available for this course. The Department also provides rehabilitation services like vocational and occupations skills training in different areas. Daily therapeutic interventions like group therapy, family interventions to alleviate family pathology etc. are also provided in this Department. It also provides psycho education and counselling services to key care givers and also plays an important role in running 'pahal club' activities. The case-load of the department during the period January to September 2012 was 2591 therapies and 3645 other activities.
9. The Department of Psychiatric Nursing provides quality nursing care to inpatients as well as outpatients by way of bedside nursing care, health teaching, ward management etc. 4 seats for MSc in Psychiatric Nursing, 13 seats for BSc Nursing, 93 seats for Diploma in Psychiatric Nursing, 12 seats for Diploma in Nursing Administration and 3 seats for Diploma in Nursing Administration and Education are available in this Department.
10. The Nursing Education Section provides training to nurses to obtain the Diploma in Psychiatric Nursing and gives clinical nursing experience to visiting nurses. 1 nursing student was enrolled in the DPN course in 2012.
11. The Department of Occupational Therapy, established in 1923, currently offers occupational therapy to adult, adolescent and child inpatients. About 50-60 male and 35 female patients attend the OT daily. The tasks assigned to these patients are monitored continuously and accomplishments are appreciated through rewards for reinforcing their behaviour. The OT Department is also involved in training medical as well as non medical professionals such as psychiatry residents, clinical psychologists, psychiatric social workers and psychiatric nurses in various aspects of occupational therapy and rehabilitation.
12. The KS Mani Centre for Cognitive Neurosciences is a pioneer in the field of neuroscience and research and has a clinical section and a research section. The clinical section possesses a 21 channel paper electroencephalogram, 32 channel quantitative electroencephalogram, and a 40 channel video electroencephalogram and many other equipments. The research section possesses Dense Array EEG acquisition systems, ERP acquisition units, polysomno-graphy unit rTMS unit. Advanced signal processing software such as ASA, BESA, Neuroscan, Curry, Matlab and Mathematica are also available. The centre is research intensive with several theses and dissertation being done each year. Many studies and researches are going on at the Centre whereas therapeutic studies involving the effect of medications like zolpidem, milnacipran and olanzapine on the sleep architecture have been completed. Therapeutic potential of rTMS in a myriad of psychiatric disorders including epilepsy is being evaluated in on-going studies. The Centre also runs a weekly Epilepsy Clinic, carries out regular group therapies, public awareness programmes and

rural camps for case identification and management. A self help group for epilepsy patients has been running under the guidance of the Centre. A total of 3622 investigations and research procedures were carried out during January-September 2012 at this Centre.

13. The Shridhar Sharma Centre for Investigation Medicine also known as the Department of Pathology and Biochemistry perform testis of clinical pathology, microbiology, bacteriology, biochemistry, serology and immunology both for clinical as well as research purposes. The total number of tests performed during January-September 2012 was 1,20,909. Equipments including Automated Hematology Analyzers, fully automated biochemistry Analyzers, ELISA, High Performance Liquid Chromatography System etc. are installed in the Centre.
14. The Girindrashekhar Bose Centre for Neuroimaging and Radiological Sciences is a very modern radiology department with facility for sophisticated cerebral angiography, pneumoencephalography, air ventriculography, myelography etc. Post graduate residents in psychiatry regularly visit the department for academic and research purposes.
15. The Sushruta Emergency Services is a 24 hour emergency service available in the OPD of CIP with bed strength of 16 (8 male and 8 female beds). 2,033 patients availed emergency services during January to September 2012.
16. The Institute also provides 24 hour services of telephonic helpline and e-counselling since 2001. 1604 general helpline calls, 98 suicide helpline calls and 69 emails were received and attended to during January-September 2012.
17. 15 case conference, 13 journal clubs and 88 didactic lectures were held by the Institute during January-September 2012 as part of Academic Programmes.
18. A major recent development in the Institute has been the construction of the modern 3 storeyed IBN SINHA Central Library of 2525 square metres. The Library provides a wide range of current information from a vast selection of print and electronic resources using state of the art technology. The annual budget for the Library for 2012 is Rs.3.45

crores and 5873 new books were added during the year till September 2012. 786 e-books are also available in the Library and email reference services are also available at [ciplibrary@hotmail.com](mailto:ciplibrary@hotmail.com).

19. A Pahal Club was started 26th Jan, 2001 to promote social interaction among the people working in CIP and to promote social integration and mainstreaming of individuals with mental health problems. The club also work as volunteers in liaison with CIP. Movie Clubs, painting classes, picnics, memory classes and competitions are organized by the Club.
20. The Major Achievements of the Institute during 2012 are as under:
  - a) 45 candidates were admitted for the various courses in the session starting from 1st May 2012.
  - b) Installation of underground electric cables and development of lawns has progressed apace.
  - c) 308 print journals, 650 e-journals have been subscribed and 5873 books have been purchased.
  - d) 16 CCTV cameras have been installed in the IBN Sina Central Library.
  - e) SAN System back up storage service has been installed in the Central Library.
  - f) Several latest software have been procured for the KS Mani Centre for Cognitive Neurosciences.

#### **15.26 CENTRAL RESEARCH INSTITUTE (CRI), KASALI**

The Central Research Institute (CRI), Kasuli was established on 3rd May, 1905 as Pasteur Institute for North India. It is a subordinate office of Directorate General of Health Services under the Ministry of Health and Family Welfare, Government of India. Since its inception the Institute has developed into a premier Institute in research and production of number of immunobiologicals.

#### **Objectives**

- Large scale production of Bacterial and Viral Vaccines & Sera.
- Research and Development in the field of immunology and vaccinology.

- Teaching and training.
- Quality Control of vaccine and sera

#### Staff Strength

- The total sanctioned staff strength as on date is 725 and the staff in-position is 542.
- The vacant positions are 183. Group-wise staff status is given in Table 1.

**Table No.1**  
**Staff strength of CRI Kasauli**

S.No.	Staff	Sanc-tioned	In-position	Vacant	% Vacancies
1	Group-A	51	23	28	54.90
2	Group-B (Gaz)	16	10	06	37.50
3	Group-B (NG)	70	66	04	5.71
4	Group-C & D	588	443	145	24.65
<b>Total</b>		<b>725</b>	<b>542</b>	<b>183</b>	<b>25.24</b>

#### Budget Provisions 2012-13

- Against the Budgetary Allocation of Rs. 70.63 crore (Plan-Rev. Rs. 18.06 cr., Plan-Cap Rs. 17.57 cr and Non-Plan Rs. 35.00 cr), Rs. 17.75 crore have been utilized till October, 2012.

#### Performance

After revocation of manufacturing license of CRI Kasauli, production of vaccine and Anti-sera has started in existing vaccine manufacturing unit the status during 2012-13 as on date is given below:

#### Production, demand and supply of the vaccine and anti-sera

(Quantity in lakh of doses)

S.No	Vaccine / Annual Anti-sera Installed Capacity	Qty of doses manu-factured	Qty of Demand received (1-4-12 to 31-10-12)	Quantity supplies (1.4.12 to 31-10-12)
i	TT	400	00	24.25
ii	DPT	300	17.53	24.00
iii	YFV (ind)	0.40	00	00
iv	YFV (imported)	0.15	0.148	0.148

(Qty. in vials)

v	DATS (vials)	0.80	0.00	0.02	0.01
vi	ASVS (vials)	2.00	0.00	0.026	0.026
vii	ARS (Vials)	2	0.14	0.08	0.08
viii	NHS (vials)	0.0030	0.00	0.000	0.000
ix	DR (ML)	2.5	0.16	0.14	0.14

#### Upgradation of DPT facility to achieve cGMP compliance

New cGMP compliant facility for manufacturing of DPT vaccine with a cost of Rs. 49.83 crores by M/s HLL is being constructed. The facility is in final stages for commissioning. There are few equipment on which performance Qualification is yet to be completed.

#### 15.27 VALLABHBHAI PATEL CHEST INSTITUTE (VPCI), DELHI

#### Brief Background

The Vallabhbhai Patel Chest Institute (VPCI) is unique postgraduate medical institution devoted to the study of chest diseases. It is a University of Delhi maintained institution under ordinance XX (ii). The institute is administered by a governing body constituted by the Executive Council of the University and is funded entirely by Grants-in-Aid from the Ministry of Health and Family Welfare, Government of India. The institute fulfils the national need for providing relief to large number of patients in the community suffering from chest diseases. It has imminently discharged its role and has earned a unique place in the field of Chest Medicine.

#### Achievements during 2011-12 & 2012-13 (up to November, 2012)

1. The institute initiated action to construct two floors consisting of 20 rooms to accommodate increasing strength of students in various discipline like DM, MD, Ph.D, DTCD etc.
2. The institute has already developed the basic infrastructure viz. installation of medical gas etc. for 30 bed ward, which is in addition to the existing 60 bed ward.



3. Equipments purchased during 2011-12 and 2012-13 have been performing satisfactorily with no breakdowns and no loss to patient care.
4. Dr. Mandira Varma Basil, Associate Professor in the Deptt. of Microbiology was awarded ICMR International Fellowship to work in Deptt. of Infectious Diseases, University of Medicine and Dentistry, New Jersey, USA. Duration 28th Jan 2012 to 27th July, 2012.
5. Dr. Ritu Kulshreshtha, Assistant Professor in the Deptt. of Pathology has received best paper award for the paper titled "Correlation of microvascular changes of pulmonary arterial hypertension with FGF-2 expression in transbronchial lung biopsies". Presented at the 4th Annual Conference of the Pulmonary Vascular Research Institute, South East Asia Region, Trivandrum 1-2nd October, 2011
6. Other faculty of the institute has published papers and done research work in different topics.

Further, the VPCI has undertaken the following Educational, Patient Care Services and Research Activities during the period:-

#### Budget during the year 2011-12, 2012-13 & 2013-14

(Rs. in crores)

Year	Plan	Non-Plan
2011-12	13.40*	21.40
2012-13 (RE)	15.40	24.10
2013-14 (BE)	27.25	26.30

\* Received Rs. 11.40 crores only against sanction of Rs.13.40 crores

#### Post Graduate Teaching and Training

Out of total 02 DM (Pulmonary Medicine) students per session, 02\* DM Student for session (11-14) and 02 DM student for session (12-15) were enrolled. A total of 08 MD students for session (11-14) and 05 MD Student for session (12-15), 10 DTCD students for session (11-13) and 07 DTCD students for session (12-14).

In addition, 37 students were given training during 11-12 and 11 students upto Nov., 2012 in various departments of the institute. 08 research scholars were awarded/ submitted the PhD and 24 research scholars pursued their PhD programmes.

\* 2 DM students were enrolled but one left the course.

#### Patient Management Services

The Viswanathan Chest Hospital (VCH), is the hospital wing of the Institute which provides the patient management services with the following facilities; Outpatient Department, Inpatient Facility with 60 beds, 24 hours Respiratory Emergency, 8 bedded Respiratory Intensive Care Unit (with facilities of 7 ventilators), Sleep Laboratory, National Centre of Respiratory Allergy, Asthma and Immunology (NCRAAI), Tobacco Cessation Clinic, National Yoga Therapy Centre, Cardio-pulmonary Rehabilitation Clinic, Picture Archiving and Communication Systems (PACS), Medical Records Section, Oxygen Plant, etc.

During the year 2011-12 the VCH enrolled 10811 new patients, 53371 old patients. A total number of 3917 patients were admitted as Indoor cases. A total number of 16867 were provided 24 hours Respiratory Emergency Services and 491 patients were provided ventilator (invasive and non-invasive) treatment in ICU. A number of specialized investigations done were as follows; Pulmonary function tests: 19009, Arterial blood gases: 6231, Bronchoscopy: 173, Bronchoalveolar lavage: 38, CT scans: 2856, Ultrasound examinations: 424, X-rays: 22059, Electrocardiograms: 7488, Polysomnograms: 82, HIV testing: 423, Serum IgE tests: 2114, Skin tests: 1983, Clinical biochemistry: 37880.

#### Research Activities

During 2012-13 (upto Nov., 12) the following research activities were undertaken. Department wise details are as under;

#### During 2012-13 (upto Nov. 12)

##### 1. Department of Virology

- (i) Evaluation of Antiviral Activity of Medicinal Plant Extracts Against Influenza A Virus.

##### 2. Department Microbiology

- (i) TB research introduced MGIT for patient care.
- (ii) Phenotypic and molecular characterization of drug resistant pseudomonas aeruginosa isolates from clinical samples.
- (iii) Initiated study of drug resistance mutations in M.tuberculosis.
- (iv) Multicentric study being carried out to detect Mycoplasma pneumoniae and legionella

pneumophila in respiratory tract infections. Study initiated at AIIMS.

- (v) Upgradation of TB Lab: introduced MGIT320.
- (vi) Following facilities will be established in the Department:
  - (a) Anaerobic Facility
  - (b) Immuno Diagnostic Facility
  - (c) Molecular Epidemiology Laboratory for respiratory pathogens other than M.Tb.

### 3. Department of Clinical Biochemistry

- (i) Cytogenetic studies – micronuclei, apoptosis; Cancer biomarkers and Chemoprevention of Genotoxicity.
- (ii) To establish Transacetylase activity of purified Calreticulin.
- (iii) To establish Human Non-Small Cell Lung Cancer A549 Cell Line Culture.
- (iv) To assay Calreticulin level in tumor cells.
- (v) To study calreticulin transacetylase catalyzed modification of functional protein histone using various Polyphenol acetates and HDAC inhibitors and to study apoptosis as a consequence of the hyperacetylation by the novel mechanism in all the treatment groups and to correlate it with other parameters.
- (vi) To investigate oxidant/antioxidant balance in COPD and Asthma by studying MDA level and Vitamin C levels.
- (vii) Quantification of various metalloproteinases (MMP1, MMP9, MMP12 and ADAM33) in COPD and smokers.
- (viii) Identification of Single Nucleotide Polymorphisms (SNPs) in the genes encoding various metalloproteinases linked to COPD susceptibility in smokers.
- (ix) To study the correlation between the SNPs, gene products, smoking and COPD
- (x) To study and correlate The activity of Adam 33 Gene Protein with Oxidative Stress in Asthma by studying MDA levels, Vitamin C and Glutathione (GSH) level and quantify ADAM-33 gene protein levels in the groups under study.

### 4. Department of Physiology

- (i) Phenotypical variations in cardiorespiratory responses and gait characteristics during submaximal exercise in chronic obstructive pulmonary disease.

### 5. Department of Medical Mycology

- (i) Cryptococcus neoformans cut off values for antifungal susceptibility testing.

### Conferences/ Workshops/ Activities conducted during 2012-13 (up to November, 12)

1. The 14th Prof. Raman Vishwanathan VPCI Oration was held on 6th April 2012 and delivered by Prof. Sami Bahna, Chief, Allergy & Immunology Section, Louisiana State University, LA, USA and Ex-President, American College of Allergy, Asthma & Immunology, USA.
2. The 8th Prof Autar Singh Paintal Memorial Oration was held on 24th Sep., 2012 and delivered by Prof. S.K. Jain, Senior Consultant, Respiratory Medicine, Max Hospital, Noida, Coordinator, DNB (Respiratory Medicine), Metro Hospital, Noida. Ex-Advisor & Member, Scientific Advisory Committee, NIREH (ICMR), Bhopal and Ex-HOD, Cardio-Respiratory Physiology, V.P. Chest Institute.
3. Workshop on Pleural Pathology (WOPP – 2012) was held on 20 July, 2012.
4. Workshop on “Molecular Diagnostic Methods in Respiratory Infections” was held on 21st November, 2012.

### Conferences/ Workshops/ Activities to be conducted during 2012-13 & 2013-14

1. The 15th Prof. Raman Vishwanathan VPCI Oration will be held on 6th April 2013
2. The 9th Prof Autar Singh Paintal Memorial Oration will be held on 23rd/24th September, 2013
3. Minimum three workshop/seminar/CME Programme/Conference will be conducted by each department during 2013-14.

### Publication

The Institute has been publishing a quarterly periodical, *The Indian Journal of Chest Diseases and Allied*

*Sciences* and continues its effort to disseminate the recent advances in Chest Diseases and allied sciences. It is available online at the website address; <<http://www.vpci.org.in>>and <<http://medind.nic.in/>>. Further, 94 research papers authored by Institute's faculty members were published in reputed national and international journals and book chapters during the year 2011-12.

## 15.28 CENTRAL BUREAU OF HEALTH INTELLIGENCE (CBHI)

### 1. Introduction

Established in 1961, CBHI is the National Nodal Institution for Health Intelligence in India, with the broad objectives to: -

- (1) Maintain and Disseminate the (i) National Health Profile (NHP) of India, (ii) Health Sector Policy Reform Options Database (HS-PROD), (iii) Inventory and GIS Mapping of Govt. Health Facilities in India, etc.
- (2) Review the Progress of Health Sector Millennium Development Goal (MDG) in India.
- (3) Facilitate Capacity Building & Human Resource Development in area of Health Information Management.
- (4) Need Based Operational Research for Efficient Health Information System (HIS) as well as use of WHO International Classifications (ICD-10 & ICF) in India.
- (5) Function as WHO Collaborating Centre on Family of International Classifications (FIC) in India.

### 2. Organization

- (a) In Dte. GHS / GoI, the CBHI headed by Director has four divisions viz. (i) Policy & Infrastructure, (ii) Training, Collaboration & Research, (iii) Information & Evaluation, and (iv) Administration.
- (b) Six Field Survey Units (FSUs) of CBHI are located in different Regional Offices of Health and Family Welfare (RoHFW) of GoI at Bengaluru, Bhopal, Bhubaneshwar, Jaipur, Lucknow & Patna; each headed by a Dy. Director with Technical & Support staff, who function under the supervision of Sr. / Regional Director (HFW/GoI).
- (c) Regional Health Statistics Training Center (RHSTC) of CBHI at Mohali, Punjab (near

Chandigarh), CBHI-FSUs and Medical Record Department & Training Centers (MRDTC) of Safdarjung Hospital New Delhi & JIPMER Puduchery; conduct various CBHI in-service Training Courses alongwith the above six FSUs.

### 3. Major Activities of CBHI: -

#### 3.1 Maintain and Disseminate the National Health Profile of India on –

##### Demography

- Population Statistics
- Vital Statistics

##### Socio-Economic

- Educational Indicators,
- Social Indicators,
- Economic Indicators,
- Employment,
- Housing & Amenities,
- Drinking water & Sanitation,
- Health Legislation in India,
- Survey on Morbidity, Health Care and Condition of the Aged.

##### Health Status

- Morbidity & Mortality
  - i. Communicable Diseases
  - ii. Non Communicable Diseases
- Incidents of Deaths due to Accidents
- Major Outbreaks Investigated by NICD,
- Reproductive & Child Health,
- Disability,
- Mental Health

##### Health Finance

- Five Year Plan Outlays
- Health Expenditure & Financing Agents

##### Human Resources in Health Sector, including AYUSH

##### Health Infrastructure, including AYUSH

- Education Infrastructure (Medical, Nursing & Paramedical)

- Service Infrastructure
- Vaccine-wise and Institution-wise status of production, demand and supply
- Directory of Health Research Institutions in India

### 3.2 Health Sector Policy Reform Option Database (HS-PROD) of India

Though States / UTs of India have undertaken reforms in the health sector, a lot of this goes unnoticed and hence not documented. Thus, MoHFW/GoI under its Sector Investment Programme (SIP) funded by European Commission, entrusted CBHI to develop and maintain HS-PROD. 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 NRHM. The HS-PROD website ([www.hsprodindia.nic.in](http://www.hsprodindia.nic.in)) till date has documented more than 260 reform options from a varied range of fields and stakeholders like the States/UT governments, development partners, non-government organizations and categorized them under 16 key management areas.

### 3.3 Inventory & GIS Mapping of Government Health Facilities in India

For creation of an electronic database of government health facilities, educational institutions, training centres, and other health care establishments in India, CBHI has prepared a database of the Govt. health facilities for their mapping using Geographical Information System (GIS) for its wider dissemination through the CBHI website. It

is an ICT based approach to strengthen the health care resources management and planning for efficient health services delivery as envisaged under NRHM. Data has been collected from all the 35 States/UTs from the periphery and other source agencies including Statutory Councils and GIS mapping of the Govt. health facilities uploaded on the national website [www.cbhighf.nic.in](http://www.cbhighf.nic.in) during February 2008. All the States/UTs are in process of data validation & updating the Govt. health facilities online, keeping in view the census 2011 village/area codes. Once the updation is done, the GIS view will be opened for web surfer's access for public. One IT programmer is being appointed at CBHI (Hqrs) to modify the present GIS Mapping website.

### 3.4 Millennium Development Goals

The Millennium Declaration adopted by the General Assembly of the United Nations in its Fifty-fifth session during September 2000 reaffirmed its commitment to the right to development, peace, security and gender equality, to the eradication of many dimensions of poverty and to overall sustainable development. These are intended for the Member Countries to take efforts in the fight against poverty, illiteracy, hunger, lack of education, gender inequality, infant and maternal mortality, diseases and environmental degradation. The Millennium Declaration adopted 8 development goals, 18 time-bound targets and 48 indicators to be achieved by 2015, of which **3 MDGs are directly related to health sector viz.** reduce child mortality, improve maternal health and combat HIV/AIDS, malaria and other diseases; for which CBHI is responsible for compilation in Dte.GHS/MoHFW/GoI.

### 3.5 National Level In-service Training Programmer per year

Training Course (and Batch size)	Duration and Frequency	CBHI Training Centre (Details Over-leaf)
Medical Record Officers (15)	Six Months 04 batches a year	Medical Record Department & Training Centers at
Medical Record Technicians (15)	6 months 04 batches a year	(i) Safdarjung Hospital, New Delhi (ii) JIPMER, Puduchery
Training Course of Master Trainers on Family of International Classification (ICD-10 & ICF), 20 per batch	One week (5 days) 2 batches in a financial year	CBHI/RHSTC, Mohali (Near Chandigarh)
Orientation Training Course on Health Information Management for Officers (15)	One week (5 days) 2 batches in a financial year	CBHI/RHSTC, Mohali
Orientation Training Course on Health	One week (5 days)	(i) CBHI/RHSTC, Mohali, and



Information Management for Non-medical Personnel (20)	14 batches in a financial year	(ii) CBHI/FSUs at Bangalore, Bhopal, Bhubaneswar, Jaipur, Lucknow & Patna
Orientation Training Course on Medical Record & International Management (20)	One week (5 days) 14 batches in a financial year	(i) CBHI/RHSTC Mohali, and (ii) CBHI-FSUs at Bangalore, Bhopal, Bhubaneswar, Jaipur, Lucknow & Patna.
Orientation Training course on Medical Record & Information Management (20)	One Week (5 Days) 8 batches in a financial year.	(i)CBHI/ RHSTC, Mohali (ii)CBHI,FSUs Bangalore, Bhopal, Bhubaneswar, Jaipur Lucknow & Patna

**On regular basis more than 40 batches of training courses covering more than 800 candidates are held every financial year**

Training Calendar, Eligibility Criteria, Guidelines and Application Forms for all the above courses can be downloaded from the CBHI website [www.cbhidghs.nic.in](http://www.cbhidghs.nic.in)

During 2012-13 (up to 30.11.2012), 495 Personnel from all over the country have been trained in various in-service training courses viz. Medical Record Officer, Medical Record Technician, Health Information Management for Officers, Health Information Management for Non-medical Personnel, Family of International Classification (ICD-10 & ICF) for Non-medical Personnel, Master Trainers on Family of International Classification (ICD-10 & ICF) and Medical Records and Information Management through CBHI Training Centres and 16 batches of trainings are still to be conducted up to 31st March, 2013. In 2012-13, 48 batches of in-service training courses are expected to train more than 900 functionaries.

**3.6 Operational Research & Reviews**

CBHI (Hqrs) and its six FSUs located in Regional Offices of Health & FW/GOI at Bengaluru Bhubaneswar, Bhopal, Jaipur, Lucknow and Patna help CBHI in getting the validated health information from States/UTs and facilitate in capacity building of health care delivery functionaries as well as operational research keeping in view the objectives of CBHI. The CBHI regularly undertakes half yearly meetings to review functioning of all the FSUs and Training Centres. During 2012-13, 17th half yearly review meeting was held during 4-5 July 2012 at FSU, Bhopal and 18th such meeting is tentatively scheduled during February, 2013 in Puducherry. Various issues discussed

during the review :-

- (1) Situation Analysis of infrastructure in terms of the organisation, functioning, logistics and human resources along with their training & skills in a Medical Record Departments/Units in the hospital from CHC through tertiary level.
- (2) To study the present system of record generation, compilation, analysis, storage and retrieval of medical records in the hospitals.
- (3) To study the usage of ICD-10 for morbidity & mortality coding along with major constraints and feasible solutions.
- (4) To recommend the improvisation and strengthening of Medical Record Department (MRD) and use of FIC (ICD-10 & ICF), in terms of optimal requirement on the: (a) Functions, (b) Organisation with regard to human resources and their training as well skill needs (c) Logistics including physical space and ICT and (d) Development of pool of trained manpower for efficient functioning of MRD.

**3.7 CBHI as WHO Collaborating Centre on Family of International Classifications (FIC) for disease, mortality, morbidity and related health aspects, functional disabilities as well as health interventions (ICD, ICF & ICHI) in India.**

CBHI with due approval by the Ministry of Health & Family Welfare (GoI) has been functioning as “WHO Collaborating Centre on Family of International Classifications (ICD-10, ICF & ICHI)” w.e.f. September, 2008 for coding morbidities, mortality, related health aspects, function and disabilities in India, while closely, linking with South East Asian and Asia Pacific regional network on FIC. Its main functions as WHO

Collaborating Centre on Family of International Classifications (ICD-10 & ICF) in India are to:

- (i) 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-10), 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 experiences by multiple parties as a common language.
- (ii) Network with current and potential users of the WHO-FIC and act a reference centre (e.g. clearinghouse for good practice guidelines and the resolution of problems) by:
  - (a) Assisting WHO Headquarters and the Regional Offices in the preparation of member components of the WHO-FIC and other relevant materials.
  - (b) Participating actively in updating and revising the member components of the WHO-FIC.
  - (c) Providing support to existing and potential users of the WHO-FIC and of the data derived in India and SEARO Region. Linkage are also made with other countries of Asian Pacific Region for seeking status on FIC implementation.
- (iii) Director, CBHI attended WHO – FIC Network Annual Meeting, from 13-19th Oct. 2012 held at Brasilia, (Brazil) and presented two papers “Activities of Collaborating Centre on WHO –FIC in India during last one year” and “Quality Assurance in implementation of WHO –FIC in India”.

### 3.8 Maintenance of three Web Sites.

CBHI with the assistance of NIC, has recently redesigned & reformatted its three websites viz. (i) [www.cbhidghs.nic.in](http://www.cbhidghs.nic.in) (ii) [www.hsprodindia.nic.in](http://www.hsprodindia.nic.in) (iii) [www.cbhighf.nic.in](http://www.cbhighf.nic.in), for online data transmission and public viewing.

- (i) CBHI website [www.cbhidghs.nic.in](http://www.cbhidghs.nic.in) contains general information about CBHI, National Health Profile, Mortality Statistics in India

(2006), Right to Information Act, National Recommendations on improving and strengthening Health Information System, as well as use of ICD 10 in country, CBHI case study & recommendations on human health resource requirement, CBHI in-service training programmes/ calendar along with application forms, Module & Work Book on ICD 10, Reporting formats for health data from States/UTs to CBHI, etc.,

- (ii) CBHI Website [www.hsprodindia.nic.in](http://www.hsprodindia.nic.in) contain entries related to Health Sector Policy Reform Data Base of India and being updated from time to time
- (iii) CBHI's third website [www.cbhighf.nic.in](http://www.cbhighf.nic.in) containing inventory & GIS mapping of the Govt. health facilities, was launched by DGHS/GoI.

### 3.9 Major Publications of CBHI during 2011 and 2012.

- (1) Trained Manpower Document on Family of International Classification Disease (ICD-10 & ICF): Indian Experiences (2004-10), October 2010.
- (2) National Health Profile (NHP) 2011.
- (3) Multicentric Study on organisation and functioning of Medical Record Departments and use of ICD-10 in secondary & tertiary level allopathic hospital in different regions in India.

### 3.10 CBHI – On Line Data Entry System through website ([www.cbhidghs.nic.in](http://www.cbhidghs.nic.in).)

State/UT HFW directorates are responsible for punctually and regularly furnishing the (i) Monthly Communicable Diseases (ii) Monthly Non-Communicable Diseases, and (iii) Annual Data on Medical/Nursing/Para-Medical education & infrastructure in the prescribed formats to CBHI/ Dte.GHS. Based on this information from all the States/UTs and other reporting agencies, provide up-to-date data related to morbidity & medical/health infrastructure for framing reply to the Parliament Questions. CBHI also brings out annual publication “National Health Profile” which serves as National Reference Document for policy, planning and evaluation now of health related activities in the country. The above

requisite health information are being sent by the States / UTs On-line through CBHI website www.cbhidghs.nic.in.

#### 4 CBHI Linkages and Coordination

1. All 35 States/UTs of India
2. All 20 Regional Offices of Health & FW of GoI
3. National Rural Health Mission (NRHM) and National Health Programmes in India
4. Medical, Nursing & Paramedical Councils & Educational Institutions
5. Public Health/Medical Care Organizations and Research Institutions under Department of Health Research including ICMR and Various other Ministries
6. Census Commissioner & Registrar General of India
7. Planning Commission, Government of India
8. Union M/o Statistics & Programme Implementation
9. Union Ministries of Railways, Labour, HRD, Rural Development, Communication & Information Technology, Shipping Road Transport & Highways, Home Affairs, Defence, Social Justice & Empowerment etc.
10. Non-Government Organizations in Health & related sectors in India
11. WHO and other UN Agencies Concerned with Health and Socio-economic Development.
12. All the WHO – Collaborating Centres on Family of International Classification (FIC) in the world, Asia Pacific Network on FIC and countries of South East Asia Region of WHO.

#### 5 Budget

CBHI, under the budget head “Health Information and Monitoring System” has been allocated an amount of Rs1.50 crores (Rs. one crore and fifty lakhs) during the financial year 2012-13 in the plan budget.

#### 15.29 NORTH EASTERN INDIRA GANDHI REGIONAL INSTITUTE OF HEALTH & MEDICAL SCIENCES (NEIGRIHMS), SHILLONG

NEIGRIHMS is now a thriving tertiary care Medical and Teaching Institute under the Union Ministry of Health and

Family Welfare that offers MBBS, B.Sc Nursing and MD/MS course in the Department of Anaesthesiology, Microbiology, Obstetrics & Gynecology and Pathology. Super Speciality course in DM (Cardiology) has been started from the academic session (2012-13).

The Medical Council of India considered the assessment report of the Inspection team that visited the Institute from 15th May to 17th May 2012 and granted recognition of the PG course in MD Microbiology and Pathology, Obstetrics & Gynaecology. Recognition of MD (Anesthesiology) is expected soon.

The staff position as on 31st September 2012 is as hereunder:

<b>Faculty</b>	<b>47</b>
<b>Group A</b>	<b>27</b>
<b>Group B</b>	<b>473</b>
<b>Group C</b>	<b>167</b>
<b>Group D</b>	<b>171</b>
<b>SRD's</b>	<b>74</b>
<b>JRD</b>	<b>44</b>

The brief hospital Statistical report

- a. Out patients - 97803
- b. in-patients - 7262
- c. patient from outside state - Out-patient- 3340 in-patient- 615
- d. Deaths - 322
- e. Births – 506
- f. Mortuary section is also available for public service
- g. Operations performed Minor 49 Major 1102

Out of the sum of Rs.150.00 crore earmarked for NEIGHRIMS, Shillong in the BE 2012-13, a sum of Rs62.30 crore as grant-in-aid has been released to this institute.

#### 15.30 NATIONAL INSTITUTE OF BIOLOGICALS (NIB)

The National Institute of Biologicals (NIB), an autonomous Institute under the administrative control of Ministry of Health & Family Welfare, Government of

India, has been performing Quality Evaluation of Biological and Biotherapeutic products including Albumin, Immunoglobulin's, Coagulation Factors VIII, Insulin and its Analogues, Erythropoietin, Streptokinase, Immunodiagnostic Kits (HIV, HCV, HBsAg) and Blood Grouping Reagents etc. in its various State-of-the-Art Laboratories and Animal House by following various National/International pharmacopoeias. Testing of Interferons and Glucose test strips has been initiated.

NIB has a proper Quality Management System as per ISO 17025 which is evident from the achievement of accreditations from the NABL, Department of Science and Technology, Govt. of India for 13 Chemical and 17 Biological tests conducted by different laboratories during the year 2011-12. Now Institute has successfully cleared NABL surveillance Audit in the August 2012. NIB is being considered to be declared as Central Drugs Laboratory (CDL) for additional Biological and Biotherapeutic Products. Accordingly the Institute has been inspected by a team of experts sent by the DCG (I) to declare NIB as CDL for additional biological products on 31st August & 1st September 2012.

The Institute has, during this period, performed Quality Evaluation of more than 1600 batches of almost 69 types of various biologicals. With regard to additional manpower a proposal to hire 129 staff on contract basis stands approved. The relations between NIB, CDSCO and IPC are strengthened by having close interaction and meeting regarding quality evaluation of conventional and newer biological drugs, preparation of National Reference Standards and Sera Panels, reviewing and upgradation of existing monographs and development of newer monographs for inclusion in Indian Pharmacopoeia. Linkage has also been established with USP-India (Hyderabad) initially for preparation of National Reference Standard of G-CSF.

Steps have been taken to establish a new laboratory for evaluation of high profile novel drugs like Therapeutic Monoclonal Antibodies which are used for Hematological, immunological and oncological disorders. G-CSF is under the process of validation. Testing of Glucose Test Strips, which are commonly used for measuring sugar level particularly in human beings suffering from the diabetes, has also been initiated. Reference Panels of sera used for evaluation of immunodiagnostic kits are re-characterized. Nucleic Acid Testing Laboratory has initiated standardization and validation work on detection

of genome of HIV and HBV in samples of Sera/Plasma/ Blood and Blood products. Bio-vigilance & Hemo-vigilance activities have been initiated by the Institute to report adverse drugs reactions in the country.

### 15.31 BCG VACCINE LABORATORY, GUINDY

BCG Vaccine Laboratory, Guindy was established in 1948. The major objective of the institute is production of BCG Vaccine (10 doses) for control of childhood Tuberculosis as per cGMP of WHO norms and supply to Expanded Programme of Immunization (EPI) to all States/ Union Territories.

**Staff Strength:** The total sanctioned staff strength as on date is 113 and the number of posts in Group A, B and C are 3, 13 and 97 respectively.

**Budget Provisions (2012-13):** Budget allocation of the Institute is 43.00 crores (Plan-Cap Rs. 23.27 cr., Plan-Rev Rs.6.73 cr. and Non plan Rs. 13.00 cr) and out of this , Rs. 4.54 crore has been utilized till end of October, 2012.

**Performance of BCGVL:** BCG VL Guindy has its installed capacity for production of BCG vaccine of 800 lakh doses per annum. After revocation of manufacturing license of BCGVL production of vaccine and Anti-sera has started in existing vaccine manufacturing unit however due to failure of consistency test CDL has not issued clearance for lot release. Fresh batches has been submitted to CDL for clearance. After clearance from CDL the necessary supply of BCG vaccine will be released to states. The status during 2012-13 as on date is given below:

#### Quantity Manufactured demanded and supplies

S.No	Particular	Quantity in lakh of Doses
1	Installed Capacity per annum	800
2	Production	87.50
3	Demand	0.00
4	Supply	0.00

#### Upgradation of BCGVL facility to achieve cGMP compliance

The Standing Finance Committee in its meeting held on 14.12.2011 has recommended the project proposal of the Ministry for an estimated non-recurring expenditure of



Rs. 64.72 crore from 2011-12 to 2013-14 for upgradation of BCGVL, Guindy. All the required approvals from the Chennai Metropolitan Development Authority (CMDA) and the local body of the Chennai Corporation have been obtained. Civil works have started. The facility is expected to be completed in 30 months.

### 15.32 ALL INDIA INSTITUTE OF HYGIENE & PUBLIC HEALTH, KOLKATA

The All India Institute of Hygiene & Public Health (AIIPH&PH), Kolkata, the oldest public health institute in the South-East Asia region, was established in 1932. It is devoted to teaching, training and research in various disciplines of public health and allied sciences.

#### Objectives of the Institute

- To develop health manpower by providing post graduate teaching & training of the highest order in public health.
- To conduct research directed towards solution of various health problems in the community

#### Institutional set up

The Institute has two campuses at Kolkata, the main campus at 110 Chittaranjan Avenue, Kolkata- 700073 and the second campus at Bidhan Nagar ((JC Block, Sector-III, Salt Lake), Kolkata. There are eleven academic departments, each one having of its own public health course(s). Besides these, the Institute also has two field practice units, one in the rural area (Rural Health Unit & Training Center, Singur, District –Hooghly) and the other in urban area (Urban Health Centre, Chetla, Kolkata) to provide hands-on-training to the students on rural and urban health problems respectively. These field practice units are utilized for community based training for other health institutes for their field training programmes also. The Institute library is one of the few reference libraries on health sciences in the country.

#### Teaching and training activities

The Institute has been providing teaching and training in various disciplines of public health through its regular courses and short term training programmes. Details of various courses conducted by the Institute are

given below:

Sl No.	Department	Course
1.	Preventive & Social Medicine (PSM)	MD (Community Medicine)
2.	Sanitary Engineering	Master of Engineering Public Health ( MEPH)
3.	Microbiology	Master of Veterinary Public Health (MVPH)
4.	Epidemiology	– Master of Public Health in Epidemiology (MPH) – P.G. Diploma in Public Health Management (PGDPHM)
5.	Biochemistry and Nutrition	– M.Sc. in Applied Nutrition – Diploma in Dietetics (Dip-Diet)
6.	Public Health Administration	Diploma in Public Health (DPH)
7.	Maternal & Child Health (MCH)	Diploma in Maternity & Child Welfare(DMCW)
8.	Occupational Health	Diploma in Industrial Health(DIH)
9.	Health Education	Diploma in Health Education(DHE)
10.	Statistics	Diploma in Health Statistics (DHS)
11.	Public Health Nursing	Diploma in Nursing Education & Administration (Community Health) [DNEA(CH)]

#### Short-term Training programmes conducted by the Institute during the year 2012- 13

- o *Field Epidemiology Training Programme (FETP) in IDSP* - for State Surveillance Officers of N.E. States and West Bengal
- o *Techniques of Assessment of Nutritional Status* - for School Teachers
- o Workshops on *Safe Water supply & Sanitation* conducted in the states of Mizoram, Tripura, Sikkim, Jharkhand and West Bengal.

- o *Fundamentals of Biostatistics and SPSS* - for faculty members of AIIH & PH, Kolkata and other Medical Colleges
- o *Cancer Awareness and Cervical Cancer Screening* - for Nursing Personnel of AIIH & PH, Kolkata and other Medical Colleges
- o *Awareness on Menopausal Problems with Special Emphasis on Osteoporosis* - for Medical Officers and Nursing Personnel of AIIH & PH, Kolkata
- o *Training on RCH* - for ASHA
- o *Managing RNTCP* - for Health Workers
- o *Child Development* - for Medical Officers and Faculty Members of AIIH & PH and other Medical Colleges
- o *Sensitization on AFP & Measles* - for Medical Officers and Paramedical workers (by WHO-NPSP)
- o *IMNCI & Skilled Birth Attendance* - for Health personnel
- o *RNTCP* - for Health Workers & Registered Medical Practitioners.

#### Research Activities

- o Department of MCH has been involved in ICMR research study – “Assessment of Services for Prevention and Management of Infertility in the Primary Health Care System in India” for East Zone of India.
- o Department of Sanitary Engineering is involved in Performance Evaluation and Effluent Quality Monitoring of Waste Water Treatment Plants, maintained under Ganga Action Plan sponsored by the CMW&SA and CMDA, Govt. of West Bengal.
- o Three Operation Research Protocols on STI/RTI (Antenatal Syphilis screening, congenital syphilis and Integration of RTI / STI services) were mentored by faculty of Dept. of Epidemiology in a NACO workshop on Development of Operation Research protocols.
- o Faculty from Department of MCH and Epidemiology contributed in development of

Operation Research Protocol on *Assessment of Antenatal Syphilis Screening: Issues and Challenges*, conducted by Family Health International (FHI 360).

#### Other important activities undertaken during the year

- o Department of Sanitary Engineering has been identified as one of the Key Resource Centers (KRC) by the Ministry of Drinking Water Supply & Sanitation, Government of India.
- o The Department of Sanitary Engineering is rendering services in solving problems of Arsenic and Fluoride contamination of ground water in West Bengal.
- o The Rural Health Unit and Training Center (RHU&TC) Singur provides primary health care and other services as per National Health Programmes to a population of 1,01,294 residing in 64 villages in an area of 64.18 sq. km. through the network of 12 health units, 4 sub centers and 2 union health centers.
- o The Urban Health Centre (UHC, Chetla) covers an area of 3.9 Sq. Km. with a population of 1.2 lakh comprising of a slum population of around 35,000. The center also provides primary health care services for the beneficiaries and specialty clinic services on MCH and G&O, Skin & VD, occupational health, RNTCP, NCD, School Health, Nutrition and Public Health Laboratory services.

#### Implementation of official language policy

During the year as part of Implementation of official language policy Hindi Cell of the institute organized a total of four (4) Hindi workshops in the institute. Hindi Pakhawara was also organized for the officers and other staff members in the month of September 2012.

#### Right to Information (RTI)

The institute has responded to a total number of 89 RTI applications during the year 2012, out of which 9 applicants appealed to First Appellate Authority and were responded to.

**Budget Allocation (2012-13):** Details of the budget allocation for the financial year 2012-13 are

given below:

(Rs. in crores)

	Budget Head		Total
	Plan	Non-Plan	
	16.00	34.47	50.47

### 15.33 REGIONAL LEPROSY TRAINING AND RESEARCH INSTITUTE, GOURIPUR

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 of (a) creation of sufficient trained man- power for better implementation of NLEP in different Indian states, especially, the north-east states to eradicate leprosy and (b) operational research on leprosy.

In the changing scenario of NLEP management, presently the institute has been catering OPD services for 3 days a week and running 30 nos. of Indoor beds for in-patients. For diagnosis of difficult referred cases and for providing quality care to deformed /complicated leprosy patients, the institute runs one laboratory unit, one X-ray unit & one physiotherapy unit. In addition, there is one field unit, that carries out IEC activities regularly throughout the year in its' field area covering 300000 population to increase voluntary reporting for early case detection and prevention of deformity. A significant numbers (45%) of OPD patients of RLTRI, Gouripur, belongs to SC/ST categories of people because of the tribal dominance of the area.

The institute is having an excellent infrastructure for carrying out training activities for different kinds of leprosy training e.g. training of trainers (TOT) and has already organized two nos. of TOT programmes for DLOs & BMOs in , 2012 (One in July, 2012 and another one in September, 2012).

Performance report of the instsitute during the year 2012-13 (upto September, 2012) is as detailed below:

1. **Indoor:** Admission - 81 nos., Discharge – 82 nos.
2. **O.P.D.:** New Case- 30 Nos. , Old Cases -1451, MDT given – 252, RFT- 15 nos.
3. **Field/IEC activities :** Group Discussion - 235, Leaflet distribution- 1235 nos., IEC programme - 44, School Quiz – 5 nos..
4. **Laboratory Unit :** Slit Skin Smear – 593 nos., Bio-chemistry 156 nos. Clinical Pathology - 168.

5. **X-Ray Unit :** 18 nos.

6. **Physio. Unit :** Plaster – 11 nos., Exercise – 1298, Muscle stimulation – 218, Wax Therapy – 281, Infra Ray – 71.

7. **Training :** TOT Programmes – 2 nos. (12 + 14 = 26 nos. Candidates attended in two TOT programmes), One day orientation Trg. on Leprosy given to 19 nos. students of Burdwan Homeopathy Medical College

### 15.34 REGIONAL LEPROSY TRAINING AND RESEARCH INSTITUTE, RAIPUR

Government of India has established four Institutions with the aim to provide Training, Research and Treatment to/ for the leprosy affected persons. It is functioning under Central Leprosy Division of the Directorate General of Health Services, New Delhi

**OPD services:** In the year 2011-12, a total of 606 new leprosy cases were diagnosed at this Institute in which 380 cases were MB and 226 cases were PB. Out of the 606 new cases diagnosed at RLTRI, Raipur, 549 cases were referred to the nearest Health Centres (PHC/SHC/CHC) where the patient resides and rest of the patients i.e. 57 cases were registered at this Institute for further treatment.

Apart from the new cases the institute so far provided treatment to the 6691 old cases which includes management of complicated lepra reaction, ulcer and deformity affected patients. The average monthly attendance of old patients was nearly about 300

**Indoor Services:** The Institute is also having well equipped indoor facility. During 2011-12 a total of 569 cases were admitted in the indoor ward which includes 208 patients with RCS and physiotherapy, 170 patients having ulcers, 131 patients having ENL reaction. The average monthly bed occupancy ratio of indoor wards during the year 2011-2012 was more than 50% and average duration of stay of the patient was near about one month days. Leave against Medical Advice (LAMA) rate was less than 1%.

**Defaulter tracing:** - In the year 2011-12, 34 patients were found defaulter in continuation of treatment; all the defaulter patients were traced and put on treatment.

**Reconstructive surgeries at Institute and field RCS camps:** The institute has also provided its expertise and technical guidance to the State and district health

authorities as and when required in each and every aspect in the field of leprosy. Institute has also organized RCS camps in the districts of Chhattisgarh. The institute has also provided post operative Physiotherapy care to the RCS patients operated in the camps.

A total number of 71 RCS cases (83 procedures) were conducted at this Institute during the year 2011-12) & 140 RCS (169 surgical procedures) were performed outside RLTRI in camps by team led by Orthopedic Surgeon of this Institute in 7 districts of Chhattisgarh

The Institute has also been given responsibility of Physical and Medical Rehabilitation of Polio affected persons. In this financial year i.e. 2011-12, 27 surgeries (53 procedures) in 27 children's affected with Polio have been conducted at this Institute to correct deformity with the technical help/guidance from AIIPMR, Mumbai.

**Physiotherapy:** The outdoor, indoor and field level physiotherapy services are provided to the leprosy patients. In the year 2011-2012, 743 patients availed Physiotherapy services in the OPD and IPD of this Institute.

**Training:** The Institute is also providing brief and condensed training on leprosy to the Final Year students of Govt Medical College, Raipur and Homeopathy College, Raipur. It has also provided in service refresher training to Physiotherapist and Laboratory Technician.

**National Level Training for District Leprosy Officers/Block Medical Officers:** In the year 2011-12 four batches (No 68) of the SLO/DLO Training on the NLEP conducted from different States of India (Maharashtra, Gujarat, Madhya Pradesh, Chhattisgarh, West-Bengal, Uttar Pradesh, Haryana and Bihar).

4 batches of DLO training proposed during year 2012-13. The first batch is scheduled in the month of November 2012.

**Training on leprosy imparted to final year medical college students:** During 2011-12, 5 batches (104 students) of MBBS final year student attended were imparted training and in the year 2012-13, so far 3 batches of MBBS final year student were imparted training in the clinical and epidemiological aspects of leprosy.

**Training imparted on NLEP to Physiotherapy Students:** During 2011-12, 13 batches of B.P.T. Intern student attended 1 week training imparted.

## **DPMR Activity**

### **Reconstructive Surgery of Leprosy Patients**

- I. At RLTRI, Raipur – Routine RCS operation
- II. Outside RLTRI, Raipur – We are organizing RCS camps in the districts and block HQ in coordination with Chhattisgarh and Madhya Pradesh State & District Health Authorities.
- III. Special Camps- We are planning to hold special disability camps at RLTRI, Raipur in the forthcoming months.

### **Special Activities under RLTRI:**

**Technical supervision of NLEP activities in the six districts:** During year 2011-12 six high endemic districts were covered for assessment of the NLEP programme and suggestions for improvement in the program has been provided to the concerned district.

**Research/Project Activities-** ICMR sponsored extramural project - A study on endemicity of leprosy and utilization of health services in two districts of Chhattisgarh i.e. Mahasamund and Sarguja.

Under the Project 227 Mitamin (ASHA) in 7 batches in 7 places of 2 blocks of Mahasamund district were trained by faculties of RLTRI, Raipur during the period from 21-27 May 2011. Under the Project 228 Mitamin (ASHA) in 2 blocks of Sarguja district were trained by faculties of RLTRI, Raipur during the period from 27 July - 1 August 2011. The samples were collected from 110 patients from selected villages and also collected environmental samples (water and Soil) also. A team visited selected villages of Basna, Saraipali in high endemic district and surajpur and Sitapur of Sarguja district for data collection of new cases and other data related to Project.

WHO sponsored project to Intensify Leprosy Activities in 2 blocks of 4 high endemic districts (year 2011-12) Raipur, Bilaspur, Raigarh, Janjgir in the Chhattisgarh State.

The objective of the project is to train the health workers including Supervisors working in the area so that they can easily suspect the leprosy cases and refer the patient to the nearest Health Facility for early diagnosis and treatment. They were also trained to follow-up the patient and about maintenance of related records. Over all 480 Supervisory staff (8 batches) and 1600 ASHA/PAL (32 batches) have been trained during the period November-



December 2011. The institute has also organized advocacy meeting in 4 district and identified Government representatives, volunteers, public representatives, NGOs operating in the area, Patients affected with Leprosy (PAL) to spread the message about signs and symptoms of leprosy and availability of leprosy treatment in all health facilities.

**Papers published/presented by Staff Members:** Two international papers were published by officers of this Institute and one officer of this Institute attended a meeting conducted by WHO, SEARO for Leprosy Program Managers held at Myanmar and one paper presented entitled **Temporalis muscle tendon transfer in Paralytic Lagophthalmos of Leprosy** in 1st Chinese European Congress of Plastic, Reconstructive and Aesthetic Surgery in Beijing, China.

### 15.35 REGIONAL LEPROSY TRAINING & RESEARCH INSTITUTE-ASKA

#### Introduction

The Regional Leprosy Training & Research Institute, (RLTRI, Aska) came into existence in the year 1977. The institute is spread over an area of 10-acre land. It has a fifty-bedded hospital, training, and administrative block and staff quarters. The institute has also acquired 5.33 acres of land adjacent to the new campus for staff quarters and rehabilitation unit.

#### 1. Objectives

- a. Impart training to various categories of health staff that are engaged in the field of Leprosy including training of general health staff in leprosy
- b. Research on Leprosy.
- c. Treatment of Leprosy patients with Multi- Drug Therapy including prevention of disability (POD).
- d. Treatment and hospitalization of complicated and referred leprosy patients
- e. IEC activities
- f. Reconstructive surgery

#### Patient Care and Treatment

Medical care is rendered to the patients coming from Odisha and other adjoining states both in the Outpatient

Department and in the hospital. The hospital also functions as a referral hospital for management of cases referred from different parts of the country for the treatment of reactions and other complications.

Number of patients attended in the OPD during 2011-12:

S.No.	Item	2011-12
1	Total attendance, Leprosy patients	1118
2	Total attendance, Non-Leprosy patients	463
3	Total attendance	1581
4	Total No of new leprosy cases detected for treatment in the O.P.D	41

Details of Patients admitted in the indoor during 2011-12:

S.No.	Item	2011-12
1	Sanctioned bed strength	50
2	Patients remained in last year	20
3	Patients admitted in the hospital ward during the year	236
4	Total No. Of patients treated in the hospital ward during the year	256
5	Total No. Of patient discharged from indoor	236
6	Total No. Of days patients care rendered	8419
7	Average No. Of days stay per patients	35.67
8	% Of bed occupancy	46.01%

#### Laboratory Services

The institute has a well-equipped laboratory with facility for Histo-pathological, Microbiological, Biochemical and Parasitological investigations.

The details regarding various investigations are as under-

S.No.	Item	2011-12
1.	Microbiological	71
2.	Clinical pathology	256
3.	Parasitological & Hematological	224
4.	Biochemical	00
	Total	551

## Physiotherapy Services

The Physiotherapy section of this Institute is playing an important role in rehabilitation of leprosy patients. Both the in-patients and out patients are referred to the physiotherapy section for treatment like exercise, wax therapy heat therapy, POP splinting etc. The various activities under taken are as follows-

Sl.No	Type of Patients	2011-12
1.	No of Leprosy patients attended.	148
2.	No. of Non-Leprosy patients attended.	16

## Surgical Services

The Institute is having a operation theatre to perform major and minor surgeries and the following operations are under taken.

Sl.No	Operation performed	2011-12
1.	No. of Major operation performed	30
2.	No. Of Minor interventions	238
2.	RCS	00

## Footwear Services

The institute has a well-established footwear section which has extended the following services.

Sl.No.	Items	2011-12
1.	No. Of MCR chap-pals prepared and given to the Leprosy patient.	67
2.	No. Of MCR chap-pals repaired.	350

## Training activities:

This institute is providing training to the sponsored candidates coming from different states and voluntary organizations. During this year, the institute did not receive enough nominations for the regular training courses. It has conducted in the past orientation training courses for general health staff including staff nurses, house surgeons, final year students of different medical colleges of the state of Odisha.

## Other activities:

2011-12
Training:-- Faculty of this institute is going as resource person to impart modular training in NLEP to doctors and Paramedical staffs of state and also participate in NLEP review and planning meeting of state.

## 15.36 CENTRAL LEPROSY TEACHING AND RESEARCH INSTITUTE, CHENGALPATTU

### Introduction

The Central Leprosy Teaching and Research Institute (CLT&RI), Chengalpattu was originally 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, Govt. of India had made CLT&RI as a subordinate office of Directorate General of Health Services, Ministry of Health & Family Welfare 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.

### Objectives

1. To undertake research in basic problems relating to the occurrence and spread and complication of leprosy.
2. To train manpower necessary to implement NLEP
3. To provide specialized services for diagnosis of leprosy, reaction, relapse and Reconstructive of surgery
4. To monitor and evaluate National Leprosy Eradication Programme
5. To function as a pivotal center for promoting anti leprosy work in the country.

Patient care facilities provided in the Clinical Division are:

Inpatients services	
Total patients treated:	339
Total Discharges:	386
Out patients	
Total patients New Case treated:	46
Total patients old Cases treated:	3835
Total patients treated:	4721

### Surgical Division

The Surgical Division comprises the Surgical Unit, Physiotherapy Section, Artificial Limbs and Footwear Section, X-ray Section and Micro-cellular Rubber Sheets

manufacturing Unit. Attached to the Surgical Unit is a well-equipped Operation Theatre. Attached to the Surgical Unit is a well-equipped Operation Theatre. The functions of the Surgical Division can be grouped as shown viz.:

- I) Patient care activities.
- II) Teaching and Training Programs.
- III) Research.

**Care Activities:**

The Surgical Division provides both Out-Patients and In-Patients services for leprosy patients who come from different parts of the country, besides surrounding regions.

Total No. of Reconstructive 22 Surgeries:

Physiotherapy Section: 324 Patients given physiotherapy

Radiography Section: Total Number of Ski grams=170

Micro-Cellular Rubber Mill: 600 sheets

The Micro-Cellular Rubber Mill is a small production unit manufacturing micro-cellular rubber sheets of the quantity needed for use in the manufacturing of footwear for leprosy patients.

**Footwear and Prosthetic Supplied from CLTRI**

S. No.		2011-12
1.	Simple and Modified Microcellar Rubber Sandals (in pairs)	602
2.	Orthotic and Prosthetic Appliances (in nos)	8
3.	Major repair of orthosis and Prosthesis (in nos)	3
4.	Modifications Arch Support and Metatarsal Bars (in nos)	67

**Division of Laboratories**

Laboratory Division is basically involved in the investigations of cases from Out and Inpatient Departments of CLTRI for leprosy related and other routine investigations and also involved in the basic and applied research activities in leprosy.

**Research Projects undertaken and continuing on-going research projects during the year 2011-12**

1. The Laboratories Division has entered into collaboration with the following Institutions:
  - (i) SRM University, Kattangulathur, Chennai.
  - (ii) Sri Ramachandra Medical College & Hospital, Porur, Chennai
  - (iii) Madras Medical College, Chennai
  - (iv) Madurai Kamarajar University, Madurai
  - (i) Two projects from SRM University, Kattangulathur, Chennai
    - (a) “Characterization of enzymes in Shikimate pathway from Mycobacterium”
    - (b) “Chorismate synthase from mycobacterium leprae”
  - (ii) A project from Sri Ramachandr Medical College, Chennai
  - (iii) One project from Madurai Kamarajar University, Madurai
    - “Structural proteomics initiative of Mycobacterium Leprae proteins”
2. In addition to the above, other projects are:
  - (a) “Drug delivery systems”
  - (b) “Diabetis and Leprosy”
  - (c) “Effect of oral Thalidomide on the lipid metabolism of rodents”
  - (d) “Origin of reaction in leprosy”
  - (e) “Study on surveillance of Rifampicin resistance among smear positive multibacillary leprosy cases of relapse and other highrisk groups”
  - (f) “Application of polymerase chain reaction (PCR) based molecularbiological techniques in the diagnosis of single skin lesion (SSL) cases of leprosy”
  - (g) “Application of PCR technique for the detection of M.leprae in nasal
3. Institue is also planning to take up “Contact population of leprosy patients” along with Surveillance studies in four

States namely, Tamil Nadu, Karnataka, Kerala and Lakshadweep Islands.

4. Teaching and training conducted and scientific papers presentation made in the conferences during the year 2011-12.

### Division of Epidemiology and Statistics

#### Monitoring and Evaluation Section

Monitoring and Evaluation section was established in the year 1986. This unit is having qualified statistical and IT manpower to analyse and computerize any study / activity. This unit is involved in the following activities.

1. Entering data, statistical analysis and preparation of reports of research projects.
2. Imparting Training for Medical Officers, Non-Medical Supervisors and House Surgeons.
3. Providing technical assistance to other divisions including administration for computerization and database maintenance.
4. Maintaining and updating Salary, Inventory of Stores Management etc.

All four Divisions, Clinical, Surgical, Epidemiology & Statistics & Laboratories are actively taking part in the various teaching and training programmes conducted by the Institute. The details of the programmes are as follows:-

S.No	Category of service	Number of participants attended the training
1	District Leprosy Officer	= 7
2	Laboratory Technician Orientation course	= 14
3	PG Medical Students from CMC & CRRI	= 94

### 15.37 NATIONAL MEDICAL LIBRARY

#### Introduction

National Medical Library (NML) provide valuable library information services to support the academic, research and clinical work Health science professionals in the country. It occupies important position in country's health

care information delivery system. Some of the significant services provided by NML are:

**Reference services & collection building:** One of the greatest strengths of NML is its richest collection of books, reports, serials, bound volumes of journals and computer databases. This invaluable treasure of biomedical and health science information, which is often the only source is widely used by professionals from all parts of the country. It has collection of over 1.35 lakhs books and over 5.2 lakhs bound journals. The Library subscribed 1500 print journals worth Rs. 24.57 crore in 2011-12.

Library follows Open-Access system for shelf arrangement. Library added 390 volumes (books purchased 280++Gift books 252) by spending over 1.26 lakhs in the year 2012. The books and journals acquired during the year have been classified and catalogued by using LIBSYS library software package.

**Local Area Network (LAN) and Online Public Access Catalogue (OPAC):** Servers and computers in the library are networked to form a LAN having an integrated Library Management Software Package – LIBSYS. About 41,000 records of books are now available through OPAC computer search by library users. Leased lines of (2 mbps) and broad band internet facilities available to provide Internet services including access to full-text of the journals.

**Information Retrieval Services:** NML has been offering the service using MEDLINE since 1990. Besides, it has about 500 CDs on different subjects. The biomedical information sources available on Internet, namely PUBMED, PUBMED Central, ERMED etc. were also accessed to meet the requirement of library users. Many articles were searched through MEDLINE service for getting references and abstracts for research scholars during the year. A Work station having the facility of 10 terminals fitted with CD writer is being developed for on-line access of foreign medical journals. Scheme to "Inter-linking of Government Medical College Libraries with the NML". Government colleges are provided with financial assistance to acquire hardware, software, Internet connectivity and to hire contractual staff. This scheme has already covered 78 medical college libraries. The project aims to develop information communication technology capability among the participating colleges to be able to access the online information resources available in NML.



**Reference and Documentation Services:** The library remains open on 359 days of the year from 0900 - 2000 hrs on weekdays and from 0930 - 1800 hrs on holidays. Over 150 users visit the library every day for reference, consultation, obtaining photocopies of required articles and information retrieval service. Library has been visited by information seekers to avail following services:

- Queries answered 2487
- New Membership 63
- Issue/return of documents 767
- Inter Library loan (Print documents) 28

Library developed database of over 6000 medical thesis/ dissertation submitted to medical colleges across the country. The same is available at <Search Medthes> at [www.nml.nic.in](http://www.nml.nic.in). The library also developed a database of over 4000 medical articles published in Indian Medical journals in the country in MARC21 software under the “**Index Medicus-India**” project. The library also developed the database of over 6000 medical thesis submitted to different medical colleges across the country. The database is widely used through the NML website. Library brings out a quarterly “List of New books Added to NML”. It is also bringing out a weekly “**Indian Press Index on Health**” which covers important press release on topics related to health science in prominent Indian newspapers.

### Document Delivery Service

The Document Delivery Service provides access to the full text of documents needed by various medical specialists. This service is in fact used more widely than any other service of the library and caters predominantly to requests for copies of articles in journals (current as well as back files). A large number of request for photocopy of articles are received from outside Delhi by post, e-mail and fax through Government as well as private photocopy counters. Photocopies of 496 articles has been provided to the Students/ medical professionals of Institutions located outside Delhi and 50 articles were provided to NISCAIR/ Medical institute located in Delhi comprises a total number of 22771 pages for which postal charges are free for delivery of articles to outside Delhi states.

### ERMED-India e-journal consortium

Over the years the National Medical Library (NML) has been providing a wide variety of Health Information

dissemination activities focused on reaching out Health Care Professionals of the country. NML disseminates over 8000 (8000 x 5 =40,000 pages) photocopy of articles from medical journals per month to medical scholars across the country. The system involves sizeable photocopy machines + man power + maintenance of back, volumes of medical journals, their shelving and repeated binding due to extensive use of journals. Despite above tedious efforts the end user does not get efficient document delivery service due to delay in postal services and human handling.

In order to cope up with the problem, NML started ERMED (Electronic Resources in MEDicine) electronic journal consortium since January 2008 for 39 (28 ICMR Institutes + 10 DGHS Institutes/Medical Colleges + AIIMS), by spending Rs. 2.5 crores

NML envisions that the availability of latest knowledge and skills through global Medical Literature to Indian Medical Fraternity will be able to improve Medical Research output of the country and ensure effective Health Care System for All.

NML also provided sufficient number of “Users Manuals” and “Posters” to each participant to enhance awareness for ERMED. It is expected that the search skill of the users will be more efficient in future to make use of the ERMED resources.

### Consultancy services provide to following Hospitals/ Institutes:

- National Institute of Health & Family Welfare, New Delhi
- Institute of Human Behaviour and Allied Sciences (IHBAS), Delhi.
- Safdarjung Hospital, New Delhi.

### Branch Library

National Medical Library maintains a branch library in the Nirman Bhawan to cater to the library and information needs of staff and officers in the Directorate General of Health Services and the Ministry of Health and Family Welfare. Steps are being taken to renovate the present library set up and to improve library collection and services at Branch Library.

### Library Building

As the library building is 34 years old, several measures have been taken to repair and restore the structure and

modify it as per the modern requirement. The building needed complete renovation and repair to improve the exterior get up of the library as per its status. Necessary repairs and renovation of the building has been done. The installation of lift and the dumb waiter are in the final stage of completion.

### **15.38 LRS INSTITUTE OF TUBERCULOSIS (TB) & RESPIRATORY DISEASES, NEW DELHI**

LRS Institute of Tuberculosis (TB) & Respiratory Diseases is an Apex Institute engaged in the service of the Nation since 1952. Ministry of Health & Family Welfare, Government of India, took it over as an autonomous Institute in 1991.

The Institute has an extensive Out Patient Department (OPD) complex running daily OPD with computerized registration, round the clock emergency services, indoor facility comprising of 520 beds, a Respiratory Intensive Care Unit (ICU) for the critically ill patients and a state of the art MDR TB ward with international standards of infection control measures. The Public Health Department of the Institute implements the Revised National TB Control Programme for 10 Lac population in South Delhi. The Thoracic Surgery Department of the Institute is one of its kind and serves patients requiring surgical intervention from all over country and even neighbouring countries. Institute also has facilities for human immunodeficiency virus (HIV) care including a free Antiretroviral Therapy Centre under the aegis of National AIDS Control Organization (NACO) and chemotherapy for lung cancer. The Microbiology Department of the Institute is a National Reference Laboratory and assists the RNTCP for Quality Assurance networking for laboratory services.

During the six month period from 01st April'12 to 30th September'12, a total number of 21687 symptomatics were newly registered in OPD. Taking follow up patients into consideration, the total OPD load was 73725. TB was diagnosed in 9089 patients. A total number of 2813 patients required admission in hospital and 4438 cases were managed in the Emergency.

The Institute is actively involved in research in the field of TB & Respiratory Diseases. Over the years, numerous research projects have been carried out on various sub-specialties of Respiratory Diseases within the Institute. During the period, more than 20 new researches have been initiated in addition to those already in progress and

more than 10 publications took place in several reputed national and international journals and books, in addition to the regular 3-monthly publication of the Institute's newsletter.

The Institute is also a recognized centre for post-graduate DNB (Respiratory Diseases) degree course since 1999. It has been accredited for ten DNB seats per year w.e.f. 2009. Regular teaching activities such as seminars, journal club, faculty lectures, grand case presentation, mortality meetings, pathological conference, radiological conference, and bed-side clinical rounds are routinely carried out. The Institute has been providing training to various classes of health personnel from within and even from outside the country. The Institute provided training to 345 trainees during the specified period. Future trainings during the year are likely to witness a number of trainees benefitting themselves from the expertise in available specialties within the Institute.

The Institute is constantly upgrading its infrastructure and equipments with the latest state of the art technology to facilitate better patient care, diagnosis and research in the field of Tuberculosis and Respiratory Diseases.

#### **Other Achievements/ Notable developments during the period were as follows:**

- Dr Rohit Sarin, Assistant Medical Superintendent, who had been associated with the Institute for more than 25 years, took over as its Director from Dr D. Behera on 23rd May 2012.
- The Institute faculty participated in various national level RNTCP Policy development meetings and trainings organised within or outside the Institute.
- The faculty was on the editorial boards of many reputed national and international journals.
- Dr R.K. Dewan, HOD, Thoracic Surgery was invited by MSF-France to evaluate & recommend on TB surgery in Cambodia.
- Department of Molecular Medicine introduced a Multiplex PCR diagnostic test for diagnosis of MTB/NTM and Real time PCR screening assay for TB diagnosis.
- A number of high end equipments were procured and a number of construction / renovation activities were undertaken to facilitate the patient care, diagnosis and research within Institute.

### 15.39 NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES, BANGALORE

National Institute of Mental Health and Neuro Sciences (NIMHANS) is a multidisciplinary frontier institution for service delivery, human resource development, basic and applied research and, policy and programme development for the nation in the areas of mental health and neurological sciences. Moving beyond core problems to address many emerging issues of today NIMHANS has been in the forefront to develop human resources and also evolve community based strategies for priority health problems. The specialty hospital provides secondary and tertiary care for psychiatric and neurological disorders.

#### Patient Care Services

NIMHANS is an apex tertiary care hospital in the fields of Psychiatry, Neurology and Neurosurgery, for inpatient and outpatient care along with psychiatric and neuro-rehabilitation. The institute renders yeoman services to the patients from all over the country as well as neighbouring developing Asian, Arabic and African countries. During the year 2011-12, a total of 4, 51,362 patients received medical care at NIMHANS.

Screening	99,042	Discharges	12,587
Registrations	52,141	Emergencies	30,322
Follow-ups	2,11,463	Deaths	724
Admissions	13,740	Extension Services	31,313
* = Gunjur – 2,546; Gouribidnur – 6,661; Maddur – 3,719; Kanakapura – 3,021; Madhugiri – 2,898; Sakalawara – 10,674; Turuvekere – 1,794			

#### Human Resources Development

Academic Programmes: During the year, apart from 48 students enrolled for the Ph.D. course, 202 students joined various post graduate degree/diploma and undergraduate courses. As on 31 March 2012, 147 students are pursuing PhD in NIMHANS and 8 have completed Post-Doctoral Fellowship (4 in Neuroanaesthesia, 2 in Neuropathology, 2 in Child and Adolescent Psychiatry). Thirty students completed PhD (Psychiatric Social Work–6 Clinical Psychology–7, Neurophysiology–6, Biophysics–3, Biostatistics–1, Child and Adolescent Psychiatry–1, Neurochemistry–2, Neurovirology–2, Psychiatry–2), 146 candidates were declared qualified to receive degrees in

various specialities: 8 DM (Neurology), 6 MCh (Neurosurgery), 2 DM (Neuroradiology), 23 MD/Diploma (Psychiatry), 42 MPhil, 9 MSc, 28 BSc Degrees and 20 Diploma in Nursing). In addition, 5,101 trainees of Medicine, Psychiatry, Paediatrics, Surgery and allied specialties enriched their clinical acumen by participating in patient care services and receiving training.

Sl.No.	Particulars	Total
1.	Postgraduate degree / diploma and undergraduate courses:	202
	(a) Joining the institute during the year 2011-12	
	(b) Completing respective courses and declared qualified during the year 2011-12	147
2.	PhD awarded	30
3.	Post Doctoral Fellows	8

#### Capacity building and strengthening human resource development

Faculty and staff from NIMHANS routinely participate and conduct continuing professional education programmes, actively taking part in international/national/regional/scientific deliberations. In addition, they also conduct short term training programmes and teaching-learning sessions. During the year 2011-12, NIMHANS hosted International Fogarty Symposium in association with University of Florida, USA, the 60th Annual Conference of Neurological Society of India and Joint Scientific Meeting with “Societa Italiana di Neurochirurgia”, 30th National Annual Conference of Indian Society of Professional Social Work, National Consultation on Ayurvedic Dietetics and the 3rd Regional Meeting of National Mental Health Programme, and actively participated in the International Congress on Neuroanaesthesia. The first National Conference on Neuropsychology and Cognitive Neuroscience, first IAN Postgraduate Summer Course in Neurology 2012 and DST sponsored 5th National SERC School in Neuroscience on Learning and Memory were conducted at NIMHANS. Faculty members of NIMHANS served as resource persons for the International Workshop on Psycho-Social First Aid for Sendai Earthquake Survivors and contributed to enhancing the life skills approach by conducting workshops in collaboration with international NGOs. Under the National Rural Health Mission, as a Manpower

Development Centre, NIMHANS trained blood bank officers and technical staff from various blood storage centres in Karnataka. The INDO-US Fogarty training programme on chronic non-communicable disorders is another major collaborative programme.

## Research

Research being the back bone of effective and innovative patient care and public health policy, NIMHANS continued to contribute significantly towards basic, applied and clinical research. The total budget from 115 on-going, completed and newly sanctioned projects was Rs 47.6 crores and the annual research projects budget exceeded 16 crores. The thrust areas of research included exploring genetic basis for disease causation, unraveling the molecular and sub-cellular mechanisms for disease process, linking clinical status with structural, biochemical, immunological and serological abnormalities and developing prognostic and clinical predictors. Exploring the efficacy of traditional systems of medicine, catalyzing and supporting them for enhancing the care including psycho-social care were the other areas of in depth study.

A key area of focus has been inter-institutional and multi-disciplinary research. The findings have successfully influenced health policy and programmes at the state and national level. During the year under review a total of 626 scientific communications were published (269 in International journals, 183 in National journals and 174 others books, monographs, chapters in books, manuals, etc.). A total of 603 scientific papers were presented in international and national scientific fora (112 and 491 respectively).

## New Initiatives - New Facilities

NIMHANS Centre for Well-Being (NCWB): NIMHANS started Centre for Well-Being at BTM Layout, in the city of Bangalore, on 10th October 2011 with an aim to provide promotive and preventive services in the area of Mental Health to the public. NCWB is aimed at shifting focus from mental illness to positive mental health and offering services which include (i) stress management among professionals, college students, homemakers, families with young children, (ii) prevention and early treatment of smoking and other forms of tobacco use, (iii) prevention and advice regarding alcohol related concerns, (iv) mental and behavioural health for persons with medical illnesses like diabetes and cardiac problems, (v) marital enrichment services for couples, (vi) premarital counseling, (vii)

healthy parenting, etc. Training and workshops on preventive mental health for school and college teachers are conducted to enhance life skills counseling and peer support system. Training for medical professionals on community mental health is provided. NCWB is open from 9.00 a.m. to 4.30 p.m. on all working days.

The Department of Clinical Psychology launched YOUTH – PRO, an initiative to empower college youth for promotion of mental health in the community and ‘de-stigmatizing the professional help seeking’ for mental health issues, especially amongst the youth.

## 1. Enhancing Patient Services at NIMHANS

- I. For the first time in the country, NIMHANS has started the super-specialty DM course in Child and Adolescent Psychiatry.
- II. Neurobiology laboratory has obtained the NABL accreditation, and all other diagnostic laboratories are working actively for similar NABL accreditation.
- III. Postdoctoral fellowship (PDF) courses have been initiated in epilepsy, movement disorders and neuroinfections to enhance trained manpower.
- IV. Prof. PN Tandon, former Director, AIIMS and President National Brain Research Centre, New Delhi inaugurated the Human Sleep Research Laboratory in the Department of Neurophysiology 14 December 2011.
- V. DNA –Microchip-based diagnostic technique for multiviral infections of the central nervous system (developed by public, private partnership) is being commercialized soon.
- VI. Telemedicine consultation in Neurosurgery to peripheral Government hospitals of Karnataka has been started. The facility has been initiated with video conferencing link through open source service providers. The facility is now upgraded to a satellite-based system provided, free of cost, by ISRO to link all the primary and district level health centres across Karnataka.
- VII. The Department of Mental Health Education now has a state-of-the-art video studio with special lighting equipment (cool lights) and editing facility.



VIII. The Department of Nursing has developed exhaustive SOPs (45 SOPs for Psychiatric nursing and 71 SOPs for Neuro-nursing) and procedures for Nursing Audits.

**Donations:** The Dharmashala, donated by Infosys Foundation, Bangalore, costing Rs.5.20 crore and constructed in a record time of less than nine months was inaugurated by Shri. Ghulam Nabi Azad, Hon'ble Minister for Health and Family Welfare, Government of India and President, NIMHANS Society, Bangalore. A total of Rs.3.35 crore was received as donations during the year. This includes Rs. 3.13 crore from Dr. Ramachandra N. Moorthy, Indian-born Psychiatrist practicing in Canada. One lakh rupees from Dr. Jyotsana Thakre, Rs. 1.5 lakh from two patients (anonymous), Rs.10 lakh from Mrs. Usha Bhushan and Rs. 9.5 lakh from M/s. State Bank of Mysore.

## 15.40 NATIONAL TUBERCULOSIS INSTITUTE, BANGALORE

### Introduction

National Tuberculosis Institute (NTI), Bangalore is an organization under the Directorate General of Health Services, Ministry of Health and Family Welfare, established in 1959 in close collaboration with the World Health Organization (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 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, mainly carried out by the Epidemiology and Control Sections. 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.

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.

Recently the Institute has been re-organized with formation of Divisions /Units the details are

given below:

Divisions	Units
HRD and Documentation Division	Training and Co ordination 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

Some of the important activities carried out by Divisions/ Units is given below:

### 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.

1. RNTCP & TB-HIV Modular training Programme are conducted at NTI where STDCs, STOs, DTOs, MO-TCs and faculty of Medical Colleges participated.
2. Managing Information for Action (MIFA) Training.
3. Training in Preventive maintenance and minor repairs of Binocular Microscopes.
4. EPI Centre Training Workshop.
5. Workshop for Microbiologist for updating training material guidelines for National Reference Laboratories.

6. SAARC Regional Training of Microbiologist on Culture & DST of MTB.
7. TB Operational Research Workshop.
8. PCR based LPA Training.
9. Orientation programme of one day duration were organized for about 1181 undergraduate Medical, Microbiology and Nursing and Pharmacy students sponsored by different Institute across the country.
10. 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.
11. **Publication Activities:** The faculty of the Institute publish research papers in the leading journals on TB. Make Presentations and Poster sessions on the basis of the research studies conducted by the institute in the National Conference on TB and Chest Disease. The in-house publications of NTI Bulletin are undertaken.
12. As a large number of people are trained at various levels, however the details of the people trained are not available. Therefore, it is proposed to have a TB trained Manpower data base of the country at NTI.

#### Activities carried out during the period

##### 1) RNTCP Modular Training

Sl. No.	Period	No. of working days	No. of participants
1	16-07-12 to 28-07-12		31
2	27-08-12 to 08-09-12	12	32
3	08-10-12 to 20-10-12		27

##### 2) Training in External Quality Assessment

Sl. No.	Period	No. of working days	No. of participants
1	09-07-12 to 13-07-12	4	17
2	19th – 23rd Nov 2012	5	15

##### 3) Training in Culture & DST

Sl. No.	Dates	No. of Participants	States
01	13th to 23rd August 2012	7	Assam-2, Himachal Pradesh-1, Tamil Nadu-1, Chhattisgarh-3
02	3rd – 13th Dec 2012	7	Assam, Jammu & Kashmir, Odisha, Uttar Pradesh

##### 4) Training on LED Fluorescent Microscopy for Laboratory Technicians

Sl. No.	Period	No. of working days	No. of participants
1	02-04-12 to 04-04-12		17
2	09-04-12 to 11-04-12		15
3	16-04-12 to 18-04-12	3	16
4	23-04-12 to 25-04-12		16
5	30-04-12 to 02-05-12		15

##### 5) Training on LED Fluorescent Microscopy for Senior Tuberculosis Laboratory Supervisors

Sl. No.	Period	No. of working days	No. of participants
1	02-04-12 to 05-04-12		15
2	09-04-12 to 12-04-12		16
3	16-04-12 to 19-04-12	4	15
4	23-04-12 to 26-04-12		13
5	30-04-12 to 03-05-12		15

##### 6) Training in Line Probe Assay

Sl. No.	Period	No. of working days	No. of participants
1	01-06-12 to 06-06-12	5	05

##### 7) Training in Drug Logistics and Inventory Management in RNTCP

Sl. No.	Period	No. of working days	No. of participants
1	08-05-12 to 11-05-12	4	36
2	03-07-12 to 06-07-12		31
3	11-09-12 to 14-09-12		34
4	6th – 8th Nov 2012	3	12

**8) SAARC Regional Training of Trainers (Microbiologists) for Sputum Culture and Drug Susceptibility Testing of *M. tuberculosis***

Sl. No	Dates	No. of Participants & Countries Participated	Countries
01	23rd to 29th May 2012	14	India-5, Maldives-2, Nepal-2, Pakistan-1, Sri-Lanka-2, Bhutan-2

**9) National Training on Rapid Molecular Detection of Mycobacterium tuberculosis and its resistance to isoniazid and rifampicin by PCR based Line Probe Assay.**

Sl. No.	Period	No. of working days	No. of participants
1	09-07-12 to 13-07-12		4
2	16-07-12 to 20-07-12	5	4
3	24-09-12 to 28-09-12		4

**10) National Laboratory Training on Growth Detection, Identification and Drug Susceptibility Testing of Mycobacterium Tuberculosis using Liquid Media.**

Sl. No.	Period	No. of working days	No. of participants
1	27-08-12 to 07-09-12		4
2	10-09-12 to 21-09-12	10	3
3	08-10-12 to 19-10-12		3

**11) National hands on training on Cartridge Based Nucleic Acid Amplification Test.**

Sl. No.	Period	No. of working days	No. of participants
1	8th October 2012	1	7

**12) Observational Tour of officials from NTP, Nepal**

Sl. No.	Period	No. of working days	No. of participants
1	09-07-12 to 13-07-12	5	04

**13) Meetings/Conferences/Seminars/Symposium/Workshops**

Sl.No.	Type of Training	Duration	No. of Participants
1	Meeting of Sub-Group on Operational Research related to TB burden estimation	12-5-12 to 13-5-12 18-7-12 to 19-7-12	10 10
2	RNTCP National Review Meeting of STOs	9-6-12 to 10-6-12	84
3	RNTCP Regional review meeting on PMDT	11-6-12 to 12-6-12	110
4	Workshop for strengthening the functioning of STDCs	26-9-12 to 27-9-12	64
5	Dr. Preetish S Vaidyanathan participated in Revision of Compendium of training needs	22nd Nov 2012 & 10th Dec 2012.	-
6	Dr. Preetish S Vaidyanathan made a presentation in the 23rd Annual Conference of Family Physicians Association (Bangalore)	25th November 2012.	-

## Laboratory Division

- Operationalise the EQA for sputum smear microscopy network in the states in conjunction with /STDCs or IRLSs. Carry out NRL responsibilities of EQA such as Onsite Evaluation (OSE). Panel testing (proficiency testing of lab staff) to ten states at least once in a year for 3-4 days (including one to two districts visits), and make visits as and when required depending on the priorities /necessity to improve and help the performance of labs. Eight. Prepared slides are used for panel testing during the visits.
- Conducting quality improvement workshops for the state level programme managers with a view to find solutions to EQA related operational and technical problems faced in the field.
- To implement and verify Random Blinded Rechecking (RBRC) producers and improve the performance of labs based on analysis of the RBRC data in conjunction with STDCs.
- Capacity building and strengthening the ten state level TB laboratories (STDCs) with respect to proficiency in culture and Drug Susceptibility Testing including second line drugs.
- Conducting Anti-TB Drug resistance surveillances of priority states involving processing of representative sample of the states to obtain information of prevalence of drug resistance, with a view to support logistics of DOTS – Plus programme under expansion of DOTS and RNTCP and conduct/participate in National Level disease prevalence studies/surveys.
- The Lab team of the Institute carryout on site evaluation of STDC laboratories of different states and provides necessary guidelines to establish quality laboratory to undertake EQA and DRS studies.
- Carry out Lab based research studies using modern diagnostic techniques and tools viz., Gene expert, Genetic Analyzer, HPLC for NTMs, LPA and MGIT 960.

## Specimens Processed

Total Specimens (Sputum + Culture) registered	1978
Total number of OP specimens registered (20 patients)	55
Sputum specimen of MDR suspects for DOTS Plus under plan B	1135
XDR suspect sputum samples registered	124
XDR suspect culture samples registered	429
Study sample (Sputum) from K. C General Hospital (RP/235)	131
Specimens received from Institute of Animal Health and Veterinary Biological	26
Specimens received from Pawagada (CB-NAAT)	39
Total No. of specimens registered	1510
Total No. of specimens put up for primary culture	1510
No. of Specimens subjected for identification test	353
Total No. of Sensitivity test done by proportionate method by both for 1st and 2nd line drugs using LJ	385
Total no. of drug Susceptibility tests performed using MGIT	331
Total no Line Probe Assay performed	278



### Animal Lab Unit

1. Breeding and maintenance of homogenous stock of laboratory animals (Guinea pigs).
2. Major research activities:
  - A. "Role of Drug Resistant isolates of M.tuberculosis on Infectivity, Pathogenesis & Transmission of Tuberculosis in Guinea Pig Animal Model" (R.P. No.232).
  - B. Maintenance of High Virulent status of M.tuberculosis strain.
  - C. "Virulence assay of parental, devR mutant and complemented strains of M.tuberculosis in NTI-bred albino guinea pigs" in collaboration with the Dept. of Biotechnology AIIMS, Delhi. Study completed & sent for publication from AIIMS.

### International Centre for Excellence in Laboratory Training (ICELT)

It provides Training to the personnel who are working in about 43 Culture Laboratories in different parts of the Country in Newer Diagnostic Tools for Diagnosing TB & Drug resistant TB. The ICELT was inaugurated on 20th January 2011.

were taken to check outbreak of diseases among breeding stock. One hundred twenty four freshly raised animals were utilized for the ongoing research projects. Outdoor Shelter for Retired Breeders was maintained in good condition. Monthly & "Quarterly report on monitoring the experiment on animals" in organizations/Institutions under Dte.GHS were prepared in the prescribed format for timely submission to ADG (EPI) with a copy to DDG (TB).

### B. Research Activities

"Role of Drug Resistant isolates of M.Tuberculosis on Infectivity, Pathogenesis & Transmission of Tuberculosis in Guinea Pig Animal Model" (R.P. No.232).

Nine coded suspensions received from the Bacteriology unit, during the above period, were inoculated in prescribed 108 number of albino guinea pigs (12 animals for each coded suspension. Briefly, 0.5 ml of suspension was injected subcutaneously in the medial aspect of right thigh of each guinea pig. Weights of all the animals prior to inoculation and every week post infection were recorded. For assessing the variation in the infectivity and pathogenicity of drug-resistant isolates of M.tuberculosis, post-mortem examinations were conducted on 123 guinea pigs that had been infected with coded drug-resistant

### Activities carried out during the period

Sl. No.	Name of Training	Date from to	Number of Participants
1.	Practical course on the Rapid Molecular Detection of Mycobacterium tuberculosis and its resistance to isoniazid and rifampicin by PCR based Line Probe Assay	9-13 July 2012; 16-20 July 2012 24 - 28 Sept 2012	12
2.	Laboratory Training on Growth Detection, Identification and Drug Susceptibility Testing of Mycobacterium Tuberculosis using Liquid Media	27 Aug - 7 Sept 2012; 10 - 21 Sept 2012 8 - 19 Oct 2012	10
3.	Hands on training on Cartridge based Nucleic Acid Amplification Test	8 Oct 2012	7
4.	Training for Liquid Culture	29 Oct to 9th Nov	4

### A. Status of laboratory Animals

Homogeneous stock of 377 albino guinea pigs was raised in healthy condition. Appropriate preventative measures

isolates of M.tuberculosis. Lymph glands (RLG/ILG/SLG) / Spleen from these animals were aseptically dissected out, mechanically homogenized, serial dilutions prepared and inoculated on LJ media for viable counts of colony

forming units (cfu) after its incubation period by two independent readers, as per the approved action plan/ work instruction. Gross lesions, if any, were also assessed and scored at the time of necropsy.

### C. Papers under publication: Two

1. "Implications of DevR-mediated signalling in hypoxic survival and virulence in guinea pigs". - Collaborative research project between AIIMS, New Delhi and NTI, Bangalore.
2. "Mycobacterium tuberculosis Rv3881c elicits poly-functional CD8+ T cells in PPD-positive healthy volunteers and affords significant protection in the guinea pig model". – Collaborative research project between IISc., Bangalore

### Epidemiology and Research Division

The research studies/projects taken up by the institute are as follows:

- Nodal centre for carrying TB Disease Prevalence Survey under RNTCP.
- Nodal Centre for Repeat Zonal ARTI Surveys.
- Study on "Routine Referral of TB patients to integrated Counselling & Testing Centre".
- Tobacco Cessation Intervention among the Pulmonary TB cases in selected treatment units of Bangalore District.
- Assessment of documentation of HIV related information on TB treatment card & relevant records.
- Review of Articles for journals – 10Nos.
- Prospective Multi-centric cohort study to assess risk factors for unfavourable treatment outcomes, including recurrent TB, among sputum positive Pulmonary Tuberculosis Patients treated with CAT-1 regimen of RNTCP.
- Disease Prevalence Survey in Nelamangala Taluk

### Activities carried out

**Challenges in Implementation of Diagnostic Algorithm for Patients having Symptoms Suggestive of Pulmonary TB with Smear Negative report on initial sputum examination.**

### Objectives:

- i) To find out the proportions of smear negative patients that complete the diagnostic algorithm under RNTCP in Karnataka state.
- ii) To find out health system and patient related barriers to completion of diagnostic algorithm for smear negative patients.
- iii) To gain insights into the care seeking behavior of smear negative patients.

### Methodology in brief

The study was carried out in 3 districts namely, Mysore, Chikkamagalur and Shimoga. Districts have been selected using Simple Random Sampling (SRS). In each district, 20% of the DMCs selected using stratified random sampling; the strata were based on location in rural/urban area and availability of X-ray facility within the DMC. In each DMC, the lab register for the month preceding the visit of research team by two months reviewed to find out the numbers of smear negative patients. 90 patients selected from each district. Within individual districts, this sample size allocated equally to the selected DMCs. In each DMC, a line list of smear negative patients (both the sputum specimen negative on initial examination /one specimen examined and negative) during the month obtained from the lab register. Pediatric TB suspects (<15 years) and those not residing in the jurisdiction of the concerned TU excluded. Interviews conducted with these patients.

In order to understand the challenges and constraints in implementing the algorithm and relevant suggestions, in depth interviews conducted in a randomly selected sample of 5 MOs in each district.

### Current Status of the study

Field work started from 9th April and continued up to September 2012 in the districts of Mysore and followed by Shimoga and Chikkamagalur. Observation visits were made by Dr VK Chadha and field work was carried out by ERD officials during this period. The data entries of all the districts are completed and analysis of Mysore district is completed and the other 2 districts analyses are under progress.

### Trainings, Meetings and Workshops

Participant	Purpose of meeting/workshop	Date and Venue
Dr VK Chadha	‘Technical Expert Group on TB Burden Estimation in India’	23rd April, at LRS, New Delhi
	First Meeting of sub groups of ORs related to TB burden estimation’	NTI, Bangalore on 12th and 13th May 2012
	Second meeting of sub-group for ORs related to TB burden estimation	At NTI, Bangalore on 18th and 19th July 2012.
	GOI-WHO Joint Monitoring Meeting (JMM)	At New Delhi, from 27th to 31st August 2012
	A Facilitator in training program for Post Graduates	At NTI , Bangalore on 20th September 2012
	Attended the meeting held with Joint secretary (GOI)	At NTI , Bangalore, on 24th September 2012
	Dr Peter Small from Gates foundation and Dr PR Narayanan regarding research and PPM facilitated in meeting for strengthening of STDC	At NTI , Bangalore, on 24th September 2012 At NTI, Bangalore, from 26th and 27th September 2012.
Mr Hemanth NK and Mr Shivashankar	RNTCP modular training	2 weeks from 22nd August 2012 at NTI, Bangalore

#### Monitoring & Evaluation Division

With full coverage of RNTCP in the country, the Institute is not compiling the reports on NTP. At present, the monitoring activity is being carried out by the Central TB Division under DGHS.

#### I. Research

1. Nelamangala School Study RP/230, cleaning of database with respect to double data entry. As desired by the P.I (Dr. V.K. Chadha), corrected final data base was submitted to him for further analysis.
2. Regarding NRL data: Generated the tables on Analysis of Proficiency testing results of 9 C & DST Labs namely Choitram, JJM, BMHRC, SMSMC, Ajmer, Ranchi, Kolkata, Cuttack and Nagpur set of 20 each data.

#### II. Monitoring of RNTCP

1. Meetings conducted with Director for establishing M&E Plan.

2. Resubmission of Action Plan for 2012-13.
3. With the above points Divisional meetings were held for strengthening of Monitoring of RNTCP.
4. On-going analysis of Gujarat state RNTCP Performance report for Fourth Quarter 2011.
5. Regarding TAI paper/Article – Review of the Statistical tests for univariate and multivariate analytical tables
6. Analyzing on the RNTCP Performance Report for Second Quarter, 2011.

#### III. Evaluation

Dr. Somashekar, TB Specialist attended Central Internal Evaluation of Hyderabad district of Andhra Pradesh from 09/04/2012 to 13/04/2012 and participated in the CIE of Bhopal Dist., MP from 9th-13th July 2012.

#### IV. Other Activities

1. Officer attended ISS- Induction training Programme at NASA Greater Noida from 16-04-2012 to 25-05-2012.

- Officer and staff attended National Statistics Day on 29th June '12 at Kendriya Sadan, Koramangla, Bangalore.
- Staff is involved in "Strengthening of STDC's for effective support to RNTCP". Staff attended the meeting to Review STDC guidelines.
- Officers attended in service ISS training@ Mumbai.

#### Communication and Sociology Division

- The Scientific Gallery has been established to disseminate the general information on TB the evolution of the programme and achievements of the Institute since its inception. Considering the needs of various categories of trainees, two methods of display units viz., Photo Display and Projection facility and Information Kiosk are available.
- One day Awareness Programmes are held by the Division for the Medical and Para medical students from different institutions of the state and neighbouring states, orientation to students of medical colleges and other teaching.
- The Division is planning to carryout research on sociological aspects of TB.

#### Major activities carried out

- Projection material used for the students of life science was refined & new power Point material is developed.
- A letter was sent to all nursing colleges' principals who had sent their students to NTI for orientation between sept.2011 to March 2012 to ensure their continued participation to intensify the ACSM activity at our Institute.
- To increase the coverage of ACSM activity a letter was sent to the Director, Dept. of pre-university education, Govt. of Karnataka, Informing about the need and availability of awareness programme on Tuberculosis Disease & RNTCP for young generation at NTI to ensure the participation of pre-university course Students from the colleges under their jurisdiction.
- Two teams Comprising Shri.Mallikarjuanaiah, Shri.Hemantakumar N.K & Shri Srinivasulu O, Shri Govindanarayanawamy visited 24 pre-university

colleges to inform & collect the data on availability of infrastructure to conduct awareness programme on Tuberculosis Disease & RNTCP at their college.

- Developed a Power Point presentation for Tuberculosis awareness programme for pre-university course students.
- Visit of students: Students from organization mentioned below visited the Institute between 1st April 2012- 19th Oct 2012 and they were sensitized about TB problem, TB control program, its strategies and the role that they could play in control of TB.

Under Advocacy Communication and Social Mobilisation, NTI provided one day orientation/sensitization training for students of the life sciences of various institutes as follows

Sl. No	Category of Students	No.of Students
01	Msc(Nursing)	011
02	Bsc(Nursing)	886
03	DGNM	106
04	Bsc (Microbiology)	013
05	Msc(Microbiology)	010
06	PG'S & Scholars Unani medicine	000
06	Under graduate & Post graduate Medical stdnts.	021
07	Medical Assistant Trainees	096
08	Public health students	013
09	Diploma in paramedical students	047
<b>Total number of students</b>		<b>1203</b>

#### Administration Division

- The administrative division facilitates for the comfortable stay of the participants who come for Training /Workshops/Seminars by taking care of there accommodation by proper upkeeping of Hostels and Guest Houses.
- It also takes care of the Transport requirements for the Operations research and Field visits of Trainees.
- It is also responsible for security, upkeeping and proper ambience of 23 acres of the sprawling NTI campus.



Details of Budget received under Non Plan and Plan and Expenditure up to end of December 2012 is as follows:

(Rupees in Thousands)

	Budget received	Expenditure
Non Plan	70000	60225
Plan	24000	14865
<b>Total</b>	<b>94000</b>	<b>75090</b>

#### Other important Activity

1. The Faculty and the technical staff participated in the appraisal and Central Evaluation of RNTCP districts as and when called upon to do so and given the technical support for implementation of RNTCP.
2. They also participated in important meetings conducted by the Central TB Division and Annual National TB Conference.

#### 15.41 HSCC (INDIA) LIMITED, NOIDA

HSCC has been incorporated under the Companies Act, 1956 in March, 1983 as Public Sector Enterprise under the Ministry of Health & Family Welfare with an Authorized Capital of Rs. 50 Lakhs and paid up capital of Rs. 40 Lakhs. Authorized Capital and paid up capital has been increased from time to time. The Authorized Capital of the Company as on 31.03.12 is Rs.500 Lakhs divided into 5, 00,000 equity shares of Rs.100/- each. The paid up Capital of the Company as on 31.03.12 is Rs.240 Lakhs. It includes the Bonus Shares of Rs. 120 Lakhs and Rs. 80 Lakhs issued, during the financial year 2003-04 and 2008-09 respectively, to existing Shareholders out of its Reserve & Surplus. Since inception the total business of the Company has been managed without any borrowing either from the Government or from other sources. HSCC has earned the distinction of maintaining its 'Mini Ratna' status from September 1999 onwards.

HSCC is a multi- disciplinary renowned consultancy organisation in healthcare infrastructure such as Hospital, Medical Colleges, Laboratories and procurement of medical equipments and pharmaceuticals. Its service spectrum covers feasibility studies, design engineering, detailed tender documentation, construction supervision, comprehensive project management, procurement support services in all areas of civil, electrical, mechanical, information technology and auxiliary medical services. Its important clients include:

- Ministry of Health & Family Welfare and its Hospitals/ Institutes
- Ministry of External Affairs and other Ministries
- State Governments and their Hospitals/ Institutes
- PSU/ Other Institutes such as ICMR CSIR, ICAR, DOBT, PIMS, PGI Chandigarh, Govt. of Punjab, Govt. of Haryana and other Business Associates

HSCC being knowledge management consultancy company in health infrastructure sector employs competitive and highly skilled cadre of Architects, Engineers, Economists, Chartered Accountants, Cost Accountants, MBAs and a pool of Consultants in the areas of Medicines and Corporate Planning, etc. HSCC enjoys a good working employees relationship at all levels.

In order to develop into a world class Consultancy Organisation, thrust is on diversifying and expanding the operations and also the client base of the Company. Further, the Company has also been exploring business opportunities abroad through Ministry of External Affairs.

The Company is an ISO 9001 accredited company. The Company has from, time to time, taken various steps to upgrade quality assurance system and degree of clients satisfaction. The Company is "ISO 9001:2008" certified Company and has internal quality control as required for its various projects and assignments.

HSCC has been signing MOU with the Ministry of Health & Family Welfare since 1996-97. The Company has been rated excellent by DPE from the year 2007-08 to 2010-11 and expected to be rated 'Excellent' for the year 2011-12 based on its audited results.

The Company follows good Corporate Governance practices. Corporate Governance Practices in the Company focus on transparency, integrity, professionalism, accountability and proper disclosure. Knowledge Management System, E-tendering, E- procurement, Internal cum Concurrent Audit.

The Company being in the field of Health Care, all its activities and operations are indirectly dedicated towards the social responsibility. During the year 2011-12, the company has prepared long term Plan of CSR and was created CSR Fund of Rs. 46.52 lakhs as on 31.03.2012. The focus of strategic CSR is on outcomes that enhance the business context and simultaneously add value to the social dimension.

The Company was awarded the work of rendering Consultancy Services for Design & Engineering, Project Management and Procurement of Medical Equipments, Drugs & Pharmaceuticals, etc. for various prestigious & challenging projects in India and abroad. A list of the major on-going projects where HSCC is rendering Consultancy Services is as under:

### 1. Summary of major on-going Consultancy Projects as on date

#### A. Architectural Planning, Design Engineering & Project Management Services

- Construction of North Eastern Institute for Ayurveda & Homeopathy for NEIGRIHMS, Shillong
- Comprehensive Re-development Plan for Lady Hardinge Medical College, New Delhi
- Construction of General hospital at Naharlagun (A.P.)
- Construction of PG Gents & Ladies Hostel, UG Ladies Hostel, Nursing Hostel and Internee Hostel at Regional Institute of Medical Sciences (RIMS), Imphal (Package - I)
- RIMS, Imphal (Package - II) - Construction of OPD block
- Construction of Super Specialty Block, OPD & Academic Block at Kolkata Medical College, Kolkata Under PMSSY
- Construction of All India Institute of Ayurveda (Under Department of Ayush, MOH&FW) at Sarita Vihar, New Delhi
- Construction of additional two floors on the existing building for II phase of NVARI at Indira Nagar, Lucknow under CCRAS, Deptt of Ayush
- Construction of Super Specialty Block at Dr. R.P.Govt. Medical College, Kangra at Tanda (H.P)
- Construction of Guru Tegh Bahadur Diagnostic Centre at Govt. Medical College, Amritsar under PMSSY
- Construction of underground parking at AIIMS, Masjid Modh, New Delhi

- Construction of PC Teaching Block for AIIMS within AIIMS Campus, Ansari Nagar, New Delhi
- Construction of Dinning Block for AIIMS within AIIMS Campus, Ansari Nagar, New Delhi
- Construction of Hostel block 1,2, & 3 for AIIMS within AIIMS Campus, Ansari Nagar, New Delhi
- Construction of outreach AIIMS - OPD at Jhajjar, Haryana
- National Institute of Unani Medicine (NIUM), Bangalore Construction of Regimental Therapy Block, Auditorium & Pharmacy building under phase - III works
- Development of New Campus for IICB, Salt Lake, Kolkata
- Substation Work. GMC, Patiala
- Advanced Cancer Diagnostic, Treatment & Research Centre, Bhatinda
- Nursing college & National level Physiotherapy Workshop at GMC, Patiala
- Construction of AIIMS Housing Balance and phase II work at Bhubaneshwar (Orissa) under PMSSY
- Construction of Bio - Safety Level-3 Laboratory at RMRC, Dibrugarh.

#### Abroad

- 200 Bedded Emergency and Trauma Centre for Bir Hospital, Kathmandu, Nepal
- District General Hospital at Dickoya, Sri Lanka

#### B. Procurement Management Services

- Medical Equipment for NEIGRIHMS, Shillong
- Drugs and Equipments for Central Government Health Scheme
- Medical Equipments for Bir Hospital, Kathmandu, MEA
- Lab Equipments for CDSCO
- Medical Equipments for Yangon & Sittway Myanmar.

### C. Studies and Training Services

- Detailed Project Report for upgradation of National Institute of Communicable Diseases (NICD) to National Centre for Disease Control (NCDC), Delhi
- Feasibility Reports for the Super Speciality Hospitals at Sibasagar, Assam and Ankleshwar, Gujarat for ONGC
- Feasibility Report for improving the Health Service delivery at Pasireuyativa Group of Hospitals at Harare, Zimbabwe

### 2. Financial Highlights

During the year 2011-12, the Company has completed 29 years and continued to maintain an all round progress in its activities and operations.

The Company's financial achievements during the year 2011-12 are as under:-

- Highest ever Total Income of Rs. 4458 Lakhs as compared to Rs. 3345 Lakhs in the previous year resulting 33 % growth.
- Highest ever Consultancy Fee of Rs. 2929 Lakhs as compared to Rs. 2311 Lakhs for previous year resulting 27% growth ,
- Highest ever Net Profit of Rs.1471 Lakhs as compared to Rs. 833 Lakhs in the previous year resulting 76 % growth
- Highest ever Dividend of Rs. 300.02 Lakhs compared to Rs.172.81 Lakhs in the previous year resulting in increase from 72% to 125% of paid-up capital.
- This is the 27th consecutive year in which the Company has recommended dividend and with this the cumulative dividend till 2011-12 will stand at Rs. 2590.16 lakhs.
- Reserves and Surplus with the company touched an all time high of Rs. 8708 Lakhs as on 31.03.12.

### 15.42 PRADHAN MANTRI SWASTHYA SURAKSHA YOJANA (PMSSY)

Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) envisages the following:

- I. Establishment of six AIIMS-like institutions and upgradation of existing 13 medical college institutions in the first phase;

- II. Establishment of two AIIMS like institutions and upgradation of 6 more medical college institutions in the second phase.

It aims at correcting regional imbalances in the availability of affordable/reliable tertiary healthcare services and to also augment facilities for quality medical education in the country.

#### A. Setting up of AIIMS-like institutions

Civil work for construction of Medical Colleges at six AIIMS-like institutions in first phase was started in May-June, 2010 and Hospital Complex in September, 2010. Academic session of medical colleges at all the six places started with 50 MBBS seats from September, 2012. Hospitals are expected to be operationalized by 2013-14. Residential complex at Jodhpur and Raipur has been completed and the work is in progress at remaining sites. Other related works such as Electrical Services; Estate Services & Public Health and procurement of furniture have also started and is in progress.

Ministry of Finance has accorded approval for creation of 1145 posts required to be filled up in first phase for each of the institution. 25 faculty were appointed to start first year of MBBS course in each institution. Directors for all six AIIMS have assumed charge. All India Institute of Medical Sciences Act, 1956 has been amended by the Parliament in September, 2012 to provide autonomous status to six AIIMS.

Government of Uttar Pradesh has identified site for the AIIMS-like institution proposed to be set up at Rae Bareilly in Uttar Pradesh, in the second phase of PMSSY. For the proposed AIIMS-like institution in West Bengal land required for the institution is to be acquired and handed over by the State Government to this Ministry.

#### B. Upgradation of Government Medical College

Out of 13 existing Government Medical College institutions taken up for upgradation in the first phase of PMSSY, civil work at 6 medical colleges, viz. Thiruvananthapuram Medical College; Bangalore Medical College; Salem Medical College; NIMS, Hyderabad; SGPGIMS, Lucknow and Jammu Medical College has already been completed and work at remaining institutions is in progress.

Out of 6 Medical College institutions taken up for upgradation in the second phase, civil work at Government Medical College, Tanda, Jawaharlal Medical College of

Aligarh Muslim University, Aligarh and Amritsar Medical College have already started and is in progress. In respect of Pt. B.D. Sharma Postgraduate Institute of Medical Sciences, Rohtak, civil work has been awarded recently. At Nagpur Medical College, upgradation programme involves only procurement of equipments and entire procurement work is being undertaken by the Institute/ State Government.

### 15.43 INTERNATIONAL INSTITUTE FOR POPULATION SCIENCES, DEONAR, MUMBAI

#### Introduction

International Institute for Population Sciences, Mumbai, was established in 1956 as the Demographic Training and Research Centre. The Institute is a "Deemed University" functioning under the administrative control of the Ministry of Health and Family Welfare, to impart training, conduct research and provide consultancy services in the field of Population Studies. The Institute has six Departments viz. Department of Mathematical Demography and Statistics, Department of Fertility Studies, Department of Public Health and Mortality Studies, Department of Migration and Urban Studies, Department of Population Policies and Programmes and Department of Development Studies. In addition, Department of Extra Mural Studies is functioning since August 1993 on yearly project basis. Apart from the Director & Senior Professor, the faculty consists of 33 members, who are engaged in both teaching and research.

#### Teaching Programmes

During the year 2011-12, the Institute offered the following regular courses: (a) Diploma in Health Promotion Education (DHPE), (b) Post Graduate Diploma in Community Healthcare (PGDCH), (c) Master of Arts / Science in Population Studies (M.A. /M.Sc.), (d) Master of Population Studies (MPS), (e) Master of Philosophy in Population Studies (M.Phil.) (18 months & 1 year course) and (f) Doctor of Philosophy in Population Studies (Ph.D.). Apart from these programmes, the Institute also offers Master of Population Studies (MPS) and Diploma in Population Studies (DPS) through distance learning.

During 2011-12, 18 students qualified for award of Diploma in Health Promotion Education, 7 students qualified for award of Post Graduate Diploma in Community Healthcare, 14 students qualified for award

of degree in Master of Arts/Science in Population Studies, 37 students qualified for award of degree in Master of Population Studies, 23 students qualified for the award of degree in Master of Philosophy in Population Studies, 7 students qualified for the award of degree in M.Phil (one year), 8 students had qualified for the award of Doctor of Philosophy in Population Studies, 21 students qualified for award of degree in Master of Population Studies (Distance Learning) and 7 students had qualified for the award of Diploma in Population Studies (Distance Learning).

#### Short-term training/instructional courses

In addition to the above, the Institute conducts short-term training courses on request. The following two short-term training programmes were conducted during the academic year 2011-12.

- I. Construction of Life Tables and Population Projections for Probationers of Indian Statistical Service, 19th – 23rd December, 2011.
- II. Demographic Analysis and Population Projections for CBS Officers from Nepal, 26th December, 2011-15th January, 2012.

**Research:** The Institute had completed 2 Research Projects during 2011-12. There are 5 on-going research projects funded by the Institute which are at different stages of completion. The Institute had also completed 3 research projects funded by external agencies, and 10 research projects are in various stages of completion. The Institute has undertaken 1 new project.

**Consultancy Services:** During the year the Institute provided consultancy services to various institutions in India in the field of Population.

**Publications:** The Institute brings out quarterly Newsletter, which publishes information about various ongoing activities of the Institute. During the year 2011-12, the Institute published two issues of IIPS Newsletters covering four numbers. In addition Publication Unit brings out research briefs and working paper series based on different research projects completed by the Institute as part of dissemination of IIPS research findings.

**Library:** The Institute maintains an excellent library with most recent books on population and related topics. There are 80904 books, 14583 bound volumes of periodicals and 16505 reprints and 185 CD ROMS in the library. The



library receives about 325 Indian as well as foreign journals, out of which 175 are received by way of subscription and another 150 are received by gift/exchange. More than 23612 journal articles have been indexed and added to the library operation software.

The library has books on different disciplines such as Demography, Statistics, Public Health, Family Planning, Anthropology, Mathematics, Economics, Sociology, Psychology, Health Education, Political Science, Geography, Computer Programming, etc. published by the Union Government, State Governments, Corporate Bodies, International Agencies and Commercial Publishers of India as well as abroad.

The library is housed in a separate building on the first and second floors consisting of a reading hall with a seating capacity of 70. The library provides abstract and current awareness services, documentation, reference, inter-library loan and photocopying facilities. The library has a special collection of all the Census Publications of India and other neighbour countries. The library has digitized Census Volumes from 1891-1941 and are accessible through intranet.

The library is fully automated with the help of SLIM-21 software which offers Online Public Access Catalogue (OPAC) through a network of computers. The full text online databases offered in the library are JSTOR, INDIASTAT.COM, SCIENCEDIRECT (Soc. Sc. Collection) Scopus, POPLINE, important journal access from Sage, Taylor & Francis, Oxford, Wiley, Cambridge, Springer etc provides from the library. The books available in Hindi language in the library its' bibliographical database has been made available in Devnagiri script, and accessible through OPAC. The IIPS library is a Member Library of INFLIBNET Centre (Information and Library Networking of UGC).

#### **Information, Communication and Technology unit**

The ICT Unit of the institute which was till recently known as the Computer Centre is well equipped with the latest computers and statistical software required for data analysis. The Unit has one main classroom/lab room with 42 Pentium – IV and higher generation computers with three LCD projectors. A second classroom with 16 computers has been established to meet the requirement to run the Short Term courses and regular classes simultaneously. This second classroom is also being used

by students and research scholars for their research data entry and analysis.

The software packages installed are SPSS, STATA, Spectrum, MORTPAC, GIS, Atlas Ti and ML Win which are used by the research scholars and students for analyzing their data. All the computers are configured for internet access. The ICT Unit has a network attached storage (Nasstor) server, which stores the data from Census, NFHS, DLHS etc. and one email server, for providing the internal email facility to the institute. There are total 260 desktop computers and eight servers in the Institute and the ICT unit looks after providing the services like installation of software, configuration for the internet and local mail access and giving the technical support as and when required.

The ICT Unit has a 2 Mbps Leased Line connection which is distributed among the different users through a Local Area Network. Another 2 Mbps backup line to provide wireless internet facilities has been established and made available to the students in the hostels. To secure the internet access FortiGate Firewall has been installed.

**Data Centre:** The Data Center of the institute acquired the data sets of Census of 1991 and 2001, National Family Health Survey 1, 2 and 3, DLHS (RCH) 1, 2 and 3, Demographic Health Survey (DHS) and National Sample Survey (NSS) data on CD-ROM media, which are available to the researchers. An E-book in the CD-ROM media containing the full papers of DPS/MPS/M.Phil students' seminar has been prepared, and six e-books on topics related to the reproductive health, child and maternal mortality are also prepared. Data sets from National Family Health Survey and DLHS are provided to researchers who request them. Data from the successive rounds of the National Sample Survey conducted by the NSSO is purchased and made available for research.

At present, the users are directly accessing resources such as Demographic data sets and databases, which are stored on the server. Further, server based softwares like GIS and OPAC (Library Information) can be accessed through the campus network including the internet. The users can also access Bibliographic Data Bases such as Popline, Jstor, Science Direct, Scopus, etc.

The Institute has a website <http://www.iipsindia.org> having a storage capacity of 10 GB, which has recently been upgraded and redesigned. Information regarding the

institute as per UGC norms is being updated regularly on the website and is in the process of being uploaded in Hindi. Efforts are also on to make the website interactive. Steps have been initiated to install an E-Governance package to cover the functioning of the various Departments of the institute including Accounts and Administration.

### **Observance of World Population Day**

Every year IIPS celebrates World Population Day to focus attention on various issues related to population and development. Eminent speakers are invited to give lectures. The theme of this year's World Population Day was "1.21 Billion Indians: Opportunities and Challenges".

On the occasion of World population Day, IIPS organized a symposium.

### **Notable achievements of the Institute**

#### **I District Level Household and Facility Survey**

The District Level Household and Facility Survey (DLHS) was initiated in 2012 in order to assess the utilization of reproductive and child health services provided through the healthcare system in India, particularly, by the public health care facilities and also to assess the infrastructure, manpower, equipments, medicines and communication adequacies of health facilities. The DLHS-4 is the fourth in the series of district level surveys, following DLHS-1 in 1998-99, DLHS-2 in 2002-04 and DLHS-3 in 2007-08. DLHS-4, like other three earlier rounds is designed to provide estimation of critical indicators on maternal and child health, family planning and other reproductive health services.

The results of DLHS-4 shall serve as a means to monitor the progress and success of the National Rural Health Mission (NRHM), which has completed its sixth years of implementation in the country. An added component of DLHS-4, is the CAB (Clinical, Anthropometric and Bio-Chemical) test and measurements to ascertain the prevalence of anemia, diabetes, BP, and other anthropometric parameters, particularly for assessment of prevalence of child malnutrition. For the first time in large scale surveys in the country the GPS (Global Positioning System) shall be use to record Geographical Location of the PSU's for future health interventions and CAPI (Computer Assisted Personal Interview) for the personal interview.

### **Progress as on October 2012**

The progress of DLHS-4 is listed below:-

1. Pre-test report submitted to MoHFW.
2. Request for selected list of PSU for AHS State was sent to MoHFW and RGI with reminder.
3. Rural and Urban sampling has been completed of 11 groups of States/ UTs.
4. MOA signing with IIPS and field agencies has been completed.
5. Pre-bid conference and re-bidding of 8 Non-AHS and 4 AHS states for DLHS-4 has been completed.
6. Mapping & Listing TOT for 11 groups of states has been completed.
7. Protocol for monitoring & supervision has been completed and sent to MoHFW and concerned PRCs.
8. Development of CAPI software has been completed and translation of questionnaires and manuals in regional language has been completed by FAs.
9. Mapping and Listing field work implemented in 11 groups of States/ UTs.
10. TOT for main survey (First Phase) has been completed and attended by all field agencies except AMS.
11. TOT for Partner Institute and Health Coordinator has been completed by NIHFW.
12. The M&L training for 2nd groups of states are in progress.
13. FAs of 11 groups of States/UTs are sending their Excel Sheet Data.
14. IT Coordinator Training and uploading in CAPI has been completed in IIPS.
15. CAB components are received by most of the field agencies.
16. Now, most of the first group of FAs (11 groups of States/UTs) are planning for state level main training.

#### **II Longitudinal Ageing Study in India (LASI – Pilot) Project**

Life expectancy in India has been increasing steadily for more than 50 years. Now approximately 65 years, the

UN Population Division (2007) projects it to reach 70 by 2020 and 75 by 2045. These figures mask the wide variation across states, with concomitant variations in shares of the older population. The share of the population aged 60 and above is projected to increase from the current 7% to 20% (335 million people) in 2050 and of those over 80 from 1% to 3% (51 million people) (United Nations, 2007).

This rapid rate of population aging presents policy makers with urgent economic and social challenges. Data are lacking on the health and economic security of India's growing elderly population and concern is mounting about how this expanding group will support itself. By assembling a research team of demographers, economists, health, and policy experts, the proposed Longitudinal Ageing Study in India (LASI) aims to take stock of the health and socioeconomic wellbeing of India's elderly population with the aim of using their findings to inform the design of policies that can protect and support the growing elderly community.

LASI will be positioned to evaluate the effect of changing policies on behavioral outcomes and create valuable longitudinal data base for research and policy on ageing population in India. LASI focuses on health and wellbeing elderly population in India. LASI is conceptually comparable to Health and Retirement Study (HRS) in US and Europe (SHARE) and is harmonized with its sister surveys in Asia – such as the Chinese Health and Retirement Longitudinal Study (CHARLS) and the Korean Longitudinal Study of Aging (KLoSA) – to allow for cross-country comparison. LASI also takes account of features unique to India, including its institutional and cultural characteristics.

### **LASI Pilot Results Dissemination**

LASI Pilot results dissemination was conducted on March 14-15 2012 with presentation of four papers 1) LASI Pilot: Overview, vision and goals 2) Economic Wellbeing of Older Indians: LASI Pilot Results 3) Markers and Drivers of Health of Older Indians) Social and Family Network and Wellbeing of Older Indians in the International Conference on Policy Research and Data Needs To Meet the Challenges and Opportunities of Population Ageing in Asia” organized by the Indian National Science Academy, the U.S. National Academy Sciences, Asian Science Academy, New Delhi.

The third advisory committee meeting of LASI was conducted on 13 March at Indian National Science

Academy, New Delhi. The LASI team shared the Pilot field work experience, preliminary results and obtained advice on plans for the main wave. The meeting was attended by more than 30 participants of the LASI national and international advisory board. Three papers were published in volume on Ageing in Asia published by the National Academy Press, US. LASI Pilot data made available online in December 2011 and there has been more than 250 LASI pilot data downloads by researchers worldwide.

### **LASI Main Wave:**

LASI is designed as a longitudinal panel study health and ageing and first main wave is designed to a national sample of 50,000 persons in age 45+. The first main wave was planned to be launched in 2012 and was projected to follow-up for the next 25 years with a follow-up survey for every two years. LASI research and sampling design allows national and state representative samples for 29 states and 2 union territories, comprising more than 99.9% of India's population.

These data will also provide a much-needed foundation for scientific research and policy making related to aging in India. Through comparative studies, LASI will contribute to scientific insights and policy development in other countries because of its harmonized design with parallel international studies. LASI will ultimately be part of a worldwide effort aimed at understanding how different institutions, cultures, and policies can influence, and prepare for, population ageing.

### **Project funding and collaborating institutions**

The LASI-Pilot project is supported by a grant from the National Institute on Aging (NIA), National Institutes of Health (NIH), USA.

LASI main is planned to be undertaken under the aegis of the Ministry of Health and Family Welfare, Government of India. For the main waves beginning from 2013, funding is expected from Government of India, National Institute on Aging (NIA), USA, and Development partners.

LASI main wave project proposal has been submitted for part funding to the following institutions. The proposals are under review and consideration for funding.

- Ministry of Health and Family Welfare, Division of NCD, Government of India, New Delhi.

- Ministry of Social Justice and Empowerment, Ageing Division, Government of India, New Delhi.
- United Nation Fund for Population Activities (UNFPA), India, New Delhi.
- National Institute of Ageing/National Institute of Health (NIA/NIH), US.

The LASI national and international collaborating institutions are:

1. International Institute for Population Sciences (IIPS), Mumbai
2. State Geriatric Centres, MoHFW, Government of India
3. Indian Academy of Geriatrics (IAG)
4. National AIDS Research Institute (NARI), Mumbai
5. Harvard School of Public Health, USA
6. The RAND Corporation, USA
7. The University of California.

#### **Duration for first two waves of LASI: 2013-18**

### **III Health of the Urban Project (HUP)**

The Health of the Urban Poor (HUP) project was initiated by the institute in January 2011 in three cities, namely Bhubaneswar (Odisha), Jaipur (Rajasthan) & Pune (Maharashtra). Data collect was completed by November 2011.

In 2012, the activities of the project include sharing of key findings with PFI, USAID, and the Ethiopian delegation on 14 February, 2012, tabulation plan for report, generation of tables, preparation of key findings, and dissemination of key findings in the three cities (13 August in Jaipur, 17 August in Bhubaneswar, and 22 August in Pune).

Planning on report writing started in September, in which chapterization and data also was done. Along with these activities, preparation for bringing out 5 scientific papers and national dissemination is going on.

### **IV. Comprehensive Nutrition Survey in Maharashtra (CNSM)**

#### **Background and Objectives:**

The 2005-06 National Family Health Survey (NFHS-3) has been used as the foundation for advocacy, policy and

programme action for maternal and child nutrition; since 2006 no estimates of the nutrition situation of children and women were made available to assess the impact of the interventions implemented. In view of this situation, the Government of Maharashtra endorsed the need to implement the Comprehensive Nutrition Survey in Maharashtra (2012) to assess the impact of the State Nutrition Mission and provide the evidence base for the Mission's Phase-II.

The findings of the survey will help decision makers develop appropriate policies, strategies and programmes for the delivery of the essential nutrition interventions to those who need it most when they most need it. The financial and technical assistance was provided by the UNICEF.

The Maharashtra Comprehensive Nutrition Survey 2012 is the first ever state-specific nutrition survey with a focus on infants and children under two years and their mothers.

**The specific objectives are:** In order to serve as the baseline for the State Nutrition Mission to develop strategies for statewide implementation of the 10 essential nutrition interventions with a focus - on the most vulnerable and unreached pockets of rural, urban and tribal areas. The specific objectives of the survey are as follows:

1. To study the current feeding practices among infants and young children (0-24 months)
2. To assess the nutritional status of children below five years through anthropometric measurements (weight, height and mid-upper arm circumference)
3. To assess the mothers' food consumption pattern including their diet during pregnancy and lactation through a food frequency questionnaire.

#### **Progress as on 30th November 2012**

**Sampling:** Sampling design for this survey was suggested similar to NFHS-3 so that estimates of this survey can be compared with the results of NFHS-3 to get trend of child nutrition indicators. The rural and urban samples was drawn separately using a mutli-stage stratified sampling procedure. The rural sample was selected in two stages, with the selection of Primary Sampling Units (PSUs), which are villages, with probability proportional to population size (PPS) at the first stage, followed by random selection of households within each PSUs in the second stage among those households where at least one child



under two years was residing. In urban areas, a three-stage sampling procedure was followed using the ward as the first stage. The main reason for suggesting a three-stage-sample design in urban areas is that the urban wards are quite large and it is difficult to do house listing in the ward. Although data on lowest unit of urban areas i.e., Census Enumeration Blocks (CEB) the lowest unit of census enumeration in urban areas were collected, data not published in the Primary Census Abstract (PCA). For this reason, while selecting the urban sample, in the first stage, wards were selected with PPS sampling; and in the next stage, one CEB was selected by PPS from each selected ward. In the final stage, households were selected randomly within CEB. Hundred rural and 100 urban PSUs were selected as primary sampling units (PSUs) in the state.

The household to be interviewed were selected with equal probability from the part of house list which contains households with at least one child under two years in each area using systematic sampling.

Based on this, sample size was calculated in the following manner similar to the calculations followed for Multi-Indicator Cluster Survey. To get nutritional indicators by sex/gender rural and urban areas, the sample size is raised approximately three times and proposed sample size is 3000 children of 0-24 months. Considering the percentage of urban population according to 2011 census, it is proposed to have 1500 children from rural and 1500 from urban areas. The sample size is sufficiently large enough to facilitate overall tribal and slum level estimates with a somewhat lower, but still acceptable level of precision. However, if it was felt essential to have separate estimates for tribal population, then number of PSUs can be increased in the tribal block of state of Maharashtra.

**House listing Training:** In order to identify the household with under two years children and their mothers, house listing was carried out in the selected PSUs both in rural and urban areas. Before initiating the house listing operation, 3 days intensive training was given during January 4-6, 2012 at Pune to the 25 experienced personnels appointed by the survey agency i.e. Gokhale Institute of Politics and Economics, Pune. A details of house listing and mapping manual was provided to the trained field staff.

**Preparation of questionnaire:** Bilingual questionnaires in Marathi and English were used to collect data. Four

types of questionnaires were used, namely the Village questionnaire, Household questionnaire, Woman questionnaire and Child questionnaire. The Village questionnaire included information on the availability of ICDS, Health and other services. The Household questionnaire included questions on the socio-economic characteristics of the household such as availability of assets, sanitation and hygiene, access to iodized salt and other selected food security indicators. The Woman's questionnaire included information on women's characteristics, work status, marriage and fertility, antenatal care, delivery care, life style indicators and anthropometric measurements. The Child questionnaire included information on children's characteristics, feeding and care practices, immunization, and anthropometry including weight and height.

**Pretesting of the questionnaires:** Pretesting of the questionnaires were carried out both in rural and urban areas i.e. in Kondyachi Wadi in Panvel Tahsil and Mankhurd slum in Mumbai sub-urban during 26-31 December 2011. Based on the field experiences in pretesting, necessary changes were incorporated and accordingly the questionnaires were finalized for the main survey.

**Preparation of Manuals:** Two types of manuals were prepared for the main training and survey namely; Investigators Manual and Supervisors & Editors Manual consisting of interview techniques, illustrative diagrams related to measurement of height and weight of mother and child, information about vaccines, symptoms of some important diseases, age conversion chart, festival chart, consistency check for editing the fill-in questionnaires etc.

**Investigators selection and Training:** On the basis of qualification and experience, A total of seventy-nine investigators were selected for different districts of Maharashtra. Extensive training for these investigators was conducted for eight days including two days each of field practice and feed back of the field visit. The Investigators training was held during January 23-30, 2012.

**Field Work:** The field work schedule was planned and carried out from 06th February to 30th April 2012. The field work covered collection of data on below 2 years children from rural and urban areas of six administrative regions of Maharashtra. The field work was closely monitored and supervised by the Coordinators, Senior Research Officers, Research Officers and Assistant Research Officer from IIPS, as nodal agency.

**Training for data entry and actual data entry:** The data entry training was conducted during February 18-19, 2012. Five data entry operators were part of the training. Also practice sessions were made by entering filled up questionnaire. Accordingly the code sheet was modified and the entry of the data operators was checked. Data entry started from first week of March, 2012 to May 2012. After data entry, cleaning and data merging work carried out from June to August 2012.

**Preparation of Fact Sheet:** Preparatory work for the preparation of fact sheet for the Key Indicators and tabulation plan for all questionnaires (household, woman, child below 2 years) was initiated in September 2012 and final fact sheet has been finalized by 30th October 2012.

#### **15.44 FAMILY WELFARE TRAINING & RESEARCH CENTRE, MUMBAI**

Family Welfare Training & Research Centre (F.W.T. & R.C.), Mumbai is a Central Training Institute responsible for the in-service training in the key health areas for different categories of health personnel all over the country. Training related to Primary Health Care, Family Welfare, R.C.H., HIV/AIDS and other integrated National Health Programmes are imparted to various categories of health professionals of state and district levels, i.e. DHOs, DEMOs, Key-trainers etc. from Health & F.W. Training Centres. Centre is also conducting a one year academic Post-graduate Diploma in Health Education (Renamed as Diploma in Health Promotion Education) for the candidates deputed from all-over-the country and also for candidates sponsored by WHO/UNICEF/UNDP/DANIDA etc. The first course of D.H.P.E. was started in the year 1987-88. At present the XXVIth batch of the course is in progress, with 21 trainees.

With the launch of Government of India's National Rural Health Mission and the present health care services, FWTRC Mumbai is also conducting a Post-graduate Diploma in Community Health Care, for the para-medicals working in family welfare in Health Departments, NGOs and Private Sectors to improve their efficiency to cope up with the work under the NRHM for better delivery of health care services. This course is very much in line with the present mandate of national government to train medical manpower with rural background and serving in rural areas. The first course of this was started from October 2007. The duration of the course is 15 months. The fourth batch of D.C.H.C. is in progress. A total of 8 trainees are undergoing the above course.

The construction of the new Institutional premises of FWTRC, Mumbai at New Panvel, Navi Mumbai is progressing well. During the present fiscal, an amount of Rs. 90.70 lakh has been sanctioned and authorized to CPWD by the Ministry. At present, approximately 40% of RCC structural work for Ground + 2 floors of the Institutional premises have been completed.

#### **15.45 NATIONAL INSTITUTE OF HEALTH AND FAMILY WELFARE, NEW DELHI**

The National Institute of Health and Family Welfare (NIHFW) an autonomous and apex technical institute under the Ministry of Health and Family Welfare, Government of India, is working for the promotion of Public Health in the country. The thrust areas are Health and related Policies, Public Health Management, Health Sector Reforms, Health Economics and Financing, Population Optimization, Reproductive Health, Hospital Management, Communication for Health and Training Technology in Health. The Institute addresses a wide range of issues on Public Health through its eleven Departments which are multi-disciplinary in nature.

##### **Major Committees**

The major committees of the Institute include the Governing Body, the Standing Finance Committee and the Programme Advisory Committee. The management of Institute's affairs has been governed by the Governing Body while the finance matters and academic activities of the Institute are looked after by the Standing Finance Committee and the Programme Advisory Committee, respectively.

##### **Educational Activities**

The educational activities of the Institute are planned to impart basic education and promote academic excellence in the areas having a bearing on the health and family welfare programmes in the country.

**M.D. (Community Health Administration):** NIHFW conducts a three-year Post-graduate Degree Course (MD in Community Health Administration). This course is affiliated to the University of Delhi and attended by twenty four students in all; including eight in the first year, nine in the second year and seven in the final year.

**Diploma in Health Administration:** NIHFW conducts a two-year Post-Graduate Diploma in Health Administration and is also affiliated to the University of

Delhi. The course is attended by two students in all; including one in the first year and one in the second year during 2012-13.

**Post-Graduate Diploma in Public Health Management (PGDPHM):** The course was started by the Institute in 2008 in collaboration with Public Health Foundation of India, supported by the MOHFW. The objective of the course is to enhance the capacity of Public Health Managers Working at different levels. The course is attended by 10 students in all; including five national and five international students, during 2012-13.

**One-year Certificate Course in 'Health and Family Welfare Management'** through distance learning. 278 students have been enrolled for the course during 2012-13.

**One-year Certificate Course in Hospital Management** through distance learning. 500 students have been enrolled for the course during 2012-13.

**One-year Certificate Course in Health Promotion** through distance learning. 67 students have been enrolled for the course during 2012-13.

**Ph.D. Programme:** Seven students are pursuing their Doctoral work from different Universities of which five are from Chhatrapati Shahu Ji Maharaj Medical University, Lucknow, Uttar Pradesh, and two from other universities.

**Summer Training:** Nine students were enrolled and completed their summer training programme in the institute during the year 2012-13.

### **Training Activities**

Training of in-service health personnel of various categories has been the major mandate of the Institute. NIHFW conducts various short term training courses, ranging from one to ten weeks duration. The training activities of the Institute are centered around RCH, monitoring and evaluation, human resource management, health sector reforms, public health management, use of medical bio-statistical software and use of software for Geographical Information System, public health nutrition, counseling and quantitative and qualitative research methodology, IEC/BCC, etc. Among the courses, the notable are:

1. Professional Development Course (PDC) in Management, Public Health and Health Sector Reforms for District Medical Officers

2. Training Programme for the Master Trainers for Operationalization of Weekly Iron Folic Acid Supplementation for Adolescents (WIFS) Programme
3. Training Course on Management of ICU (Neonatal & Paediatric) and ICU (Adults) for the Health Professionals in Hospitals of Myanmar.

Training Courses in collaboration with International Organizations, such as Harvard School of Public Health, World Health Organization (WHO), UNICEF, UNAIDS, UNFPA, WBI, USAID, DFID, GTZ, Partners in Population and Development (PPD), SEAPHEN, IHBP, ITS and INCLIN have also been organized.

As part of international collaboration with European Union (EU) funded Institutional and Technical Support (ITS), the Institute is in the process of finalizing courses viz. Professional Development Course for District Medical Officers in Management, Public Health and Health Sector Reforms; and Certificate Course for Programme Management Support Units; on e-learning mode for launching in the academic year 2013-14. The 'Post-graduate Diploma in Health Communication', 'Public Health Nutrition' and 'Field Epidemiology' are in the process of finalization on distance learning mode and expected to be launched in the academic year 2013-14.

Besides, the Institute in collaboration with Improving Healthy Behaviours Programme (IHBP), supported by USAID, has proposed to share a common agenda and bring complimentary resources for addressing behaviour change communication capacity building and training activities at national and state levels in addition to developing IEC/BCC resource materials.

### **Research and Evaluation**

The Institute gives top priority attention to research in different aspects of health and family welfare. Most of the research studies are initiated by the Institute, while a few of the projects are sponsored by the Ministry of Health and Family Welfare and other collaborating National and International agencies. The institute was engaged in 16 studies in all; including 8 institutional and 8 under MD (CHA) programme.

Among the research studies, the notable recent initiatives are The Rapid Appraisal of Health Interventions (RAHI); and District Level Household and Facility Survey-4 (Integration of Clinical, Anthropometric and Biochemical

(CAB) component). The Rapid Appraisal of Health Interventions (RAHI) has been going on under Public Health Education and Research Consortium (PHERC) of the Institute which consists of 180 Medical Colleges, 174 Nursing Colleges, 50 Health Training Institutions (SIH&FWs and HFWTCs), CTIs and 204 NGOs from 35 States and Union Territories.

### **National Nodal Agency for Specialized Projects of MoHFW**

#### **1. National Rural Health Mission/Reproductive and Child Health-II**

NIHFW, as a nodal agency, has been co-ordinating and monitoring the performance of various trainings under National Rural Health Mission with the help of 18 Collaborating Training Institutions (CTIs) in various parts of the country. Specific activities of the RCH Unit of the Institute include:

- **Central Training Plan (CTP):** Final Central Training Plan (CTP) for 2012-13 was uploaded on NIHFW's website. Coordination with the states and relevant training centres for implementation of the CTP and monitoring the progress as well as quality check of the on-going trainings are going on.
- **Monitoring Visits:** As part of monitoring visits under NRHM/RCH-II, 12 districts representing high focus were visited from 28 States/UTs.
- Preparation of district-wise training data base has been initiated to ensure the availability of appropriately trained health manpower at every level of health facilities.
- Monthly as well as quarterly training progress reports received from all the states has been analysed and feedback is sent for improvement in the training.

#### **2. Annual Sentinel Surveillance for HIV Infection**

NIHFW has been designated by the National AIDS Control Organization (NACO) since 1998 as the nodal agency for supervision, monitoring, data management and the preparation of country report on the Annual Sentinel Surveillance activities. Orientation trainings for the officers of all the States AIDS Control Societies, Regional Institutes and Central Team Members comprising (epidemiologists/micro-biologists and faculty from medical colleges/research organizations) were conducted to familiarize them with the operational guidelines for

surveillance. The preparation of Country Report for the year 2010-11 is in progress. Preparation for HIV Sentinel Surveillance round 2012-13 has been started.

#### **3. National Vector Borne Disease Control Programme**

NIHFW has been identified by the Ministry of Health and Family Welfare, Government of India, as a nodal agency for conducting training of district level health functionaries in prevention and control of vector borne diseases under NVBDCP in high/moderate malaria/other VBD endemic districts by training core teams of trainers in selected medical colleges and districts. The project was initially sanctioned for one year (2011-12) and subsequently extended for another one year (2012-13). The main objectives of the project are: (i) to enhance the knowledge, skills and abilities of health functionaries for effective implementation of the National Vector Borne Disease Control Programme (NVBDCP), and (ii) to track the post-training of health functionaries at their work places to assess their performance.

#### **National Child Health Resource Centre (NCHRC):**

The National Child Health Resource Centre (NCHRC) of the Institute, established in collaboration with Norway India Partnership Initiative (NIPI), has been focusing on child health and related maternal health, mainstreaming child health agenda in public health through collation, development, analysis and dissemination of relevant information to the stakeholders at various levels.

**Clinical Services:** The Institute has a long history and reputation as one of the centres of excellence in the area of reproductive health research. The laboratory facilities for an in-depth investigation for the causes of the reproductive disorders such as endocrinological, anatomical/surgical, genetic and others are provided to the patients. The scientific approaches adopted in the management of endocrinological and reproductive disorders and infertility management have paid rich dividends.

**Publications:** Since its inception, the Institute has published more than one hundred and fifty (150) technical reports, training modules for various categories of health functionaries, research reports, health status reports, national health programme series, books, etc. for the benefit of students, scientists, health administrators, programme managers, etc. in addition to its Journal, Health and Population: Perspectives and Issues, abstracted by nine



national and international agencies, Newsletter (quarterly), and 'Dhaarna' a Hindi publication.

**National Documentation Centre:** The National Documentation Centre (NDC) of NIHFV endeavours to acquire process, organize and disseminate global information to fulfill the information needs of the administrators, planners, policy makers, researchers, teachers, trainers, programme personnel and public concerned with health, population and family welfare throughout the country.

**National Health Portal:** The Ministry of Health and Family Welfare, Government of India, proposes to establish a Centre for Health Informatics at NIHFV under the administrative control of the Director, NIHFV. The fund for this centre has already been provided by the MOHFV, GOI. The recruitment of manpower for the centre is in process.

**National Cold Chain and Vaccine Management Resource Centre:** A national level cold chain vaccine management centre has been approved by the Standing Finance Committee of the institute in its meeting held on July 4, 2012.

**Official Language Implementation:** The Institute attaches due importance to the use of Hindi by the faculty and staff members. The official language implementation in the Institute is regularly monitored by a committee duly constituted for this purpose. A revised incentive scheme is in practice for the progressive use of Hindi in official work by the faculty and staff members.

**Consultancy:** The Director and the faculty members of the Institute have the privilege of attending national and international seminars, workshops, training, meetings, etc. from time to time as an expert in the area of public health.

#### **15.46 RURAL HEALTH TRAINING CENTRE, NAJAFGARH, NEW DELHI**

The centre was recognized as Rural Health Training Centre, Najafgarh in 1960, under the administrative control of Directorate General of Health Services (DGHS), Govt. of India. In 1961 a decision was taken at the level of Directorate General of Health Services, Govt. of India to declare PHC, Najafgarh as a centre for imparting community health training for Medical Interns of Lady Harding Medical College under Rural Orientation of Medical Education (ROME) Scheme. To strengthen the

Rural Health services, an ANM School was started in 1985 and vocationalised in 1991.

#### **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.
- Health Education to the PGDHE Students.
- One Day Observation Visit.

#### **15.47 GANDHIGRAM INSTITUTE OF RURAL HEALTH AND FAMILY WELFARE TRUST (GIRHFWT)**

Established in 1964 with financial support from Ford Foundation, Government of India and Government of Tamil Nadu. The Health and Family Welfare Training Centre at GIRHFWT is one of 49 HFWTs in the country. It trains Health and allied manpower working in PHC, Corporations / Municipalities and Tamil Nadu Integrated Nutrition Projects. As per action plan 2012-13 of the institute submitted to the ministry, 49th batch course is being conducted in Post Graduate Diploma on Health Promotion and Education course (PGDHE).

Gandhigram Institute is also engaged in upgrading the capabilities of ANMs, staff nurses and students of nursing colleges through the Regional Health Teachers Training Institute (RHTTI). The RHTTI has under taken following activities during 2011-12.

- I. Diploma in Nursing Education and Administration (DNEA): 12th batch of DNEA course commenced in July 2012 and enrolled 10 candidates. The INC has instructed to upgrade the existing DNEA course to Post Basic B.Sc.(N) programme from next academic year 2013-14 onwards.

- II. Short- term training in community health nursing: In short term training in community health nursing total number of 855 were trained during 2011-12.

For this activity during 2012-13 Rs.250.00 lakhs were available under BE.

#### **15.48 REGIONAL OFFICE OF THE HEALTH & FAMILY WELFARE**

Regional Officers Health and Family Welfare (ROH&FW) were established by merging Regional Coordinating Offices (RCO) and Regional Health Offices (RHO) in 1978 to supervise, monitor and co-ordinate matters relating to centrally sponsored Health & Family Welfare programme. Currently there are 19 Regional Offices of Health & Family Welfare functioning under the Directorate General of Health Services, located in the various State Capital and headed by a Regional Director. The essential units of the ROH&FW are: (i) Malaria operation Field Research Scheme (MOFRS), (ii) Entomological Section. (iii) Malaria Section, (iv) Health Information Field Unit (HIFU) and (v) Regional Evaluation Team (RET).

##### ***Roles and Responsibilities:***

- Liaison of centre-site activities in the implementation national health programmes.
- Cross-checking of the quality of the malaria work, maintenance of free Malaria Clinic in the office premises and review/analysis of the technical reports related to NVBDCP.
- Checking of the records in respect of family welfare acceptors and other registers maintained during the tour and provide feed back related to Family Welfare programme activities.
- Organizing training for laboratory technicians, medical and para-medical staff as well as other categories of staff on orientation in various National Health Programme.
- Specified responsibilities are undertaken by Regional Evaluation Team (RET), Health Information Field Unit (HIFU) Malaria Operational Field Research Scheme (MOFRS).

##### ***Performance of Technical Activities:***

##### **The Activities undertaken by ROH&FW for the year**

##### **2012-13 are as below:-**

- 77 Institutions were visited for monitoring Programme activities.
- 401 Meeting were participated at national and state HQs.
- 28 Batches of trainees were given training in malaria microscopy and ICD-10.
- 32 Research studies were undertaken through MOFRS, RETS and CBHI teams.
- 314027 Blood of malarias were cross examined and 4925 slides were found with discrepancies.

#### **15.49 NEW DELHI TUBERCULOSIS CENTRE, NEW DELHI**

In 1951, NDTB Centre was upgraded to be the first Demonstration cum Training Centre with the assistance of WHO, UNICEF and Govt. of India after its establishment in 1940. In 1966, the Centre became a referral Centre for TB patients from all parts of the country who could avail diagnostic and treatment facilities. It is an apex institute recognized well for the diagnosis, treatment, training, teaching and research in the field of TB and Respiratory Diseases. The Centre was designated as STDC for the state of Delhi in the year 2005. Since then the Centre has been imparting training and retraining facilities to the medical and paramedical staff of the 25 Chest Clinics under RNTCP.

The Centre has a quality assured, well functioning Laboratory which has been designated as IRL by Central TB Division, Ministry of Health and Family Welfare Govt. of India. The culture of mycobacterium and Drug Susceptibility Tests (DST) is performed in routine here. In addition, culture and DST is also carried out for samples of MDR suspects referred from 18 out of 25 chest Clinics of Delhi. The IRL along with NRL at LRSI have been truly the backbone for bringing the entire State under DOTS PLUS MDR Treatment in 2009, ahead of many other states.

The infrastructure of BSL 3 is truly an execution of exploring new ventures to cater the needs and treatment of TB patients at NDTBC. The BSL 3 Lab is operational and is functioning well with the introduction of newer diagnostic tests like Liquid culture MGIT 60 and Line Probe Assay (which gives the results within one week) with guidance and support of WHO, FIND and Govt. of India. The laboratory is providing free service to TB patients coming through RNTCP.

During the year 2011-12, 14264 patients visited and revisited the Centre for diagnosis and treatment of tuberculosis and other respiratory diseases. Besides 121 patients attended the special clinics run by the Centre, 121 TB cases were registered in the DOT centre established in the institute. Laboratory of the Centre provides facilities of culture and sensitivity for AFB to more than 20,000 patients and 365 cases were diagnosed as for MDR TB as part of DOTS Plus Programme.

About 1300 medical and para medical personnel have been trained under RNTCP in this Centre. Besides the undergraduate students of Maulana Azad Medical College and post graduate students of VP Chest Institute who are regularly being trained here Tuberculosis Association of India runs a nine months' diploma course for Health Visitors at the New Delhi Tuberculosis Centre.

The doctors of the Centre participated in 66th National Conference of Tuberculosis (NATCON 2011) held at Dehradun where 4 papers were presented by faculty of the Centre. Besides 3 research papers were also published during the year. The Centre is actively participating in advocacy, communicating and social mobilization (ACSM) activities. During the year, number of IEC activities, TB week was celebrated in the Centre in which different activities were conducted in the Institute as well as in the field.

An insight on New Delhi TB Center's activities during 2011-12 & 2012-13:

#### A. Outpatient attendance

Parameters	Year 2011-12	Year 2012-13	
		Achieve- ment up to September, 2012	Target for 2012- 13
New out patient registered	7614	3818	7500
Revisits of patients	6650	3297	6500
Total out patients attendance	14264	7115	14000

#### B. Patients attendance for utilizing various diagnostic/treatment facilities available at New Delhi TB Centre

Parameters	Year 2011-12	Year 2012-13	
		Achieve- ment up to September, 2012	Target for 2012- 13
Attending for Laboratory tests	20136	6804	15000
Attending for Mantoux test	5498	2910	6000
Taking treatment under DOT Centre of NDTB Centre	121	199	-
Radiological Examinations	594	310	650
Attending special clinics (Diabetes, HIV, COAD)	121	123	-

#### Training/IRL Visits/Publications

	2011-12	Achievements up to September 2012
Personnel trained	1296	138
IRL Visits for EQA	23	13
Supervision & monitoring of chest clinics	7	13
Research and publications	3	2

#### Research and Publication

##### Contribution to Journals and Newsletters

Faculty members of New Delhi TB Centre are working in the core committee responsible for publication of 'Indian Journal of Tuberculosis' published quarterly by TB Association of India. For the last many years,

they have been working at different positions in the editorial board of the Journal.

These faculty members are also working as reviewers for the articles submitted for publication in the Journal. The senior members have also shown an active participation and contribution to 'Delhi TB Association Newsletter' published by Delhi TB Association and 'DOTS Delhi Newsletter,' published by STDC and State TB cell.

## 15.50 HLL LIFECARE LIMITED

### Introduction

HLL Lifecare Ltd. was set up in March 1, 1966 in the natural rubber rich state of Kerala for the production of male contraceptive sheaths for the National Family Planning Programme under the Ministry of Health and Family Welfare of the Government of India. The company commenced its commercial operations on April 5, 1969 at Peroorkada in Thiruvananthapuram. The Plant was established in technical collaboration with M/s Okamoto Industries Inc. Japan. HLL is today a multi-product, multi unit organization addressing various public health challenges facing humanity with its motto of "Innovating for Healthy Generations".

In order to signify this change, HLL has changed its name to HLL Lifecare Limited. The Company is unique in that it provides a range of Condoms, including Female Condoms, Intra Uterine Devices, Oral Contraceptive Pills – steroidal, non-steroidal and emergency contraceptive pills; Contraceptive Cream, and Tubal Rings.

The production capacity for condom was enhanced to 1600 m.pcs. from 1316 m.pcs. during the year.

The company's Health care product range include: Blood Collection Bags, Surgical Sutures, Vaccines, Women's Health Pharma Products, Hydrocephalus Shunt, Tissue Expanders, Rapid Diagnostic Test Kits, Needle Destroyers, Blood Bank equipment, Iron and Folic Acid Tablets, Medicated Plasters, Sanitary Napkins and Oral Re-hydration Salts.

HLL has been declared a *Mini Ratna* (Category I-PSE) by the Government of India and upgraded as a Schedule B company by the Department of Public Enterprises in the year 2005.

### Conversion into Public Limited Company

Government of India, Ministry of Corporate Affairs have accorded sanction in terms of Section 31/21 read with

Section 44 of the Companies Act, 1956 to convert the company into a Public Limited Company with effect from 21st February 2012. The authorised share capital was also enhanced to Rs. 300 cr. from Rs. 20 cr.

### Subsidiary Company

The company has promoted a 100% subsidiary company by name "HLL Biotech Ltd." on 12th March 2012, to implement Integrated Vaccines Complex (IVC) project. The state-of-the-art WHO pre-qualified facility for production of Vaccines is under construction at Chengalpattu near Chennai in Tamil Nadu. The Project has been declared as project of national importance, as it will ensure uninterrupted supply of vaccines for the Universal Immunization Programme (UIP) at affordable prices. The Project with a capital outlay of Rs. 594 Cr. aims to boost the vaccine security of India, with an annual production capacity of 585 million doses.

IVC will manufacture Pentavalent combination (DPT plus Hep. B plus Hib), BCG, Measles, Hepatitis B, Human Rabies, Hib and Japanese Encephalitis (JE) vaccines in the first phase. In the second phase, newer vaccines such as meningococcal, pneumococcal and rotaviral vaccines will be developed and manufactured in this facility.

The facility is expected to be commissioned within a period of 3 years.

### Corporate Plan - Vision 2020

The Company has framed Vision 2020-Corporate Plan to make HLL a Rs. 10,000 Cr. healthcare company by year 2020. The Vision 2020 plan founded on fostering inclusiveness and providing quality healthcare products and services through continuous innovation.

Towards achieving this goal, HLL has set itself an ambitious target to build capacity in the following segments:

- Condoms, FMCG & other Contraceptives
- Pharmaceuticals
- Vaccines
- Hospital Products
- Procurement Services
- Infrastructure Development Services
- Healthcare consulting services
- Healthcare services



The primary thrust of the Vision 2020 exercise was to strengthen the lines of business initiated during the Vision 2010 period, and to further consolidate the traditional businesses of the company.

In line with this objective, the Company had obtained the approval for setting up Integrated Vaccine Complex at Chengalpattu near Chennai through its subsidiary company - HLL Biotech Ltd. The Company had also commenced discussions with Tamil Nadu Industrial Development Corporation (TIDCO) for joint promotion of the Medipark Project that is envisaged as an industrial park for medical devices and medical electronics industry. Further, the Company has augmented production capacity for Condoms by adding a manufacturing facility on lease basis at Gajewal, Medak, Andhra Pradesh. This capacity augmentation will enable the Company to consolidate its leadership position in the industry.

The Company has strengthened its foothold in the healthcare services segment by setting up Lifecare Centers at the Thiruvananthapuram Medical College Hospital and the Regional Institute of Ophthalmology at Thiruvananthapuram. These Lifecare centers supply lifesaving drugs and surgical implants to the hospitals, eliminating middle men and thus making them affordable. It is expected that Lifecare Centers will serve as a gateway for the Company's planned foray into retail healthcare services.

The Company recently commissioned a Sanitary Napkin manufacturing facility at Kanagala for supply of products to the Government of India programme and Tamil Nadu Medical Supplies Corporation under the brand name 'Freedays' and 'Puthuyugam' respectively.

### **Performance**

Led by deceleration in Industrial production and fall in GDP growth rates, last fiscal witnessed steep inflation which resulted in high input costs coupled with adverse currency movements. Notwithstanding the challenges, the company continues to maintain its growth momentum.

The Company's performance during the year 2011-12, in terms of operational and financial, has shown a marked improvement over the previous year. Company's Total Revenue during the year 2011-12 has grown by 14.36% to Rs. 618.93 Cr. against Rs. 541.19 Cr. in the previous year and Net Profit before Tax by 11.16% to Rs. 30.56 Cr. against Rs. 27.49 Cr. in the previous year. The Net

Profit after Tax has grown by 11.45% from Rs. 18.43 Cr. in 2010-11 to Rs. 20.54 Cr. in 2011-12.

Considering the value of transactions handled by the Procurement & Consultancy and Infrastructure Development Divisions, the total business handled by the company is Rs. 1,112 Cr. compared to Rs. 1,131 Cr. during the previous year.

### **Direct Marketing**

The direct marketing operations generated a turnover of Rs. 176.92 Cr. during the year 2011-12. The marketing operations are carried out through Consumer Business Division (CBD), HiCare Division (HCD), Women's Healthcare Division (WHD) and the International Business Division (IBD). The performance highlights of these divisions are outlined below:

### **International Business Division (IBD)**

The International Business Division (IBD) of the Company distributes products to over 100 countries Worldwide. MOODS, the flagship brand of condom has a strong retail base in Middle East, Kenya, Mauritius, Botswana, Colombia etc. in which today MOODS enjoy 6.1% market share (as per AC Nielsen retail audit report: May 2012) with a highest category growth of 51%. Over the past 4 years the division could grow significantly by entering into new markets. The division could post a CAGR 31% in the last four years.

HL- Haemopack Blood Bags is available in 24 countries and Sutures in 13 countries around the globe. HL Haemopack today is the leading brand in Kenya.

HLL's international clients include world bodies such as the UNFPA, IDA, CROWN AGENTS, IMRES, MISSION PHARMA in addition to various governmental procurement organizations.

During the year 2011-12 International Business Division has achieved a turnover of Rs. 46.55 Cr. with a Year to Year growth of 38%. With an objective of becoming a global player for our core business, we have posted Executives in Brazil, UAE, Kenya, Bangladesh and Ghana.

A country focused approach and high deliverance have been the key strategies for International Business Division since 2006-07.

During the year 2011-12, The Company won Export Award from AIRIA and Special Export Award from CAPEXIL.

### **Consumer Business Division (CBD)**

Moods has been awarded the prestigious Super Brand award for Yr. 2011-12, consecutively for the second time. The new global campaign “Your time Your Place Your Moods” supported with double distribution initiative has helped the brand to grow at a volume CAGR of 32% (source AC Nielsen). Moods has consistently retained leadership position in markets of Kerala and Tamil Nadu. The brand has been extended to the category of Personal Lubes made of natural ingredient.

Unipill, a single dose Emergency Contraceptive Pill (ECP) containing 1.5 mg Levonorgestrel was launched in Ahmedabad in Aug 2011.

Herbs & Berries, the range of natural products, developed by renowned Arya Vaidya Sala Kottakkal, was relaunched with the introduction of new products like Nourishing hair oil, Anti dandruff hair oil and Joint Care Cream apart from Chyavanules.

### **Hicare Division (HCD)**

HCD launched DONATO blood bags in October 2010. Within one year of the launch brand Donato has crossed the sales of Rs. 20.00 Million. Donato has gained acceptance among the reputed corporate and Government affiliated blood banks. The division has diversified its portfolio by offering holistic solutions in setting up of Blood Storage Centers, Blood Component Separation Units and Neo-natal care units. During the past year, 7 blood component separation units have been set-up in Kerala. The wound-care portfolio was diversified with the launch of Hinglact Prime – anti-bacterial sutures – in December 2011, at ASICON (Annual Conference of the Association of Surgeons of India), held at Kochi.

The division has been an active participant in conducting voluntary blood donation camps and CMEs across the country. The division is heading towards a strategic growth path by entering into strategic partnerships with reputed players in the transfusion industry for products such as automated component extractors and cell separators.

The wound care market in India is growing at a CAGR of 8%. To cater to the advancing needs in wound care segment, the division is foraying into the segment of micro-sutures, surgical staplers and surgical prosthesis.

### **Women’s Healthcare Division (WHD)**

WHD currently operating in 13 therapeutic ranges of Gynecology, has around 49 products in the portfolio. WHD

is the market leader in Dysfunctional Uterine Bleeding (DUB) segment with 70% market share. The leading brands in WHD are Novex DS, Hilgesterone and Ferroplus. WHD covers 58% of the Gynaec market which stands at Rs.3799 Cr. and growing at 14.5%. The division has recorded a whopping 42% growth last year with aggressive product launches in Antenatal care, Anti - infective and Infertility therapy areas.

The division aims for the same growth rate, by increasing its current customer (Gynecologists) base of 15000 to 20000 in the coming financial year. Launch of innovative products like hormone releasing Intra Uterine Device, non-hormonal Emergency contraceptive and products spanning across Infertility, Female hygiene and Post-Partum care shall be launched in the coming months.

### **Services Division**

HLL has three service divisions; they are:

**Procurement & Consultancy Division (PCD):** PCD is the implementation partner of SAARC Secretariat for procurement and supply of Medical Equipments to SAARC member countries since August 2010. Also, it is one of the designated National Procurement Support Agencies (NPSA) under the Ministry of Health & Family Welfare for domestic procurement.

During the year under review, PCD handled a business of Rs. 302.95 Cr. generating an income of Rs. 6.70 Cr. and profit of Rs. 3.20 Cr. During the year 2011 – 12 consultancy services were offered to NRHM, ICCONS, RGI & IIPS, IMPCL, Modular OT (J&K) Govt. of Himachal, Govt. of Punjab and PMSSY Amritsar.

**Infrastructure Development Division (IDD):** IDD successfully completed the JIPMER, Puducherry Phase-I project of value Rs. 184 Crore one month ahead of schedule in February 2009. Similarly, JIPMER Phase-II project of value Rs. 350 Crore was also completed ahead of schedule.

The Salem Medical College Project executed by the division achieved Gold rating under LEED certification from Indian Green Building Council. This is the first time a Government Medical College is awarded Gold rating under LEED certification.

### **Diagnostic Services Division**

**Hindlabs:** The Hindlabs MRI Scan centers run by your company at three Medical College hospitals in Kerala

are at par with any private centers and offers high quality MRI facility at affordable rates. HLL also offers free MRI Scan service to ten percent of the in-patients at these centers in the BPL category. The Company plans to establish a world class Diagnostic Services facility at Mothi bag, New Delhi providing full-fledged diagnostic services viz. diagnostic laboratory, CT scan, MRI Imaging, Digital & General X – Ray, Ultra Sound, ECG etc.

**Lifecare Centre:** The company, in collaboration with Kerala State Family Welfare Department, opened State's first exclusive specialty center under the banner "Lifecare Centre". This is a one-stop solution for surgical needs and other medical devices. Lifecare Centre has been offering surgical implants, surgical consumables, essential medicines and many lifesaving drugs at affordable prices. The Company is planning to scale up the activities across the country.

### Research & Development

The company's Corporate Research and Development Centre is implementing R&D projects, both in-house and in collaboration with different national institutions namely, IIT Kanpur, IIT Mumbai, IIT Chennai, Sree Chitra Thirunal Institute for Medical Science & Technology, Thiruvananthapuram and Regional Cancer Centre, Thiruvananthapuram.

During the year, the R&D Centre received funding of Rs. 19.75 lakh from Department of Science and Technology (DST) for the project 'Bioprospecting for antimycobacterial natural products' under the Fast Track Scheme.

An observational study to assess the safety and efficacy of 'Emily', an Intra Uterine System is under progress across five centers in India. A collaborative project with IIT Kanpur for the development of Leucocytes Depletion Filters is in the final stages of development.

The new state-of-the-art R&D infrastructure at Akkulam, Thiruvananthapuram is in the final stages of completion. The centre will have three verticals of operations namely Pharma, Medical devices and Diagnostics divisions. These verticals with their ongoing projects are listed below:

- **Pharma Division**

1. Novel Pharmaceutical formulations of sapindussaponin.
2. Antifungal formulations from herbal sources for tropical applications.

3. Bioprospecting of anti-mycobacterial natural products.
4. Exploratory studies on microbicides.

- **Medical devices Division**

1. Natural Rubber Latex female condom.
2. Cervical spacers for radiation treatment.
3. Protein-free natural latex condoms.
4. Antibacterial surgical sutures.
5. Coated Copper T-IUD.
6. Cryogel filters for leukocyte depletion.
7. Substitute for PVC in blood bags.

- **Diagnostic Division**

1. Development of duplex PCR based diagnostic kit for Chikungunya and Dengue fever
2. Development of urine based fertility assessment kit.

### Diversification /Expansion

**Sanitary napkins manufacturing unit:** Making available Sanitary Napkins to adolescent girls in India is a widely published and prestigious national programme being implemented by Ministry of Health & Family Welfare [MoHFW]. HLL, in partnership with MoHFW has undertaken a project for production of Sanitary Napkin at Kanagala Factory, Belgaum, with an installed capacity of 200 million pieces per annum, at an estimated cost of Rs. 8.50 Cr. The production from the unit currently caters to the needs of MoHFW, Government of India and other State governments. This facility was commissioned in April 2012. (In order to meet the increased demand, the company has initiated steps to augment the capacity to 500 million pieces per annum).

**Natural Rubber based Female Condoms manufacturing facility at KFC:** Corporate R & D Division has been successful in developing Natural Rubber based Female Condoms. The company is setting up a manufacturing facility for Natural Rubber based Female Condoms at an estimated project cost of Rs. 1.96 Cr. The Civil construction of the facility coming up at Kakkanad factory, Cochin is nearing completion.

**Facility Management Division:** A Facility Management Division has been formed for providing facility

management services to clients. The division provides both hard and soft services including operation and maintenance, integrated building management, Housekeeping, Security services, Horticulture services, Warehouse Management, Hospitality services, Support services etc.

**New Contraceptive Packing and Storage Unit at Balaramapuram, Thiruvananthapuram:** On 6th February 2012, Hon'ble Union Minister of State for Health and Family Welfare laid foundation stone for the Company's new Contraceptives Packing and warehousing facility at Balaramapuram, Thiruvananthapuram with an area of 51000 sq. ft. The new unit is envisaged as an integrated facility for Condom Packing and Storage.

**Facility for Safety Testing and Calibration of Medical Equipment:** Testing and Calibration of medical equipment are emerging as a matter of internal need for hospitals. With the objective to render Safety testing and Calibration of Medical equipment in hospital, the Bio-Medical Division of HLL has set up a testing and calibration facility at Trivandrum with a capital outlay of Rs.85 lakhs. The facility will offer services to hospitals in periodic verification of critical care medical equipments by monitoring their performance, reliability and safety.

**Proposal for Capacity Augmentation of Surgical Suture manufacturing facility**

The Company foresees Suture production to touch 1.26 lakh dozens, reaching a turnover of Rs. 8.50 cr. and the present capacity utilization is likely to cross 100% soon. The company plans to increase production capacity to 6.25 lakh dozens per annum by 2016-17 at an estimated project cost of Rs. 6.00 cr.

**New facility for manufacturing Male Condoms**

A facility to manufacture Male Condoms commenced its operation in Gajewal, Medak in Andhra Pradesh in 2012. The facility has an installed capacity to produce 120 mln. pcs of condom per annum.

**Information Technology**

**Enterprise Resource Planning - Good to Great Project:** On 1st August 2011, HLL has moved on to ERP platform as the new SAP ECC 6.0 with EHP 4 has gone live. All the business processes across HLL in the

functional areas of Sales & Distribution, Materials Management, Production Planning and Control, Quality Management, Plant Maintenance, Project Systems, Finance and Costing are running in the new SAP solution. Switch over from the legacy system to the new system was a highly challenging one, but done creditably well and on time. With the introduction of SAP, the Company has standardized processes and adopted most of the best practices provided by SAP. The change management processes introduced by the company helped in ensuring acceptance of the new system solution across the organization.

**Human Resources**

**Human Resources Development; Training of Employees:** The company gives top most priority for capacity building and talent development of its employees. During the year under review, the company had organized various training programmes involving 1101 man days for executives and 2036 man days for workmen.

**Industrial Relations:** The year 2011-12 witnessed harmonious industrial relations in the company as in the previous years.

**Reservation for SC /ST/OBC and physically challenged:** The company continues to follow the presidential directives in respect of reservation to SC/ST/OBC Communities and efforts are taken to fulfill the directives in Recruitment and Promotion. Focused efforts were taken to attract SC/ST/OBC communities through Special Recruitment Drives.

The representation of SC/ST/OBC/Physically Challenged categories in the total employee strength as on 01.04.2012 is given below:

Description	No. of employees
Representation of : SC	310
ST	86
OBC	460
Physically challenged	43
Other categories	1001
<b>Total strength of employees</b>	<b>1900</b>