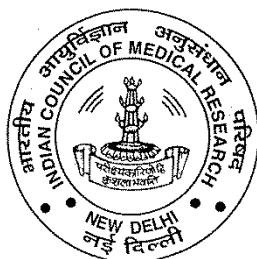


# ANNUAL REPORT

## (April 1, 2017- March 31, 2018)



**ICMR-NATIONAL INSTITUTE OF MEDICAL STATISTICS**  
**ANSARI NAGAR, NEW DELHI**

## Table of contents

<b>Table of contents</b>			
<b>A</b>	<b>Completed Activities</b>		
	1.	Estimation of Malaria Burden in India: A prospective national study to validate recently proposed methodologies of burden estimation in India (A Collaborative project: National Institute of Medical Statistics and National Institute of Malaria Research, ICMR, New Delhi)	1
<b>B</b>	<b>Ongoing Activities</b>		
	1.	National Non-communicable Disease Monitoring Survey (NNMS) in India	4
	2.	HIV Sentinel Surveillance 2017: Data Management, Analysis and Estimation of HIV burden in India and its states	5
	3.	A study on gender inequity in health seeking behavior among Santhal tribes of Jharkhand	9
	4.	Malaria elimination and estimation of disease burden in Punjab	11
	5.	Burden of Non-Communicable Diseases and Associated Risk Factors for India (BOD-NCD) - Methodology group	12
	6.	Comparing Methods of Assigning Causes of Death	15
	7.	Improvement in the Utilization of RCH Services through Male Participation among the Saharia Tribes in Gwalior District, Madhya Pradesh	16
	8.	Quality of care in maternal and newborn health in Rural India: a multilevel modelling	18
	9.	Clinical Trial Registry, India	19
<b>C</b>	<b>Invited Talks/Lecture delivered by scientists and technical staff</b>		22
<b>D</b>	<b>Scientific Meetings /Conferences/Training/Workshops attended by scientists and technical staff</b>		24
<b>E</b>	<b>Scientific Publications by scientists and technical staff</b>		41
<b>F</b>	<b>Contributions in books</b>		45
<b>G</b>	<b>Training/Workshops organized by scientists</b>		46
<b>H</b>	<b>Certificate / awards/ degree/ diploma or any academic achievement by scientists and technical staff</b>		49
<b>I</b>	<b>Foreign Visits by scientists and technical staff</b>		50
<b>J</b>	<b>Other Activities</b>		51
<b>K</b>	<b>Members of Ethics and Scientific Advisory Committees</b>		52
<b>L</b>	<b>Staff</b>		54

## **A. Completed Activities**

### **Estimation of Malaria Burden in India: A prospective national study to validate recently proposed methodologies of burden estimation in India (A Collaborative project: National Institute of Medical Statistics and National Institute of Malaria Research, ICMR, New Delhi)**

Principal investigators:

Period of study: 2015-17

Funding agency: MoHFW, Govt of India

#### **Background:**

The National Vector Borne Diseases Control Programme (NVBDCP), Ministry of Health & Family Welfare, Govt. of India frames technical and operational guideline for diagnosis and treatment of malaria and vector control. As per 2016 declaration, India aims to achieve elimination of malaria by 2027 and attain countrywide malaria free status by 2030. The present exercise aims to estimate the disease burden due to malaria in India particularly the deaths due to malaria which could help in accelerating the programme efforts and set realistic goals to achieve targets. As reported by Dhingra et. al., 2010, the estimated deaths below the age of 70 years was 205000 attributable to malaria/annum. As the estimates were about 300 times more than the deaths reported to the national programme by the state health authorities, this publication sparked intense debate on methodology adopted for these estimates. Medical Certification of Cause of Death estimated about 144000 due to malaria in India in 1997-98. Recently global malaria mortality trends have been published which suggest that there were 46970 (14757-94945) malaria deaths in India in the year 2010 (Murray et al., 2012).

Considering above, Government of India constituted an expert committee to estimate malaria cases and malaria mortality in the country. The committee arrived at a mathematical model to utilize the available data from surveillance and surveys and provided an estimate of 9.751 million cases of malaria and 40297 deaths due to malaria (30014-48660) in India in the year 2010 (Govt. of India, 2011).

The report was presented to Director General of Health Services (DGHS), Govt. of India by the committee, but he suggested that a study may be carried out to estimate current burden of malaria morbidity and mortality in India that will validate the methodology and results. In this situation, the National Institute of Malaria Research (NIMR, ICMR) in collaboration with National Institute of Medical Statistics (NIMS, ICMR) and National Vector Borne Diseases Control Programme (NVBDCP) have carried out intensive one year field Study to estimate burden of malaria in three different eco-epidemiological zones of India. The study design, sampling methodology and operational plan of study protocol was developed and finalized after approval by a Technical Advisory Group with Dr. Shiv Lal on Chair and other experts in the subject constituted at the NVBDCP.

**Objective:**

The specific objective of the study was to determine malaria incidence (morbidity) and deaths (mortality) due to malaria in districts representing zones of high, moderate and low risk of malaria in India.

**Expected outcome:**

Estimation of malaria cases and deaths due to malaria in India, and Validation of indicators used in the model for malaria estimation

**Methodology:****Coverage of Study Population:**

The overall population coverage of selected study areas for malaria surveillance was 12,15,114 which was spread in all three regions with coverage of 4,08,345 in high, 4,09,687 in medium and 3,97,082 in low endemic areas in surveillance arm. The population coverage for death enumeration were 1225358 (High: 410022; Moderate: 403139; Low:412197) in all the three regions. The population coverage of each study area was part of the sample worked out for all three regions.

**Data Analysis: Active and Passive Case Detection**

Malaria surveillance was started in the month of August, 2015 in (Chatra, Jhabua, Dakshin Kannada and Jaipur district) all the selected four districts. However, it was initiated one month earlier in Kolhapur (July, 2015) and one month later in Koraput (September, 2015). Accordingly, the field work was completed in the month of September, 2016 and the data collected from all the six sites was received by NIMR/NIMS for checking and processing. All the fever and malaria cases captured during one year active surveillance and passive cases have been processed. The verbal autopsy forms of death cases were also processed and cause of death was assigned by the physicians and compiled for each district.

**Salient Findings:**

During active surveillance in high endemic area, more than three thousand malaria cases were captured in Koraput, Odisha (3128 with TPR 20.9%) and about four hundred cases in Chatra, Jharkhand (395 with TPR 2.12%). In the medium endemic area, the total malaria cases captured in one year of active surveillance was about one thousand five hundred i.e. 1499 malaria cases with TPR 18.4% in Jhabua, Madhya Pradesh, but cases in Dakshin Kannada were less in active surveillance (30) compared with passive surveillance (7641). In the low endemic area, the malaria cases captured in active surveillance were less (3 in Jaipur and 79 in Kolhapur) with a very low TPR (<1%).

In high endemic area, the TPR was recorded 19.4% with more than twelve thousand positive malaria cases in Koraput study area, whereas it was 4.6% TPR with 521 positive cases in Chatra. In medium endemic area, the Jhabua district has recorded 448 malaria cases with SPR 4.0% whereas Dakshina Kannada recorded 761 malaria cases with SPR 6.6%. The low endemic areas recorded less than 100 malaria cases during passive surveillance in both the districts i.e. Jaipur and Kolhapur. The proportion of passive

surveillance of Malaria cases was higher in Government health services in the Koraput, Jhabua Kolhapur and Jaipur districts. However, it was higher in Private health agencies such as Chatra and Dakshina Kannada district.

In the three study regions (High, Medium and Low), the TPR was recorded high in Koraput (19.7) and Jhabua (9.3), but it was low in other areas. The proportion of Pf cases was also recorded high in Koraput whereas it was comparatively low in other areas. The estimated number of malaria cases and deaths due to malaria are provided in the project report submitted to NVBDCP, MoHFW, GOI. The report is presented in the Technical Advisory Group meeting on 15<sup>th</sup> February, 2017 held at NIMR, New Delhi and subsequently the report was presented and discussed in the meeting organized by NVBDCP, MoHFW, New Delhi on 30<sup>th</sup> August, 2017.

## **B. Ongoing Activities**

### **1. National Non-communicable Disease Monitoring Survey (NNMS) in India**

Period of study: 2016-18

#### **Background:**

The National Institute of Medical Statistics, New Delhi is one of the collaborative partner with National Center for Disease Informatics and Research, Bengaluru. The institute was involved right from the stage of development of protocol especially to develop sampling design and sample size. The survey design, field manual and selection of rural and urban PSUs as per the approved protocol was prepared by the Institute and after approval of sampling expert group committee, it was submitted to NCD Division of ICMR, New Delhi. The Scientist of Institute was also providing technical support to working team of Community Medicine Department of AIIMS headed by Prof. K. Anand, in developing survey Instrument for adult, adolescent and health facility survey. The data management tools and the open data kit (ODK) device and programming to capture the data directly from the field on electronic device was developed by National Institute of Epidemiology, Chennai with the support of NIMS and other partner Institutes including AIIMS.

#### **Methodology:**

The ten survey agencies have been identified from different regions for conducting the survey covering the entire geographical region of country. The Scientist of NIMS was also involved to provide training to the trainers and field teams especially about the sampling methodology and fieldwork during July -August 2017. The survey was initiated by all the survey agencies after field training of project staff recruited for survey.

#### **Progress:**

During the fieldwork of survey team, the NIMS was in regular contact with all the survey team through NCDIR to provide technical support and answer to any queries related to survey as and when needed through mobile and WhatsApp. The NIMS team has prepared the draft factsheets, dummy tables and analysis plan including sampling weights for analysis and report writing. The same has been presented and discussed in Technical Working Group (TWG) meeting held in the month of December 2017 and February 2018. The survey is expected to be completed in June, 2018. In this project, the NCDIR has provided one project staff for assistance.

## 2. HIV Sentinel Surveillance 2017: Data Management, Analysis and Estimation of HIV burden in India and its states

Principal Investigator: Dr Damodar Sahu

Co-PIs: Dr.Saritha Nair, Dr.Kh. Jiten Kumar Singh, Dr.Anil Kumar

Reporting period: April 1, 2017 - March 31, 2018

Financial Support: NACO, MoHFW, Govt. of India

### HIV Estimation 2017

The National AIDS Control Organization (NACO), Ministry of Health and Family Welfare, Government of India has designated the National Institute of Medical Statistics, ICMR, New Delhi, the nodal institute for developing national and states estimates of HIV prevalence and burden in India using updated methodology since 2003.

2017 round of HIV Estimation aimed to provide status of HIV epidemic with respect to the key parameters of HIV prevalence, new infections and AIDS-related mortality at national and State level. Following activities were carried out during 2017-18.

### HIV Estimation Process:

HIV Estimations was carried out by national working group under the guidance of the ICMR- National Institute of Medical Statistics (ICMR-NIMS). The key steps in 2017 round of HIV estimation are given figure 1.



Fig.1: Key steps in HIV Estimations 2017

1. The National Working Group (NWG) for HIV Estimations 2017 was constituted under the chairpersonship of Director-in-charge, ICMR-NIMS in April 2017. Composition of NWG comprised senior-most experts on HIV epidemiology, representatives from regional institutes of HIV Surveillance and estimations, State AIDS's Control Societies, NACO's programme divisions as well as developmental partners i.e., UNAIDS, CDC, WHO and the USAIDS. First

meeting of NWG was held on 19<sup>th</sup> June 2017 in which broad timelines and work plan for HIV Estimations 2017 was worked out.

2. The capacity building workshop on HIV estimation updated methodology was organized for NWG members, NACO's and SACS's officer in August 16-19, 2017 by international experts at Board room, AIIMS, New Delhi.



3. Demographics, Program and Surveillance Data Inputs: Demographics data projection till 2026; ART Data: Program data were input till March 2017 and interpolated till 2026 by taking into account the current coverage and plausible coverage target for 2026; ART data of Chandigarh and Delhi were distributed to respective states such as Punjab and Haryana as large population of these states availed ART in these cities. PPTCT data: Program data were input till March 2017 and interpolated till 2026 between current coverage and plausible coverage target for 2026. Breastfeeding data: Updated from the NFHS 3 and NFHS 4; follows the overall pattern; Surveillance data: Updated ANC and HRG data till 2017 round (latest rounds of HSS) Prevalence estimates from NFHS-3 and NFHS-4 inputted as survey points for general population with sample size & standard error and used in curve fitting; Data from National Integrated Biological and behavioural surveillance (IBBS) 2014-15 continued to be used for calibration of HRG HIV Trends in 2015; Sex/age pattern: Updates using the sex and age-group prevalence of NFHS 3 and NFHS-4.
4. Thirty-Five State-wise models were prepared using the latest programme and HIV Surveillance data with demographics projected till 2026. Data on breastfeeding, HIV prevalence, sex ratio and incidence rate ratio from NFHS-4 were inputted into the State models in December 2017.
5. Several rounds NWG review meeting was organized under chairman at ICMR-NIMS to examine critically and debated openly and transparently. Issue specific advice was sought from internal experts. Suggestions were incorporated, and models were improved as per the advice.



6. The results of HIV Estimations 2017 are presented to TRG members for review and approval of Technical Resource Group on HIV Surveillance and Estimations.

**Methodology:**

The global reference group on HIV Estimation, Modelling and Projection recommended methods i.e., two modules, DemProj module and the AIDS Impact Module (AIM) of ‘Spectrum’ software to produce HIV estimates. The updated Spectrum version 5.632 has been used for HIV Estimations round 2017 during its first National working group of estimation. The conceptual framework of HIV Estimation presents in Figure 2:

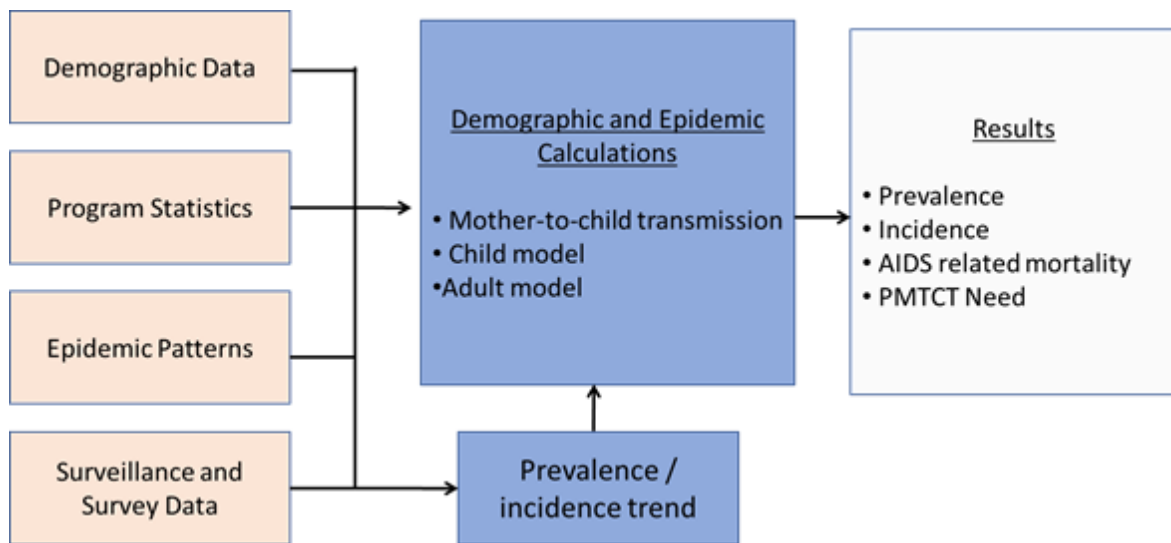


Fig.2: Conceptual framework for HIV Estimations

**Data input, curve fitting and calibration:**

The first step for generating the HIV estimates was updating demographic projections based on latest Census and SRS data and projected for the year 2026. Detailed review of demographic projections and necessary adjustments were undertaken to ensure that the results matched with Census 1981, 1991, 2001 and 2011 data. In the AIDS impact module (AIM), several programme data and epidemiological data inputs were considered. The programmatic input included to programme coverage of adult and children on ART and coverage of PPTCT in addition to the eligibility for treatment as per national guidelines. HIV prevalence/incidence curves for 35 States/Union Territories (excluding Lakshadweep) were generated for each of the identified sub-population groups. The curve for the HRG population for all states was calibrated with data from the National IBBS 2015-16. The two rounds of National Family Health Surveys 2005-06 & 2015-16 prevalence were used as survey points for general population.

In the next step, AIM takes the incidence curve generated by EPP as well as ART and PMTCT coverage as inputs. It applies transmission and survival probabilities, epidemiological assumptions related to fertility and HIV, CD4 transition patterns, HIV incidence by age and preventive effects of the ART. AIM projects the consequences of the epidemic in terms of number of people living with HIV/AIDS, new HIV infections and

AIDS-related deaths by sex and age. Next step, uncertainty bounds around each estimate is calculated that define the range within which the true value (if it could be measured) lies. All the estimates are published with uncertainty bounds as the actual numbers of people living with HIV, people who are newly infected with HIV or people who have died from AIDS-related causes lie within the reported ranges.

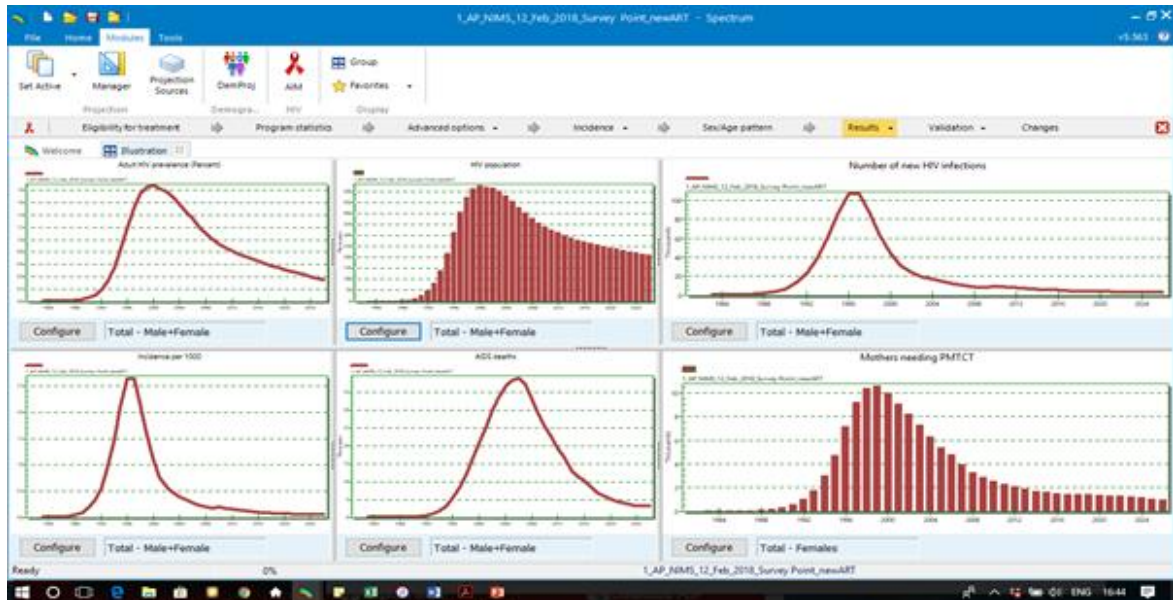


Fig. 3: Estimated HIV Prevalence, Incidence, mortality and PMTCT

Finally, estimates for adult HIV prevalence, annual new infections, number of people living with HIV, AIDS-related deaths and PMTCT treatment needs were generated. Results were validated through careful review and comparisons before finalisation.

### Results:

The results were generated on six key indicators comprising adult prevalence, HIV+ population, new infections and HIV-related deaths for national and 35 states/UTs. The results were further disaggregated by gender (male and female) and age group (all ages, adults 15-49 and adults 15+). The results of HIV Estimations 2017 are presented to TRG members for review and approval of Technical Resource Group on HIV Surveillance and Estimations in February 21, 2018.

### **3. A study on gender inequity in health seeking behavior among Santhal tribes of Jharkhand**

Principal Investigator: Dr H.K. Chaturvedi

Period of study: 2016-18

Funding agency: ICMR, New Delhi

#### **Background:**

The study has been conducted in Santhal tribe dominated area of Jharkhand State, known as Santhal Pargana. Santhal Pargana is one of the five administrative Divisions of Jharkhand and its headquarter is at Dumka. The division comprises six districts namely Godda, Deoghar, Dumka, Jamtara, Sahibganj and Pakur. *Santhal* is the most populous tribal group, numbering 24,10,509 and constituting 34 percent of the total ST population of the State (Census 2011). Improving health services to tribal people is one of the priority areas of Government programme. The tribal people mainly depend upon the traditional health practices. The main reasons were possibly due to lack of awareness, availability and accessibility of health facilities and hesitation to visit health centers. The improvement of quality health services in government health sector and provision of health education to people would increase the utilization of government health services and thereby improve the health quality of the people. But this could be done if we understand the needs and gaps related to health seeking behavior of tribes of this region. The aim of the present study is to assess the health seeking behavior and understand the gender inequity among *Santhal* tribes of Jharkhand. It also intends to study the utilization of available health services in the study region (*Santhal Pargana*, Jharkhand). Health seeking behavior incorporates both the awareness to avail health facilities and the availability of health services.

#### **Objective:**

##### **Main Objective:**

To study gender inequity in treatment seeking behaviour among the Santhal tribes and utilization of health services.

##### **Secondary Objective:**

To draw implication for intervention measures for improvement in health seeking behaviour and gaps in utilization of health services.

#### **Methodology:**

A sample of 100 PSUs (villages) was selected randomly using the method of PPS sampling from the prepared sampling frame of villages. The house listing of villages was prepared in each selected village. From each selected PSU/village, 30 households were selected from the house listing using circular systematic sampling to collect general information and some common information related to health seeking behavior by interviewing head of the household. However, if anybody (male or female or both) reported to be ill in the selected household in last three months at the time of survey, they were included in the sample to collect specific information related to illness and treatment.

**Progress:**

The survey was initiated after recruitment of project staff joined at different dates and many of them refused to join after selection. The recruitment of project staff took long time as many of them refused to work in the Santhal Pargana after knowing about the nature of field work. With all such hurdles, the survey was initiated in the month of May and June 2017 with four staff joined the project. Later on with special permission of Director General of ICMR, the field staff was recruited locally from Dumka involving the local experts. The survey has been completed in month of December, 2017. The progress report of project was presented in the Expert meeting held at NIMS, New Delhi in the month of October, 2017. As advised in the meeting, the interim progress report was submitted to ICMR with request to NO Cost extension of the project for a period of six months. Two Data Entry Operators (DEO) were also recruited and they joined the project on 7<sup>th</sup> November, 2017.

**Sampling Coverage:****Actual Coverage:**

The survey has been completed in 99 villages out of the 100 selected villages. One village (Adro, Boarijor, Godda) could not be completed due to unavoidable problems in reaching the village and in another village (Ranchaura, Borio, Sahibganj) survey was completed partially due to community outrage. So the data was collected from 2966 household covering 99 villages of *Santhal Pargana*.

**Data Analysis:**

Data entry programme was developed and data entry was initiated in the month of November, 2017 after joining the DEO. Currently, total 34 villages data has been entered and analyzed to prepare the interim report of project. The data entries of the remaining villages are in progress. Data has been compiled and analyzed using SPSS and STAT software.

**Preliminary Results:**

The interim analysis has been performed using the 1020 household's data of 34 villages. The analysis of 1020 households data of the 34 villages are discussed. Out of 4923 members listed in these households, 29.3% of the household had  $\leq 4$  household members and 70.7% households had more than 4 household members. About 48.4% of members were married and 10.3% were widow. About 10.3% of individual have completed Matriculation or above. The religion of households was recorded as 89.2% Hindu, 5.2% Muslims and 4.2% followed Indigenous (*SARNA*) religion. Total 75.1% of households belong to Tribal community and remaining was Non Tribe community. The source of drinking water in the household was 79% public tap (hand pump), 8.7% hand pump at home, whereas, 10.88% people drank water from well. This data depicts that mostly people used government hand pump/tap for drinking water. Most of the villages had public taps at regular distance. The toilet facility in the village was very poor as 71.2% household had no toilet facility or they went in open field/forest. Only, 10.5% households

had own pit and 9.1% had toilet at their home. Most of the houses in the villages were *kachha* (83.04%) and *semi-pucca* (13.2%), only 3.7% houses were *pucca* house. 58% Household had electricity in their home whereas, 41.4% used kerosene lamps. About 95% of the household used firewood and only 3% used LPG in their home. The study indicates that 46.5% people visits Govt. Hospitals; 16.9% Private Hospitals; and 32.9% followed traditional methods for treatment of general illnesses. For major illnesses, 56.3% visited to Government Hospitals, 39.8% visited Private Hospitals and only 2.9% used Traditional Medicines. As reported, most of the people didn't ignore minor ailments (86.9%) and they used some medication. The detail results of the study will be presented after final analysis.

#### **4. Malaria elimination and estimation of disease burden in Punjab**

Principal Investigator: Dr H.K.Chaturvedi

Period of study: 2016-18

Funding agency ICMR, New Delhi

(A collaborative project with National Institute of Malaria Research, New Delhi)

##### **Background:**

Punjab is one of the state which is reporting  $\leq 1$  API in all the 22 districts for the last five years and thus qualifies for malaria elimination. There is a gradual decline in malaria cases including *P.falciparum* cases over the years. However, the actual burden of disease has not been estimated to strategize malaria elimination in the state. This as a first step to elimination of malaria, the disease burden study is being carried out in Phase I along with studies on vector bionomics, and transmission dynamics.

With the approval of the ICMR, a MOU has been signed with the Government of Punjab on 20.5.2016 and fields site unit was established at Dhakoli CHC, Zirakpur, District Mohali (Punjab). Preliminary information for baseline data collection from different districts of Punjab has been collected. Technical support and advisory to the state government has been envisaged under the joint collaboration so that the aim of malaria elimination in the state may be achieved within the time frame.

##### **Objectives:**

1. To achieve malaria elimination in Punjab with collaborative efforts with State Government
2. To estimate burden of malaria in the state.

##### **Methodology:**

##### **Sample size:**

The recorded API of the state for the last four years (2012-15) is 0.02 per thousand (varying from 0.002 to 0.5 in different districts). The required sample size for estimation of malaria burden was worked out assuming the API 0.2 per thousand with permissible error of 20% and 95% confidence interval. Thus the required sample size was 9 Lakhs.

The overall malaria incidence in the state is very low. However, for stratification, the district wise API, reported in 22 districts in the last four years (2012-15) was used for identification of three strata representing high, medium and low API. Within each stratum, three districts were selected and sample of three lakhs were drawn from these districts in each stratum with three blocks (With about one lakh population from each block) from these districts amounting to total 9 blocks from 9 districts allocated equal in high, medium and low API stratum

#### **Selection of study area:**

Selection of blocks from 9 districts were based on API of last four years. Accordingly, three groups of districts were formed namely high (API>0.1), medium (API 0.03<0.1) and low (API<0.03). For selection of 3 blocks from 3 different districts from each group, the districts were arranged as per the level of API (in descending order) and then blocks within the districts were arranged in ascending and descending order alternatively. Three blocks from three districts of each group were selected using PPS sampling from the sampling frame of each three group. Overall, 9 block PHCs were selected from the sampling frame of Block PHCs of the state.

The population size of some of the blocks is much larger than one lakh population. In such situation, one lakh population was selected giving due importance to sub-centres wise malaria data, view of local malaria officials to identify sub-centres having highest incidence of malaria. That sub-centre was selected as the central location for surveillance and required number of sub-centres constituting about one lakh population for surveillance. Further, two urban blocks selected in the study i.e., Amritsar and Ludhiana have very large urban population as compared to the rural blocks. Since ward-wise information on API in these two urban blocks was not available, therefore the selection of study area with approximate one lakh population was made in the peri-urban areas of these two cities with evidence of malaria cases. The selection of area was made with the help of local officials.

#### **Progress:**

The study design and sample size including the plan of surveillance has been finalized. The surveillance work has been started in 9 districts of Punjab and the training to all project staff has been provided in the month of June, 2017. The data collection is under progress.

### **5. Burden of Non-Communicable Diseases and Associated Risk Factors for India (BOD-NCD) - Methodology group**

Principal Investigator: Dr Geetha R Menon

Co-Investigators: Dr Lucky Singh, Dr Vaitheeswaran, Dr Srividya, Dr Vasna Joshua, Dr Shahina Begum, Dr C Ponnuraja

Period of study 2017-18

Funding agency: MOHFW, Govt of India

Budget: 14 lakhs

## **Background:**

India's health system is undergoing positive changes and major strategies are being devised for effective application. One basic ingredient to understand the magnitude of the problem and target limited resources is to determine the burden of disease at particular point in time using data from research studies using appropriate statistical techniques. This strategy provides updated information on the drivers of morbidity, disabilities and mortality at the national and sub national level to make evidence based policy and guide in efficient use of resources.

## **Objective:**

The primary objective of the BOD-NCD project was initiated to generate evidence-based, valid and comparable national and sub national estimates of the burden of non-communicable diseases and associated risk factors in India

## **Methodology:**

As the total disease envelope in the human population encompasses Communicable, maternal, perinatal conditions and nutritional deficiencies (Group I) Non-communicable Diseases (Group II), and injuries (Group III), addressing non communicable disease alone would generate highly skewed estimates. Hence this study has generated estimates for 33 disease conditions that cover all the three cause groups

### **GROUP I: COMMUNICABLE, MATERNAL, PERINATAL AND NUTRITIONAL CONDITIONS (CD's)**

- 1 Tuberculosis
- 2 Sexually-transmitted infections incl. HIV/AIDS
- 3 Diarrhoeal diseases
- 4 Selected vaccine preventable diseases: Whooping Cough, Diphtheria, Measles, Tetanus
- 5 Meningitis/encephalitis
- 6 Hepatitis
- 7 Malaria
- 8 Respiratory infections
- 9 Other infectious and parasitic disease:
- 10 Maternal conditions
- 11 Perinatal conditions
- 12 Nutritional deficiencies
- 13 Fever of unknown origin

### **GROUP II: NON-COMMUNICABLE DISEASES (NCD's)**

- 14 Cancer: Infection-related
- 15 Cancer: Tobacco-attributable
- 16 Other cancers
- 17 Diabetes, Endocrine and immune disorders
- 18 Epilepsy
- 19 Other Neuropsychiatric conditions
- 20 Skin, Sense Organ, Oral and Congenital
- 22 Rheumatic heart disease

- 23 Cerebrovascular disease
- 24 Ischemic heart diseases
- 25 Chronic Respiratory diseases
- 26 Liver and alcohol related diseases
- 27 Other digestive diseases
- 28 Nephritis and Nephrosis
- 29 Other Genitourinary

### GROUP III: INJURIES

- 30 Road traffic accidents
- 31 Self-inflicted injuries (suicide)
- 32 Snakebite and other venomous
- 33 All other injuries
- 34 Ill-defined or cause unknown

The standardised Disability adjusted life years (DALY) was obtained by adding the two components: years of life lost (YLL) and years lived with disability (YLD).

$$\text{DALY} = \text{YLL} + \text{YLD}$$

For any particular disease

1. The general formula to calculate YLL for a particular age group (x) is  $\text{YLL} = d_x \cdot e_x$  where  $d_x$  is the deaths in the age group x and  $e_x$  is the life expectancy at age x
2. The general formula to quantify YLD for a particular age group (x) is  $\text{YLD} = P_x \cdot \text{DW}$  where P is the prevalence of the disease at age x and DW is the disability weight. The values for DW vary from 0 to 1 ranging from a stage of perfect health (0) to a stage of Death (1).

The data requirements for the calculation of YLL are the deaths during the period studied, distributed by cause of death, age group, and sex. Standard life expectancy for each age group. The method of estimation of YLL and YLD followed the standardised methods provided by the WHO, Global Health Estimates (*Source: WHO methods and data sources for country-level causes of death 2000-2015 Department of Information, Evidence and Research WHO, Geneva January 2017*)

- For deaths, the UN estimated number of deaths (2010-2015) for India was used  
Source: [https://esa.un.org/unpd/wpp/Download/Standard/Mortality/\(0-4years from UNIGME\)](https://esa.un.org/unpd/wpp/Download/Standard/Mortality/(0-4years from UNIGME))
- Analysis of causes of death for India was based on data from the Sample Registration system (SRS) for the periods 2010-2013. The cause-specific proportion of deaths in each five-year age category from 0 to 79 years and for people aged 80 years and over was weighted by the inverse probability of a household being selected within rural and urban subdivisions of each state to account for the sampling design. National estimates for deaths and mortality rates were based on reweighted urban and rural estimates for India, by age, sex and area.
- The Standard life expectancy used in WHO Global Health estimates obtained from the National Life Expectancy projections 2050: World population Prospects



2012(UN population Division, 2013). According to this source the standard life expectancy at birth is 92 years

- The median age at death due to any particular cause has been computed from the Sample Registration System
- The YLD/YLL ratio for different age groups and disease categories gender wise was used from the GHE 2015 national estimates of YLD and YLL for India

### **Progress:**

First level national, urban/rural and gender wise estimates have been generated. An interim report was submitted to the Ministry with a request for extension for six months.

## **6. Comparing Methods of Assigning Causes of Death**

Principal Investigator: Dr SK Benara; Co-PI: Dr Atul Juneja, Dr Saritha Nair, Dr BK Gulati, Dr Lucky Singh, Dr Saurabh Sharma; Technical Support: Mr Subhash Gautam  
Period of study- 2016-19

Funding agency: MOHFW, Govt of India, WHO, Country Office India.

Budget: 2.6 Crores

### **Background:**

Information on causes of death is essential for planning, implementing, monitoring and evaluating public health interventions at all levels. In the absence of robust information on cause of death through vital registration system, studies suggest that Verbal Autopsy (VA) could be used to provide near accurate information on the cause of death. The information obtained by VA is assigned a cause of death by either Physician Certified Verbal Autopsy (PCVA) or computer coded verbal autopsy (CCVA) methods. In India, PCVA has been used by the Registrar General of India since 1999 while few organisations have been using CCVA mainly for research purposes. Studies indicate PCVA method is time consuming and expensive while CCVA is economical and less time consuming.

In view of the existing methods MOHFW (DGHS) suggested that a study to compare the (PCVA) and (CCVA) methods of assigning cause of death may be undertaken by the ICMR's National Institute of Medical Statistics (NIMS), New Delhi. It was suggested to compare the PCVA and CCVA algorithms against the reference (gold) standard deaths for assigning causes of death. The Verbal Autopsy was conducted by using WHO harmonized VA tool (2016).

### **Objectives:**

- To field test the WHO harmonized VA tool (2016) in Indian context;
- To assess and compare the validity of various causes of death algorithms (PCVA and CCVA-Inter VA, Tariff and In Silico) in assigning causes of death based on the WHO harmonized VA tool (2016); and
- To utilise the study findings in recommending the methodology for a routine national VA programme to ascertain causes of death in India.

## **Methodology:**

To meet the above objectives, a cross-sectional study was proposed and approved by DGHS and WHO to be implemented in urban and rural areas as follows:

### **Urban Arm:**

Consider hospital-based deaths in urban areas in Delhi for  
(a) Establishment of gold standard (reference diagnosis) by physicians;(Sample size: 7000)  
(b) Conduct VA of the same deaths in the household/community; (Sample size: 5000)  
(c) Conduct PCVA & CCVA to assign the cause of death and compare the results derived from these two algorithms with the reference diagnosis.

### **Rural Arm:**

Conduct VA in household/community-based deaths from rural area to study the feasibility of implementation of WHO VA (2016) tool in Indian context.

### **Progress:**

A total of 7504 Gold standard (reference diagnosis) have been established. A total of 5701 households were visited by Project Assistants and out of which 2189 Verbal Autopsies were completed. PCVA/CCVA is in progress and rural arm of the study has been initiated.

## **7. Improvement in the Utilization of RCH Services through Male Participation among the Saharia Tribes in Gwalior District, Madhya Pradesh**

Principal Investigator-Dr. Tulsi Adhikari, Co-PI - Dr. Atul Juneja, Dr. Saritha Nair, Dr. B.K.Gulati, Dr. Kalyan Saha (National Institute for Research in Tribal Health - NIRTH), Dr. Ravindra Sharma (NIRTH)  
Project Period : October 2016- July 2018  
Funding Agency: ICMR (Tribal Health Fund)  
Budget : 19 lakhs

### **Background:**

The present study is an effort to improve the utilization of RCH services, mainly, ANC/PNC and institutional deliveries among the Saharia tribes through male participation in Gwalior district of Madhya Pradesh.

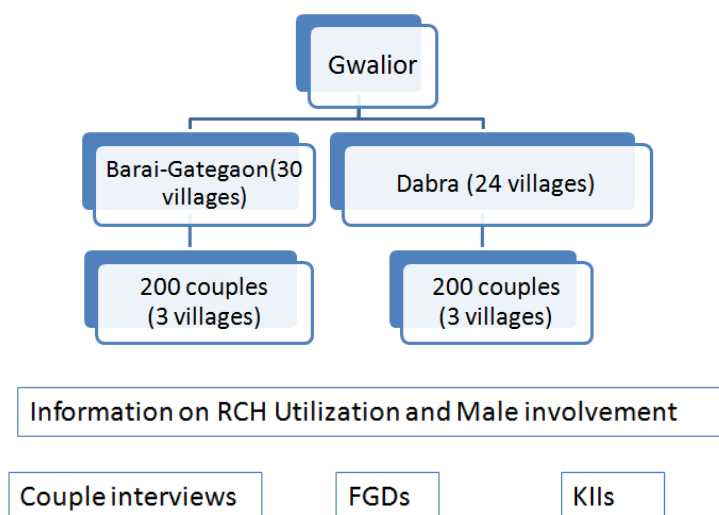
The behaviour of men, their beliefs and attitudes affect the maternal health outcomes of women and their babies. The exclusion of men from maternal health care services could lead to few women seeking maternal health services and as a result worsening the negative maternal health outcomes for women and children. Increasingly, recognition is growing on a global scale that involvement of men in reproductive health policy and service delivery offers both men and women important benefits (Naomi, 2005).

## Objectives:

1. To assess the levels of RCH services utilization and male involvement in RCH services among the Saharia tribes in Gwalior district of Madhya Pradesh.
2. To understand the social and cultural barriers and facilitators around male participation in promoting maternal health and institutional deliveries among the Saharia Tribes.
3. To develop a Behaviour Change Communication (BCC) Model, for encouraging male involvement in the maternal care, in the tribal population of MP.
4. To pilot the BCC model in a village for feasibility.

## Methodology:

**Study Area:** Ghategaon-Barai and Dabra block of Gwalior district of Madhya Pradesh. Three villages from each of the selected blocks were selected by two stage stratified cluster random sampling.



## Sample size:

The sample size for the study was calculated using the experience of the DLHS data where the male involvement in RCH services utilization among pregnant women was around 22%.

The formula for sample size (n) is

$$n = \frac{4p_1q_1}{d^2}$$

Where,

$p_1$  = prevalence of male involvement = 0.22

$$d = \text{relative error} = 25\% \text{ of } p1$$
$$n = 227$$

The adjusted sample size  $n1 = n * \text{design effect}$  (due to cluster sampling)

The design effect to adjust for the cluster sampling design is 1.5.

$$n1 = n * 1.5 = 227 * 1.5 = 340$$

A total of 400 eligible couples was included in the study.

### **Progress:**

Progress report of the study has been submitted to ICMR Hqrs. Data collection in both the blocks for Couple interviews; Focussed Group Discussions; Key Informant Interviews have been completed. Data Analysis has been done. BCC has been developed and feasibility study has been done. Final report writing is in progress.

## **8. Quality of care in maternal and newborn health in Rural India: a multilevel modelling**

Principal Investigator: Dr Lucky Singh; Co-PI: Dr Saritha Nair

Period of study- 2018-19

Funding agency: ICMR, New Delhi

Budget: INR 8.5 Lakh

### **Background:**

Literature review indicates high quality of care in pregnancy and childbirth as one of the service interventions that has potential to impact on the high maternal and child survival. Ensuring high coverage of antenatal, delivery and post-natal care could save millions of early deaths among children. However, studies from developing countries indicate low quality of maternal healthcare services, including lack of trained human resources, inadequate medical equipments and absence of staff along with poor accessibility. Although studies on quality of maternal healthcare services have been carried out elsewhere, there is paucity of data on the quality of care in India. Moreover, little attempt have been made in Indian context to examining at what extent quality of maternal and newborn health determine early-neonatal mortality. More rigorous examinations of the quality of care in pregnancy and childbirth needed in order to identify specific problems and develop strategies to improve the neo-natal survival in India. Research community in general and policy makers in particular will be benefited from the study results that would helpful to revisit the growing need of specific interventions towards Maternal and Newborn Health in India.

### **Objectives:**

- To assess the quality of antenatal care (ANC), safe delivery, and post-natal care.
- To ascertain the association between quality of antenatal care, safe delivery, and post-natal care and its effect on early early-neonatal mortality in India.

## Data & Methodology:

The proposed study will utilize National Family Health Survey (NFHS) 4th round that has been conducted in 2015-16. First, bivariate analyses will be performed to examine the nature of association between quality of care for maternal and newborn health, early neonatal mortality and selected background characteristics. To take into account the hierarchical structure of the data, the study will employ multilevel logistic regression models to examine factors affecting the quality of care for maternal and newborn health and early neonatal mortality.

The multilevel model with logit link function can be described as follows:

$$\ln \left[ \frac{p_{icd}}{1 - p_{icd}} \right] = \alpha + x_{icd}\beta + w_{cd}\gamma + z_d\eta + u_{cd} + v_d$$

where  $\ln \left[ \frac{p_{icd}}{1 - p_{icd}} \right]$  is the logit in which  $p_{icd}$  is the probability of woman 'i' in community (PSU) 'c' in district 'd' using maternity healthcare services;  $x_{icd}$ ,  $w_{cd}$ , and  $z_d$  are vectors of individual/household, community level and district level characteristics;  $\alpha$  is a constant, while  $\beta$ ,  $\gamma$ , and  $\eta$  are vectors of estimated parameter coefficients; and  $u_{cd}$  and  $v_d$  are unexplained residual terms at the community level and district level, respectively.

## Progress:

The project started from the month of February, 2018 and currently, the team is involved with the review of relevant literature. Framework for the analysis from the recent round of NFHS regarding Quality of Care is also being prepared simultaneously.

## 9. Clinical Trials Registry – India (CTRI) [www.ctri.nic.in](http://www.ctri.nic.in)

Chief Coordinator: Director, NIMS

Coordinators : Dr Atul Juneja, Dr Tulsi Adhikari, Dr Saurabh Sharma

Date of initiation: April 2006

Funding Agency: Intramural activity of NIMS funded by ICMR

Budget:

## Background:

The Clinical Trials Registry – India (CTRI) is a national online register for registering clinical trials being conducted in India ([www.ctri.nic.in](http://www.ctri.nic.in)). Further, since the CTRI is a Primary Registry of the WHO's International Clinical Trials Registry Platform (ICTRP), it also registers trials being conducted in countries which do not have a Primary Registry of their own.

CTRI was launched on 20th July 2007 by DG ICMR and is managed by the National Institute of Medical Statistics, Indian Council of Medical Research.

## **Objective:**

The CTRI was established with the following objectives:

- To bring transparency, accountability and accessibility of clinical trials and their data.
- To establish a comprehensive search portal which will also serve as a public record system by registering all clinical trials on health products that are drugs, devices, vaccines, herbal drugs and made available to both public and healthcare professionals in an unbiased, scientific and timely manner.
- To provide an unbiased source of information for reviews, meta-analyses and evidence based guidelines.
- Increase awareness and accountability of all the participants of the clinical trials.

CTRI registers all types therapeutic area trials, i.e. interventional, observational BA/BE, surgical, lifestyle, devices, Ayurveda, herbal etc. Moreover, as the global mandate is to register trials only prospectively, the CTRI has also moved towards only prospective registration from 1st April 2018.

## **Methodology:**

The CTRI, a web application was developed using open source technology i.e. PHP and MYSQL on LINUX platform, is a purely online, voluntary and free of charge portal.

To register their clinical trials, Registrants must first register as users (obtain username and password). The username and password may be obtained by accessing the Home Page of the CTRI ([www.ctri.nic.in](http://www.ctri.nic.in)) and clicking on NEW APPLICANT and fill the form online and click on Submit button. Registrants may begin to register their trial once they receive a second confirmatory email activating the username and password sent in the first email.

After login to CTRI the Registrants may upload trial data by clicking on “ADD NEW TRIAL”, and filling requisite data set form that appears. The CTRI form which has to be filled online has 8 parts and may be filled in any order at the convenience of the Registrant. Context information regarding what each field signifies and what information is to be uploaded is available against each data set point. In addition a prototype filled trial registration data set is available on the Home Page for reference purposes. The trial is available to the CTRI only when the Submit button in Part 8 is clicked. Once a trial is successfully submitted an REF number will be instantly assigned to the trial which is to be quoted in all trial related correspondence. Please note that if an REF number is not assigned, the trial has not been submitted to the CTRI.

Upon submission, the trial is not editable but is viewable. After review by the CTRI scientists, the trial may be sent back in case any modifications or additional information is desired. Verification mails will be sent by CTRI to all mentioned “contact persons.” A trial will registered upon satisfaction of all clarifications/modifications requested, submission of approval documents [Ethics and DCGI approval (if applicable)] and receipt of confirmation mail from “contact persons”

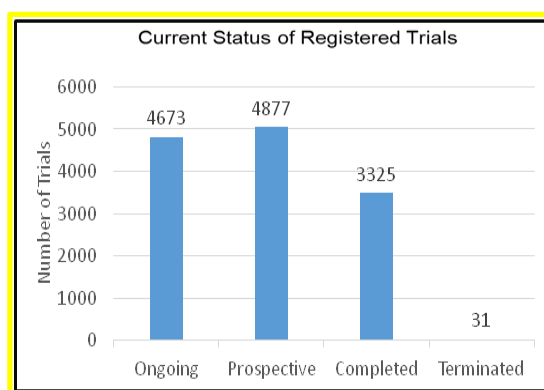
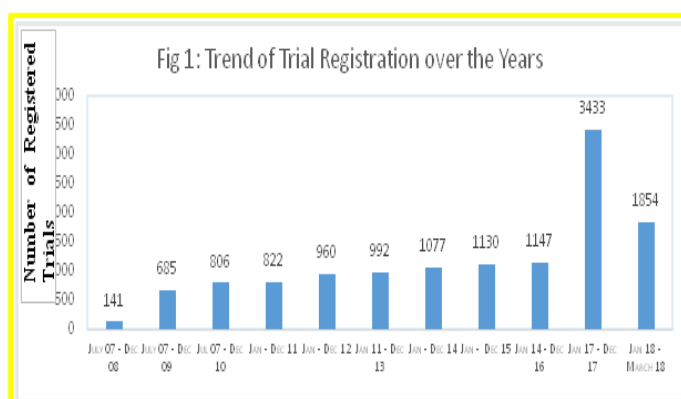
Once a trial is registered, all details are available in the public domain and any changes (protocol amendments) made to a registered trial are also viewable.

**New initiatives:**

In May 2017, under the aegis of WHO a joint statement signed by global non-industry research funders, including ICMR, was released. The key features of the Joint Statement are described below:-

- Ensure prospective registration of all interventional trials
- Include two new data set items
- Results disclosure (strategy in place within one year)
- Public display of PDF of protocol (along with amendments)
- Publication within 24 months of trial completion

In keeping with this mandate, the CTRI has implemented only prospective registration from 1st April 2018. Further two new data set items have been implemented and activated. Review committee meeting and Steering committee meetings have been held to develop and refine structure of tabulated summary results prior to development of the application for results disclosure.



**Progress:**

The CTRI currently has more than 12906 trials registered (as on 31st March 2018).

### C. Invited Talks/Lecture delivered by scientists and technical staff

April 13, 2017	<b>Dr Geetha Menon</b> delivered a lecture on Systematic Review and Meta-analysis at Centre for Physiotherapy and rehabilitation sciences, Jamia Milia Islamia for MPT and PhD students
May 30, 2017	<b>Dr Geetha Menon</b> with the support of Dr Denny John (adjunct faculty at NIMS) conducted a one day workshop on Systematic reviews for the HTA team in DHR. Delivered a lecture on systematic reviews and meta-analysis
June 2, 2017	<b>Dr Ajit Mukherjee</b> delivered a lecture on Sampling methods in Health Research. Summer training course of students of M.Sc., Mathematical Statistics, ICMR-NIMS, New Delhi.
June 14, 2017	<b>Dr Atul Juneja</b> delivered a lecture on Sampling Techniques for Functionaries of NGO at NIPCCD New Delhi
July 2, 2017	<b>Dr Atul Juneja</b> delivered a lecture for DNB students and faculty at Jaipur Golden Hospital New Delhi.
July 28, 2017	<b>Dr Atul Juneja</b> was Invited to deliver a lecture at workshop on Research Methodology and computations organised by ICMR-NICPR Noida.
August 28, 2017	<b>Dr Ajit Mukherjee</b> delivered a lecture on Determination of sample size in health research. Workshop on "Application of Statistical Software" in medical research", NICPR, NOIDA, UP.
September 6, 2017	<b>Dr Atul Juneja</b> was invited by CCRAS-RARIMCH Nagpur to deliver lecture on some statistical issues in Clinical Trials for the scientists recruited in Institutes of CCRAS Department of AYUSH in Western and Central India.
September 12-14, 2017	<b>Dr Ajit Mukherjee</b> Choice of research topic and general protocol format; Data summarization methods; Principle of statistical tests; Sample size determination; Experimental study designs in biomedical research; Correlation and regression including multiple linear and logistic regression; Assessment of normality and non-parametric tests. Workshop on Biostatistics and Research Methodology, Visveswarapura Institute of Pharmaceutical Sciences, Bangalore.
October 8, 2017	<b>Dr Atul Juneja</b> was invited to deliver lecture on Statistical considerations in clinical research during a workshop on Research methodology- Fundamentals of Developing Research proposals organised by Rajasthan University of Health Sciences Jaipur
November 15, 2017	<b>Dr Atul Juneja</b> addressed the students of Department of Mathematics and Statistics during the career counselling workshop organised by Department of Mathematics MD University Rohtak.
November 27, 2017	<b>Dr Atul Juneja</b> delivered a lecture on Statistical methods in Medical Research for the Scientists of Central Ayurveda Research Institute for cardiovascular Diseases Punjabi Bagh New Delhi.



January 1, 2018	<b>Dr Ajit Mukherjee</b> delivered a lecture on Principle of Hypothesis Testing and Sample size determination in health research. Training workshop, National Institute of Cancer Prevention and Research (NICPR), NOIDA, U.P.
January 30, 2018	<b>Dr Geetha Menon</b> delivered a talk on Fundamentals of Biostatistics at NICPR, ICMR in the workshop on ‘‘Applications Of Statistical Softwares In Medical Research’’
February 1, 2018	<b>Dr Ajit Mukherjee</b> delivered a lecture on Determination of Sample size for different study designs. Training workshop in Statistical Software, National Institute of Cancer Prevention and Research (NICPR), NOIDA, U.P.
February 9-11, 2018	<b>Dr Atul Juneja</b> delivered a lecture on Sample Size and Testing of Hypothesis along with hands on training during the workshop on Biostatistics at Rajasthan University of Health Sciences Jaipur.
February 21, 2018	<b>Dr Kh Jiten Kumar Singh</b> delivered a lecture Hands-on-sessions on Statistical Data Analysis using R, Maharaja Agrasen College, Univ. of Delhi, Delhi
February 26 – March 1, 2018	<b>Dr Kh Jiten Kumar Singh</b> delivered a lecture Hands-on-practice using R, 6th National workshop on Next Generation Sequencing Data Analysis: Integrating genomics, transcriptomics and proteomics data for potential therapeutic target discovery, NIP, New Delhi.
March 8-9, 2018	<b>Dr H K Chaturvedi</b> presented a research article on ‘‘Complexity of infectious disease modelling for prediction of Malaria’’ in the International Symposium on Health Analytics and Disease Modelling 2018 (HADM 2018) New Delhi " organized by the ICMR-NIMS jointly with Pittsburgh University, USA :

#### **D. Scientific Meetings /Conferences/ Training/ Workshops attended by scientists and technical staff**

**Meeting attended by Director-in-Charge, Dr.D.K.Shukla during April 2017 - December 2017**

April 24, 2017	Meeting of the Advisory Board of the India State-level Disease Burden Initiative at ICMR.
April 24, 2017	National Technical Working Group on NCD Surveillance at NCDIR, Bengaluru.
April 26, 2017	53 <sup>rd</sup> Shriram Institute Founder Memorial Lecture delivered by Prof.K.Vijay Raghavan, Secretary, Deptt. of Biotechnology, GOI at Kamani Auditorium, New Delhi.
May 2-5, 2017	Meeting of Registry Network of ICTRP during May 3-4, 2017 at Geneva,Switzerland.
May 25, 2017	Brainstorming Meeting on BIG DATA ANALYTICS at ICMR Hq. New Delhi
June 5, 2017	National Consultation on Environmental Health in collaboration between Public Health Foundation of India (PHFI) and Tata Institute of Social Sciences organized by Centre for Environmental Health at India Habitat Centre, New Delhi
June 7, 2017	MRHRU Review Meeting & Cohort and Bio banking studies at ICMR –National Institute of Epidemiology (NIE) Chennai.
	Director's Meeting at ICMR, New Delhi.
July 19-20, 2017	SAG Meeting of ECD, ICMR, New Delhi.
July 26, 2017	Training of Trainers for National NCD Monitoring Survey – 2017 at Residency Resorts Pvt. Ltd. United Service Institution of India Premises, New Delhi.
July 29, 2017	Workshop on outlining a roadmap for a National Health Informatics System at NITI Aayog, New Delhi-110001.
July 31, 2017	Meeting on Large Scale Health Survey related to NFHS-5 at ICMR Hq., New Delhi.
07/08/2017	Expert Group meeting to evaluate the proposal considering the regulatory environment of the country and the specific implementation issues at Conference Hall, ICMR, New Delhi.

August 16-17, 2017	Workshop Towards Tribal Health: present status and way forward” & 7 <sup>th</sup> Annual Meeting of ICMR – Tribal Health Research Forum (THRF) at ICMR-NIRTH at Jabalpur
August 18, 2017	Meeting of the Advisory Board of the India State-level Disease Burden Initiative Chaired by Sh.JVR Prasada Rao at ICMR Hq., New Delhi.
August 22, 2017	Ist Public Health Conference 2017 on ‘Redressing 21 <sup>st</sup> Century Health Challenges’ Fostering Public –Private Collaborations at Hotel Lalit, New Delhi
September 4-6, 2017	Training /Workshop on GIS in Health at NIMS-ICMR.
September 11, 2017	First Meeting of the Technical Advisory Committee for the study entitled, “To study the capacity of district health systems for the management of Non-Communicable Diseases in Uttar Pradesh”. Conference Room (3 <sup>rd</sup> Floor) of Department of Community Medicine & Public Health, KGMU UP, Lucknow.
October 10, 2017	Review Group Meeting of CTRI with Dr. Kang, Chairman of CTRI Steering Committee Meeting at NIMS.
November 2-4, 2017	XXXV-Annual Conference of Indian Society for Medical Statistics being held at Sanjay Gandhi Postgraduate Institute of Medical Science (SGPGI), Lucknow.
December 8, 2017	Visited Bangalore to attend the Technical Working Group Meeting regarding National NCD Monitoring Survey-2017 at ICMR-NCDIR, Bangalore.
December 21, 2017	First Meeting of the Committee to deliberate on Data Collection Issues on Malnutrition - in Committee Room No.134 under the Chairmanship of Dr. V.K. Paul, Member, NITI Aayog.

**Meeting attended by Director, Dr. M. Vishnu Vardhana Rao during December 20, 2017 – March 2018**

December 21, 2017	First Meeting of the Committee to deliberate on Data Collection Issues on Malnutrition - in Committee Room No.134 under the Chairmanship of Dr. V.K. Paul, Member, NITI Aayog.
December 22, 2017	First Sub-group Review Committee Meeting of CTRI at Conference Hall NIMS.

January 24, 2018	NIMS Guest Lecture on “Participatory System Dynamics Modelling in Health Services Research” by William Lunsbury, Asstt. Professor Epidemiology and Population Health, Albert Einstein College of Medicine, Bronx, New York, USA at Conference Hall, NIMS.
January 26, 2018	Visited Hyderabad to deliver a Guest Lecture on “Research Methodology” for 55 <sup>th</sup> Annual PG Certificate Course in Nutrition for 2018 at ICMR-NIN Institute.
February 2, 2018	Technical Advisory Committee Meeting at NIMS.
February 2, 2018	CTRI Sub-Group Review Committee Meeting with Dr. Gagandeep Kang, Chairman of CTRI Steering Committee Meeting. (Dr Gagandeep Kang Executive Director THSTI, Faridabad.(Chairman of CTRI Steering Committee Meeting) at NIMS
February 6, 2018	ICMR Meeting for Up-gradation of SPSS Software Version at Library, ICMR Hqrs. Office.
February 8, 2018	Guest Lecture on “Systematic reviews in Nutrition studies-Concept and techniques” by Dr Howard White, Chief Executive Officer of the Campbell Collaboration followed by a brief discussion with Dr Denny John at Conference Hall, NIMS.
February 9, 2018	Media Training Workshop for ICMR Senior Scientists organised by Communications Unit of ICMR with the support from GHS at NIN Hyderabad. (Period of visit Feb.8-12,,2018)
February 10, 2018	31 <sup>st</sup> Foundation Day Celebration of Technology Information, Forecasting & Assessment Council (TIFAC) at Lecture Hall-325, New Complex IIT, Delhi.
February 20, 2018	Visited Hyderabad to attend the TATA-NIN meeting on 20h February, 2018.
February 21, 2018	Meeting of Technical Resource Group (TRG) on HIV Surveillance and Estimation for review of results of HIV Estimations 2017 under the chairmanship of the Additional Secretary and DG, NACO at 6th Floor Committee Room, National AIDS Control Organization, Chanderlok Building, 36, Janpath, New Delhi 110001 .
February 26, 2018	To deliver a Guest Lecture for 55 <sup>th</sup> Annual PG Certificate Course in Nutrition for 2018 on Research Methodology at NIN, Hyderabad.
March 5-7, 2018	Public Health Dynamics Workshop (PHD2018), ICMR Hqrs, New Delhi

March 8-9, 2018	International Symposium on Health Analytics and Disease Modelling (HADM2018), NAMS, New Delhi
March 21-23, 2018	Participation in the "Expert Consultation Meeting on Newer Methods of HIV Surveillance & Estimation in India" at Taj Mahal Hotel, Taj Mansingh Hotel Rd, South Block, Man Singh Road Area, New Delhi, Delhi 110001.

<b>Dr Ajit Mukherjee, Scientist F</b>	
April 11-13, 2017	A training workshop on "Principles of Clinical Epidemiology and Bio-statistical Methods for Diagnostic Test", CMC, Vellore
May 25, 2017	A brainstorming meeting on Big Data Analytics jointly organized by ICMR-NIMS, Division of ISRM, ICMR, and IIPH, Hyderabad In ICMR, New Delhi. One of the recommendations for NIMS was to organise a workshop on Mathematical Modelling for ICMR scientists.
September 24-25, 2017	Workshop on "Big Data in Population and Health: Perspective and Potential", organized by DST centre for Policy and Research at IIT, New Delhi
October 6, 2017	Workshop on Big Data Analytics in Government organized by National Institute of Smart Governance (NISG) at India Habitat centre, New Delhi
<b>Dr SK Benara, Dr Atul Juneja, Dr Saritha Nair, Dr BK Gulati, Dr Lucky Singh, Dr Saurabh Sharma and Mr Subhash Gautam</b>	

April 6, 2017	Orientation Workshop on "Comparing Methods of Assigning Causes of Death", Kalawati Saran Children's Hospital, New Delhi
April 11, 2017	Orientation Workshop on "Comparing Methods of Assigning Causes of Death", Hindu Rao Hospital, New Delhi
April 19, 2017	Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi
April 26, 2017	Orientation Workshop on "Comparing Methods of Assigning Causes of Death", Safdarjung Hospital, New Delhi
April 27, 2017	Meeting of the Technical Advisory Committee of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi
May 9, 2017	Orientation Workshop on "Comparing Methods of Assigning Causes of Death", AIIMS, New Delhi
May 30, 2017	Meeting of the Technical Advisory Committee of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi
June 2, 2017	Orientation Workshop on "Comparing Methods of Assigning Causes of Death", G.T.B.Hospital, New Delhi
June 20, 2017	Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi
June 28, 2017	Progress review meeting of the study entitled "Comparing

	Methods of Assigning Causes of Death”, NIMS, New Delhi
July 4, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, DG’s Office, ICMR, New Delhi
July 11, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
August 24, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
August 31, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
September 7, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, DG’s Office, ICMR, New Delhi
September 15, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
September 26, 2017	Meeting of the Technical Advisory Committee of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
October 13, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
October 27, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
November 14, 2017	Dissemination of the India State-Level Disease Burden Initiative, Shangri-La’s Eros Hotel, New Delhi
November 16, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
December 1, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
December 22, 2017	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
January 30, 2018	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
February 13, 2018	Progress review meeting of the study entitled “Comparing Methods of Assigning Causes of Death”, NIMS, New Delhi
March 20, 2018	WHO-ICMR meeting regarding improving Medical Certification of Cause of Death, ICMR Hqrs., New Delhi
<b>Mr BS Dhillon, Scientist E</b>	
May 25, 2017	Brainstorming meeting on Big Data Analytics, I CMR Hqrs., New Delhi.
July 7, 2017	One day workshop on hand on economic modeling exercises.
November 14, 2017	Dissemination of the India State Level Disease Burden Initiative

**Dr HK Chaturvedi, Scientist E**

July 21, 2017	Attended the training of trainer’s workshop of National Non-
---------------	--

	communicable disease monitoring survey (NNMS) and delivered talk on sampling methodology and field survey.
August 2, 2017	Selection Committee Meeting for GEHSB Project at Dumka
August 4, 2017	Attended School Research Committee (SRC) meeting of University School of Medicine & Para Medical Health Science, GGSIP University New Delhi.
August 30, 2017	Attended TRG meeting and presented the findings of the study on "Estimation of Malaria Burden in India" at NVBDCP, MoHFW, New Delhi.
October 3, 2017	Attended expert committee meeting and presented the progress of GEHSB project organized by the Institute.
November 1, 2017	Attended Media Training organized by Times and ICMR at Institute of Pathology, New Delhi.
December 5, 2017	Attended SRC meeting of USMPMHS, GGSIP University, New Delhi.
December 8, 2017	Attended the National technical working group meeting of project NNMS study held at NCDIR, Bangalore.
December 19, 2017	Attended as a member of screening committee meeting held at ICMR, New Delhi.
January, 2018	Invited as an Expert for reviewing the research proposal submitted for funding to Medical Research Council (MRC), UK (Reviewed on line Je-S System)
February 21, 2018	Data analysis workshop for NNMS project organized by NCDIR, Bangalore during 18-21 February, 2018 and delivered a talk on computational steps of sampling weights for NNMS survey.
February 22, 2018	Attended meeting for Reviewing the method of estimating 24 hour dietary sodium organized by NCDIR, Bangalore.
March 7, 2018	Attended the Technical Resource Group Meeting at NVBDCP, MoHFW, Govt of India New Delhi
March 8-9, 2018	Attended and presented a research article on "Complexity of infectious disease modelling for prediction of Malaria" in the International Symposium on Health Analytics and Disease Modelling 2018 (HADM2018) " organized by the ICMR-NIMS jointly with Pittsburgh University, USA.
<b>Dr Anil Kumar, Scientist F</b>	
April 26, 2017	Attended the Brain Storming Session on Large Scale health surveys in India at ICMR, Hq.
May 23, 2017	Participated in GBD India Maternal and Child Health Expert Group meeting : India State level Diseases Burden Initiatives at Public Health foundation of India Gurgaon by PHFI & ICMR New Delhi
May 25, 2017	Attended 'Brain Storming meeting on Big Data Analytics' jointly organized by NIMS and ISRM division in collaboration Indian Institute of Public Health, Hyderabad.
June 19, 2017	Meeting of National Working Group on HIV estimation organized by NACO, NIMS, New Delhi
July 31, 2017	Attended Large Scale Health Surveys NFHS-5 in Conference hall

	ICMR, New Delhi
August 16-19, 2017	Expert Consultation Cum Capacity Workshop on HIV Estimation by international resource person at AIIMS Board room organized by NACO, AIIMS, ICMR-NIMS, New Delhi
September 13, 2017	Attend lecture by Dr. Sridhar Diwedi, Sr. Consultant, Cardiology National heart Institute, New Delhi on Hypertension reasons, Precaution and Treatment at ICMR Hqrs., New Delhi
September 27, 2017	Organization of 'Hindi Day' by NIMS, ICMR and acted as jury member of Hindi work done by NIMS Staff and lecture delivered by Dr. Sanjay Aggarwal, HOD AIIMS, New Delhi
October 30-31, 2017	Meeting of National Working group on HIV estimation 2017, at NIMS Conference hall, New Delhi organized by ICMR-NIMS, New Delhi
November 13, 2017	Meeting of National Working group on HIV estimation 2017, at NIMS Conference hall, New Delhi organized by ICMR-NIMS, New Delhi
November 15, 2017	Attended lecture on use of Big Data analysis in ICMR Hqrs., New Delhi
November 16, 2017	Lecture National Institute of Small government
January 12, 2018	National Working group on HIV estimation 2017, at NIMS Conference hall, organized by NIMS, ICMR New Delhi
March 9, 2018	Prize distribution function of ICMR
<b>Dr Damodar Sahu, Scientist E</b>	
June 19, 2017	The First Meeting of National Working Group on HIV Estimations 2017, at Conference Hall, ICMR, Ansari Nagar, New Delhi organized by National AIDS Control Organization & National Institute of Medical Statistics, ICMR, New Delhi, Ministry of health & Family Welfare, Government of India
July 26-28, 2017	National working Group meeting to review & apprise the methodology used in 2015 round of estimation to all NWG members Estimation-2017 at ICMR-NIMS, New Delhi
July 31, 2017	Coordinated 'Large Scale Health Surveys-NFHS-5" at 301 Conference Hall, Indian council of Medical Research, New Delhi organized by ICMR-NIMS, New Delhi
August 4, 2017	Attended twenty-third meeting of school research committee of university school of medicine and para-medical health sciences, at GGS IP university, New Delhi
August 16-19, 2017	Organized and resource person for the Expert Consultation-Cum-Capacity Building Workshop HIV Estimations 2017 at Dr. Ramalingaswami Boardroom, AIIMS, New Delhi, organized by National AIDS Control Organisation & National Institute of Medical Statistics, Ministry of Health & Family Welfare, Government of India
August 20, 2017	Consultation for India 2017 rounds Estimation at UNAIDS India Country Office, New Delhi
September 1, 2017	Internal review meeting of NWG members HIV Estimation at ICMR-NIMS, New Delhi



September 4, 2017	Participated the meeting on revisit Calculations for Estimating Pregnancies in India and advise MoHFW, GoI at the WHO Conference Room, Nirman Bhawan, New Delhi organized by WHO country office, New Delhi
September 25, 2017	Participated the meeting of the Sub-Group on Questionnaire of the Technical Advisory Committee (TAC) for National Family Health Survey (NFHS)-5 held at ICMR, New Delhi organized by MoHFW, Delhi
October 11, 2017	Review meeting of HIV Estimation 2017 at NACO organized by NACO, New Delhi .
October 11, 2017	Small group NWG review and discussion meeting on Population Projection AP & TL at ICMR-NIMS, New Delhi
October 16, 2017	Participate sub-group of NFHS-5 meeting on , <b>Nirman Bhawan</b> New Delhi
October 27, 2017	Attend the meeting on Estimation of Pregnancies of Indian states and India as whole at WHO Boardroom, Nirman Bhawan, New Delhi organized by WHO Country office India, New Delhi
October 30-31, 2017	The second Meeting of National Working Group on HIV Estimations 2017, at NIMS Conference Hall, New Delhi organized by ICMR-NIMS, New Delhi
November 2-3, 2017	Internal review meeting of NWG members HIV Estimation at ICMR-NIMS, New Delhi
November 13, 2017	The third Meeting of National Working Group on HIV Estimations 2017, at NIMS Conference Hall, New Delhi organized by ICMR-NIMS, New Delhi
November 14, 2017	Participate meeting on release of report "India: Health of the Nation's States — The India State-Level Disease Burden Initiative. New Delhi: ICMR, PHFI, and IHME; 2017. ISBN 978-0-9976462-1-4 organized by PHFI & ICMR, New Delhi at Taj Mansingh Hotel, New Delhi
January 12, 2018	Internal review meeting of NWG members HIV Estimation at ICMR-NIMS, New Delhi
February 5-6, 2018	The fourth Meeting of National Working Group on HIV Estimations 2017, at NIMS Conference Hall, New Delhi organized by ICMR-NIMS, New Delhi
February 14-15, 2018	Senior member of NWG of HIV Estimation 2017 group review meeting to discuss and finalize the results and presentation for TRG meeting
February 21, 2018	Technical Resource Meeting (TRG) on HIV Surveillance and Estimation 2017 at NACO organized by NACO, Ministry of health & Family Welfare, Government of India
March 7, 2018	Participated as Mentor in the WORKSHOP ON NATIONAL DATA ANALYSIS PLAN UNDER NACP organized by the National AIDS Control Organisation, the Government of India Ministry of Health & Family Welfare National at Hotel The Royal Plaza, New Delhi
March 12-17, 2018	Participate confidential workshop on UGC NET organized by CBSE, at UGC-NET UNIT Central Board of Secondary Education, Third Floor,H-149,Sector-63, Noida, Dist- Gautam

	Buddh Nagar, U.P
March 15, 2018	Participate preparatory meeting for expert consultation on Newer method of Surveillance and Estimation at Department of Community Medicine, AIIMS, New Delhi organized by NACO.
March 19-20, 2018	Organized and participate preparatory meeting for expert consultation on Newer method of Surveillance and Estimation at ICMR-NIMS, New Delhi organized by ICMR-NIMS.
March 20, 2018	Participate meeting on CRVSS and MCCD with request from WHO office, Delhi at ICMR Conference Hall (Room No. 301) organized by ICMR, New Delhi
March 21-24, 2018	Participate meeting on expert consultation on Newer method of Surveillance and Estimation organized by the National AIDS Control Organisation, the Government of India Ministry of Health & Family Welfare, Govt. of India at Taj Man Singh Hotel, New Delhi
<b>Dr Tulsi Adhikari, Scientist E</b>	
April 26, 2017	Brainstorming Session on large scale health Surveys in India, ICMR New Delhi
May 22-23, 2017	Field visits to Gwalior district under the project, Improvement in Utilization of RCH services through male participation among Saharia tribes of Gwalior district in MP.
May 30, 2017	One day workshop on Systematic reviews for the HTA team in DHR.
July 7, 2017	One day workshop on hand on economic modelling exercises
July 24, 2017	Data Safety Monitoring Board (DSMB) cum Experts Committee for the "Health Accounting Scheme- HAS, empowering people for health care through multi sector co-ordinations – operational evaluation" under the chairmanship of Dr V M Katoch, held at ICMR Hqrs. New Delhi
July 25, 2017	6th Steering Committee Meeting of the CTRI under the chairmanship of Dr. Soumya Swaminathan then Secretary DHR & DG ICMR
October 3, 2017	Meeting of Technical Advisory Committee for the tribal projects at NIMS, Delhi
October 10, 2017	The Review Committee meeting of the Clinical Trials Registry - India (CTRI) , at ICMR- NIMS conference hall
November 4, 2017	XXXV National Conference of Indian Society for Medical Statistics at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow
November 14, 2017	Dissemination of the India State level Disease Burden Initiative
January 3-5, 2018	Field visits to Gwalior district under the project, Improvement in Utilization of RCH services through male participation among Saharia tribes of Gwalior district in MP.
February 9, 2018	Subgroup review committee meeting of CTRI to discuss the format of result disclosure
<b>Dr Atul Juneja, Scientist E</b>	
April 24, 2017	Meeting of Internal Scrutiny Committee of CCRAS New Delhi

May 25, 2017	Brainstorming meeting on Big Data Analytics, ICMR Hqrs., New Delhi
May 31, 2017	Presentation on Trends in Nutrition and outcome determinants and coverage –NFHS 4 At ICMR New Delhi
June 12, 2017	Meeting with MS Madhu Technical Director NIC at Nirman Bhawan regarding CTRI issues and shifting to cloud.
July 7, 2017	Workshop on “Economic Evaluation”, on 7 <sup>th</sup> July 2017 at ICMR-NIMS, New Delhi.
July 21, 2017	Workshop on IBBS- In-depth Analysis at AIIMS New Delhi
July 25, 2017	Steering Committee Meeting of CTRI
July 31, 2017	Meeting on strategies for large scale surveys at ICMR under DG ICMR.
September 27, 2017	Coordinated the programs on Hindi Diwas at ICMR- NIMS New Delhi
October 25, 2017	Meeting with ICTRP group WHO Geneva on CTRI status –Video Call.
November 4, 2017	XXXV National Conference of Indian Society for Medical Statistics at Sanjay Gandhi Postgraduate Institute of Medical Sciences Lucknow presented a paper on burden of cancer during special session.
November 14, 2017	Release of Report on Global Burden of Disease at Shangri La Hotel New Delhi. Released by Hon. Vice President of India. Programme organised by ICMR.
January 3-5, 2018	Supervisory visit to Gwalior (Dabra area) for RCH project on Tribal Forum
January 24, 2018	Lecture on System Based Modelling by Prof. David of Einstein Institute of Medical Sciences NY USA at NIMS New Delhi
February 2, 2018	Meeting on Results Disclosure issues in Clinical Trials with Dr G. Kang chairman sub group committee.
March 20, 2018	WHO-ICMR meeting regarding improving Medical Certification of Cause of Death, ICMR Hqrs., New Delhi
March 21, 2018	Meeting with THSTI team under Prof Usha Menon regarding result disclosure issues at ICMR-NIMS
March 22, 2018	User awareness workshop for software “Web of Science” at ICMR-NIMS
<b>Dr Geetha R Menon, Scientist D</b>	
April 26, 2017	Brainstorming Session on large scale health Surveys in India, ICMR New Delhi
May 8-13, 2017,	HTA Workshop, SCTIMST, Kerala
June 16, 2017	Meeting to discuss the project Burden of Non-Communicable Diseases and Associated Risk Factors for India (BOD-NCD), Nirman Bhawan, New Delhi
July 7, 2017	One day workshop on hand on economic modelling exercises
July 25, 2017	Task Force meeting on “Assessment of nutritional status and utilization of health care facilities in the elderly” at AIIMS New Delhi
July 26-29, 2017	Training of Trainers for the Survey for Monitoring the National NCD Targets-2017 at USI, New Delhi

September 21, 2017	Technical Advisory committee meeting of the NCD-BOD study at NIMS , New Delhi
September 22, 2017	Meeting in Nirman Bhavan to discuss the Trauma registry protocol
November 4, 2017	XXXV National Conference of Indian Society for Medical Statistics at Sanjay Gandhi Postgraduate Institute of Medical Sciences Lucknow, India
November 9-11, 2017.	Vulnerable Road User Conference organized by IRTE in IRTE, Faridabad
November 21, 2017	Internal Project Review Committee Meeting of the ICMR supported Ad hoc community-based, cluster randomised trial of medication provision and psycho-educational intervention delivered at home via ANMs versus usual care for people with epilepsy, DMC Ludhiana.
February 2, 2018	Technical Advisory committee meeting of the NCD-BOD study, NIMS, New Delhi
February 19-23, 2018	HTA workshop in Chandigarh
March 14, 2018	Meeting with the DGHS and WHO on National Trauma Registry
March 29-30, 2018	Two-day National Conference- ‘Safer Road Transportation to Promote National by IRTE ,India Habitat Centre, New Delhi
<b>Dr Saritha Nair, Scientist D</b>	
April 12, 2017	Attended RASTA (Research and Analyses for Scientific Transformation and Advancement) on Family Planning in India – National Family Health Survey-4 Summary Data Decoding meeting organized by Population Council on at India Habitat Centre, Lodhi Road, New Delhi.
May 8-13, 2017	Training programme on Health Technology Assessment at Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala
May 23, 2017	Attended the third Global Burden of Disease India Maternal and Child Health expert group meeting at the ICMR Headquarters
May 25, 2017	Brainstorming meeting on Big Data Analytics, ICMR Hqrs., New Delhi
July 24-25, 2017	ICMR Workshop on Writing Effective Policy Briefs at ICMR-National Institute of Malaria, New Delhi.
August 10, 2017	Meeting titled "The Future of Women’s Health: Using Data and Research to Shape Policy and Program
August 16-19, 2017	Expert Consultation-Cum-Capacity Building Workshop HIV Estimations 2017 at Dr. Ramalingaswami Board Room, AIIMS, New Delhi, organized by National AIDS Control Organization, Ministry of Health & Family Welfare, Government of India & ICMR-National Institute of Medical Statistics
November 2, 2017	Media training workshop organized by ICMR and Global Health Strategies, New Delhi at National Institute of Pathology
November 14, 2017	Dissemination of the India State level Disease Burden Initiative
February 21, 2018	Technical Resource Meeting (TRG) on HIV Surveillance and Estimation 2017 at National AIDS Control Organisation (NACO) organized by NACO, Ministry of health & Family Welfare,

	Government of India
March 7, 2018	Workshop on National Data Analysis Plan under National AIDS Control Plan at Hotel The Royal Plaza, New Delhi
March 5-9, 2018	Public Health Dynamics (PHD 2018) Workshop and Symposium, at ICMR Hqrs New Delhi.
March 15, 2018	Preparatory meeting for expert consultation on Newer method of Surveillance and Estimation at Department of Community Medicine, AIIMS, New Delhi organized by NACO
March 20, 2018	Meeting related to Civil Registration and Vital Statistics System and Medical Certification of Causes of Death at ICMR Hqrs.
March 27, 2018	Attended ICMR Symposium on 'Biomedical Communication and Menace of Predatory Journals: Lesson for Scientists' ICMR Headquarters
<b>Dr BK Gulati, Scientist D</b>	
May 25, 2017	Brainstorming meeting on Big Data Analytics, ICMR Hqrs., New Delhi
November 14, 2017	Dissemination of the India State-Level Disease Burden Initiative, Shangri-La's Eros Hotel, New Delhi
March 20, 2018	WHO-ICMR meeting regarding improving Civil Registration and Vital Statistics System and Medical Certification of Cause of Death, ICMR Hqrs., New Delhi
March 27, 2018	ICMR Symposium on Biomedical Communication and Menace of Predatory Journals: Lesson for Scientists, ICMR Hqrs., New Delhi
<b>Dr Kh Jiten Kumar Singh, Scientist D</b>	
April 12, 2017	Family Planning in India- NFHS Summary Data Decoding, Organized by Population Council, India Habitat Centre, Lodhi Road, New Delhi
April 26, 2017	1 <sup>st</sup> round Brainstorming Session on Large Scale Health Survey in India, organized by NIMS, ICMR Conference Hall 301
May 23, 2017	GBD India Maternal and child Health Expert Group Meeting India State-Level Disease Burden Initiative Organized by PHFI and ICMR, PHFI Gurgaon
May 25, 2017	Brainstorming meeting on Big Data Analytics, Jointly organized by National Institute of Medical Statistics (NIMS) and Division of ISRM, ICMR, New Delhi in collaboration with Indian Institute of Public Health (IIPH), Hyderabad, 301 conference room, ICMR
May 31, 2017	Trends in nutrition outcomes, determinants and intervention coverage in India: Insights from the National Family Health Survey-4, On the occasion of <i>International Women's Health Day</i> , organized by ICMR, 301 conference room, POSHAN led by IFPRI.
June 19, 2017	First Meeting of National Working Group on HIV Estimation

	2017, organized by NIMs-ICMR, 301 Conference Hall
July 7, 2017	Workshop on “Economic Evaluation” at ICMR-NIMS, New Delhi.
July 21, 2017	Workshop for In-Depth Analysis of data from NIBBS (National Integrated Biological and Behavioural Survey)). Organized by NACO. Dr. Ramalingaswami Board Room, AIIMS, New Delhi
July 24, 2017	Advisory, Review Group meeting. Health Account Scheme. 301 ICMR, New Delhi
July 26-28, 2017	National working Group meeting to review & apprise the methodology used in 2015 round of estimation to all NWG members Estimation-2017 at ICMR-NIMS, New Delhi
July 31, 2017	2 <sup>nd</sup> round Brainstorming Session on Large Scale Health Survey (NFHS-5) in India, organized by NIMS, ICMR Conference Hall 301
August 16-19, 2017	Expert Consultation-Cum-Capacity Building Workshop, HIV Estimations 201. Dr. Ramalingaswami Boardroom, AIIMS, New Delhi
September 1, 2017	Internal review meeting of NWG members HIV Estimation at ICMR-NIMS, New Delhi
September 25, 2017	Participated the meeting of the Sub-Group on Questionnaire of the Technical Advisory Committee (TAC) for National Family Health Survey (NFHS)-5 held at ICMR, New Delhi organized by MoHFW, Delhi
October 6, 2017	Workshop in Big Data Analytics in Government organized by SMART, BIRAC, Indian Habitat, New Delhi.
October 30-31, 2017	The second Meeting of National Working Group on HIV Estimations 2017, at NIMS Conference Hall, New Delhi organized by ICMR-NIMS, New Delhi
November 13, 2017	The third Meeting of National Working Group on HIV Estimations 2017, at NIMS Conference Hall, New Delhi organized by ICMR-NIMS, New Delhi
November 14, 2017	Dissemination of the India State level Disease Burden Initiative
December 5-6, 2017	HBGDki India Community Workshop, co-hosted by the PMU (Program Management Unit) at BIRAC (Biotechnology Industry Research Assistance Council) and the Bill and Melinda Gates Foundation, The Park Hotel, New Delhi
<b>Dr Lucky Singh, Scientist C</b>	
April 11, 2017	“Cancer Burden Meeting” at PHFI, Gurgaon.
April 24, 2017	Meeting on “HIV estimates”, at ICMR Hqrs New Delhi.

May 16, 2017	“GBD India VBNTD Expert Group meeting”, at ICMR Hqrs New Delhi.
May 16, 2017	“GBD India TB Expert Group meeting”, at ICMR Hqrs New Delhi.
May 18, 2017	“GBD India Cancer Expert Group meeting”, at ICMR Hqrs New Delhi.
May 23, 2017	“GBD India MCH Expert Group meeting”, at PHFI, Gurgaon.
May 25, 2017	Brainstorming Meeting on "Big data Analytics", ICMR Hqrs., New Delhi.
May 26, 2017	“GBD India CVD Expert Group meeting”, at ICMR-NIMS, New Delhi.
June 7, 2017	“GBD India Dietary Risks Expert Group meeting”, at ICMR-NIMS, New Delhi.
June 13, 2017	“GBD India Tobacco Disease Burden Expert Group meeting” at ICMR-NIMS, New Delhi.
July 7, 2017	“GBD India Environmental Risk Factors Expert Group Meeting” at ICMR Hqr New Delhi.
July 7, 2017	Workshop on “Economic Evaluation”, at ICMR-NIMS, New Delhi.
July 31, 2017	Meeting on “Large Scale Health Survey-NFHS-5” at ICMR Hqrs New Delhi.
September 21, 2017	Technical Advisory Committee Meeting for the Methodology Group of the study entitled “Burden of Non-Communicable Diseases and associated Risk Factors for India” at ICMR-NIMS, New Delhi.
November 14, 2017	Dissemination of the Report entitled “India State-Level Disease Burden Initiative” at Shangri-La’s Eros Hotel, New Delhi
December 5-6, 2017	Workshop on “Healthy Birth Growth Development knowledge integration - India (HBGDki - India)”organized by DBT – BMGF – BIRAC – PMU at The Park Hotel, New Delhi.
February 2, 2018	Technical Advisory Committee Meeting for the Methodology Group of the study entitled “Burden of Non-Communicable Diseases and associated Risk Factors for India” at ICMR-NIMS, New Delhi.
March 20, 2018	WHO-ICMR meeting regarding improving Medical Certification of Cause of Death at ICMR Hqrs New Delhi.
March 27, 2018	Symposium on “Biomedical Communication and the Menace of Predatory Journals: Lessons for Scientists at RMPPC & HRD, Divisions, ICMR Hqrs, New Delhi.

<b>Dr Saurabh Sharma, Scientist B</b>	
May 25, 2017	Brainstorming Meeting on "Big data Analytics", ICMR Hqrs., New Delhi.
November 2, 2017	ICMR-Media training workshop, ICMR-NIOP, New Delhi.
November 14, 2017	Dissemination of the India State Level Disease Burden Initiative.
March 4-9, 2018	International Collaboration for Research methods Development in Oncology (CReDO) workshop, Mumbai, India
March 20, 2018	WHO-ICMR meeting regarding improving Medical Certification

	of Cause of Death, ICMR Hqrs., New Delhi
March 27, 2018	ICMR Symposium on Biomedical Communication and Menace of Predatory Journals: Lesson for Scientists, ICMR Hqrs., New Delhi.
<b>All the scientists and technical staff of ICMR-NIMS participated in the Public Health Dynamics Workshop and Health Analytics and Disease Modelling Symposium organised by ICMR-NIMS in Collaboration with University of Pittsburg, USA on March 5-7 and March 8-9 2018 In New Delhi</b>	

#### Paper Presentations in Conferences

September 11-15, 2017	<b>Dr Jeetendra Yadav</b> presented paper entitled “Anaemia Among Tribal and Non-Tribal Reproductive Age Women in Northeast, India: A Spatial Analysis (A cross sectional survey, 2012-13)” at the Conference on "Population and Development in Eastern and North Eastern regions of India" Indian Statistical Institute (ISI), 203 B.T. Road, Kolkata 700 108,
October 30-31, 2017	<b>Dr Jeetendra Yadav</b> presented paper entitled “Does Socioeconomic and Regional Disparities exist in Health-Care Expenditure in India? (Insights from Nationally Representative Panel Surveys)” at National Conference of Sociology Gulbarga University, Gulbarga
October 30-31, 2017	<b>Dr Jeetendra Yadav</b> presented paper entitled “Psychological Burden of Family Caregivers to the Elder Family Member in India (A Case Study of Urban Delhi) at National Conference of Sociology Gulbarga University, Gulbarga
November 3, 2017	<b>Dr Ajit Mukherjee</b> Determining threshold level of 25 (OH) D3 (Vitamin D) in Indians for optimum Bone Health, Annual Conference of ISMS, SGPGIMS, Lucknow.
November 4, 2017	<b>Dr Atul Juneja</b> attended XXXV National Conference of Indian Society for Medical Statistics at Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow and presented a paper on burden of cancer during a special session.
November 13-15, 2017	<b>Dr Jeetendra Yadav</b> presented paper entitled “Socioeconomic disparities in hospitalization rate and treatment seeking behaviour of major morbidity in India” at National Conference on Advanced Developments in Theoretical and Applied Statistics, Department of Statistics, Banaras Hindu University.
December 20-22, 2017	<b>Dr Jeetendra Yadav</b> presented paper entitled “Socioeconomic Differentials in Utilization of Health Services and Health Care Expenditure among Diabetes Mellitus Patient in India” at the XXXVIII Annual Conference of Indian Association for the Study of Population (IASP) on “Population, Health and Development” Organized by Andhra University, Visakhapatnam, Andhra Pradesh.
February 15-17, 2018	<b>Dr Jeetendra Yadav</b> presented paper entitled “Inter-Spousal Communication and Treatment Seeking Behaviour among Women Suffering from RTI/STI by Different Social Group of India” at the “International Seminar on “Population, Health, and



	Development: Global and National Policy Perspectives” Organized by International Institute for Population Sciences, Mumbai, at YMCA, New Delhi.
--	---

### Academic activities

April 20, 2017	<b>Dr Damodar Sahu</b> conducted Ph.D Viva-voce of Mr. Rajpal Bhiduriat Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University, New Delhi
August 4, 2017	Presentation Progress Report of Gunjika Mishra, Ph.D. Scholar, 2013 & Mr. Sanjeev Kumar, Ph.D. Scholar, 2015 batch  Synopsis presentation of proposed Ph.D work by Mr. Sarvesh in twenty-third meeting of school research committee (SRC) of university school of medicine and para-medical health sciences, at GGS IP university, New Delhi
August – October 2017	<b>Dr Ajit Mukherjee, Dr Tulsi Adhikari, Dr Atul Juneja and Dr Geetha Menon</b> were resource persons for the second batch of MSc Biostatistics course conducted by NIE Chennai. Dr Tulsi initially took face to face classes on Categorical Data Analysis for these students for a week in NIE. Later the scientists conducted the classes on Skype. A total of eight weeks of classes covering 80 hours of teaching was delivered. The scientists gave regular assignments and also prepared three sets of question papers for the final exams.



December 5, 2017	Synopsis of Ms. Poonima Suryanath Singh approved by DRC, GGSIP University to work on the topic “Geospatial mapping of Dengue cases in Delhi to study clustering and the socio-demographic and environmental correlates” under the supervision of <b>Dr HK Chaturvedi</b>
------------------	--

### Statistical consultancy services provided to various Institutions

During the year under report the scientists of the Institute have provided statistical consultancy to Masters Students from various Institutions

Dr Ajit Mukherjee	<p>Provided consultancy to Division of RBMH &amp; CH, ICMR in designing and sample size computation for task force studies on combating Childhood Anemia, Childhood Injuries and Haemoglobinopathy in Tribal Population of Tamil Nadu</p> <p>Provided statistical inputs in finalizing various documents of Management and Systems Division of Bureau Of Indian Standards (BIS), New Delhi</p>
Dr HK Chaturvedi	<ol style="list-style-type: none"> <li>1. All India Institute of Medical Science</li> <li>2. Kalawati Children Hospital, Lady Hardinge Medical College, New Delhi</li> <li>3. RML Hospital, PGIMER, New Delhi</li> <li>4. Amity University, NOIDA</li> <li>5. Rajkumari Amrit Kaur College of Nursing</li> </ol>
Dr Geetha Menon	<ol style="list-style-type: none"> <li>1. MSc nursing students of Rajkumari Amrit Kaur College of Nursing, New Delhi</li> <li>2. DNB students from Ganga Ram Hospital, New Delhi</li> </ol>
Dr Tulsi Adhikari	<p>Provided consultancy to the Doctors and Researchers from Department of Gynae and Obs, Safdarjung Hospital Department of Pulmonary and Sleep Medicine, Safdarjung Hospital, All India Institute of Medical Sciences, Lok Nayak Jai Prakash Hospital, Jamia Hamdard (Hamdard University)</p>
Dr Atul Juneja	<p>Faculty and students/Research Fellows of Dr RML Hospital Safdarjung Hospital Dr BL Kapoor Memorial Hospital and Jaipur Golden Hospital for statistical issues in their research work</p>
Dr Kh Jiten Kumar Singh	<ol style="list-style-type: none"> <li>1. All India Institute of Medical Sciences, New Delhi</li> <li>2. RML Hospital, PGIMER, New Delhi</li> <li>3. Amity University, NOIDA</li> <li>4. Rajkumari Amrit Kaur College of Nursing, New Delhi</li> </ol>

## E. Scientific Publications by scientists and technical staff

1. India State-Level Disease Burden Initiative Collaborators. Nations within a nation: variations in epidemiological transition across the states of India, 1990-2016 in the Global Burden of Disease Study. *Lancet*. 2017 Dec 2;390(10111):2437-2460. doi: 10.1016/S0140-6736(17)32804-0. Epub 2017 Nov 14.
2. Erratum in: *Lancet*. 2017 Dec 2;390(10111):e49. PubMed PMID: 29150201; PubMed Central PMCID: PMC5720596.
3. Juneja A, Adhikari T. Clinical Trials Waiver in India-Some Considerations. *Ind J of Pharmacology*. Accepted for publication.
4. Roy A, Praveen PA, Amarchand R, Ramakrishnan L, Gupta R, Kondal D, Singh K, Sharma M, **Shukla DK**, Tandon N, Reddy KS, Krishnan A, Prabhakaran D. Changes in hypertension prevalence, awareness, treatment and control rates over 20 years in National Capital Region of India: results from a repeat cross-sectional study. *BMJ Open*. 2017 Jul 12;7(7):e015639. doi: 10.1136/bmjopen-2016-015639. PubMed PMID: 28706098; PubMed Central PMCID: PMC5734355.
5. Prabhakaran D, Roy A, Praveen PA, Ramakrishnan L, Gupta R, Amarchand R, Kondal D, Singh K, Sharma M, **Shukla DK**, Tandon N, Reddy KS, Krishnan A. 20-Year Trend of CVD Risk Factors: Urban and Rural National Capital Region of India. *Glob Heart*. 2017 Sep;12(3):209-217. doi: 10.1016/j.ghheart.2016.11.004. Epub 2017 Apr 11. PubMed PMID: 28411147.
6. Pradeepa R, Anjana RM, Joshi SR, Bhansali A, Deepa M, Joshi PP, Dhandania VK, Madhu SV, Rao PV, Geetha L, Subashini R, Unnikrishnan R, **Shukla DK**, Kaur T, Mohan V, Das AK; ICMR-INDIAB Collaborative Study Group. Authors' response. *Indian J Med Res*. 2016 Mar;143(3):374-5. doi: 10.4103/0971-5916.182632. PubMed PMID: 27241655; PubMed Central PMCID: PMC4892088.
7. Praveen PA, Madhu SV, Mohan V, Das S, Kakati S, Shah N, Chaddha M, Bhadada SK, Das AK, **Shukla DK**, Kaur T, Tandon N. Registry of Youth Onset Diabetes in India (YDR): Rationale, Recruitment, and Current Status. *J Diabetes Sci Technol*. 2016 Aug 22;10(5):1034-41. doi: 10.1177/1932296816645121. Print 2016 Sep. PubMed PMID: 27179010; PubMed Central PMCID: PMC5032954.
8. NCD RiskC, Chaturvedi H.K., **Menon GR** (2017). Worldwide trends in blood pressure from 1975 to 2015: a pooled analysis of 1479 population-based measurement studies with 19.1 million participants. *The Lancet*, **389(10064)**: 37-55.
9. **Chaturvedi H.K.**, Bajpai Ram C, and Tiwari P. (2017): Association of religion and cultural tradition with alcohol use among some tribal communities of Arunachal Pradesh, India. *Journal of Ethnicity in Substance Abuse*, **16(3)**:1-13.
10. NCD Risk Factor Collaboration (NCD-RisC), **Chaturvedi H.K.**, **Menon GR** (2017) Worldwide trends in children's and adolescents' body mass index, underweight, overweight and obesity, in comparison with adults, from 1975 to 2016: a pooled analysis of 2,416 population-based measurement studies with 128.9 million participants. *The Lancet*, 390: 2627-42.
11. NCD Risk Factor Collaboration (NCD-RisC), **Chaturvedi H.K.**, **Menon GR** (2018) Contributions of mean and shape of blood pressure distribution to worldwide trends and variations in raised blood pressure: a pooled analysis of

- 1018 population-based measurement studies with 88.6 million participants. *International Journal of Epidemiology*, 2018;1-21. doi: 10.1093/ije/dyy016 .
13. GBD Collaborators, **Geetha R. Menon** (2017). Global, regional, and national under-5 mortality, adult mortality, age-specific mortality, and life expectancy, 1970–2016: a systematic analysis for the Global Burden of Disease Study 2016 *The Lancet* 390 10100, p1084–1150, 16
  14. Sikka V , Gautam V , Galwankar S , Guleria R , Stawicki SP , Paladino L, Chauhan V **Menon G** , Shah V , Srivastava RP , Rana BK , Batra B , Kalra OP, Aggarwal P , Bhoi S, Krishnan SV. The 2017 International Joint Working Group White Paper by INDUSEM, the Emergency Medicine Association and the Academic College of Emergency Experts on Establishing Standardized Regulations, Operational Mechanisms, and Accreditation Pathways for Education and Care Provided by the Prehospital Emergency Medical Service Systems in India. *J Emerg Trauma Shock*. 2017 Jul-Sep;10(3):154-161. doi: 10.4103/JETS.JETS\_7\_17.
  15. **Arvind Pandey**, Neeraj Dhingra, Pradeep Kumar, **Damodar Sahu**, DCS Reddy, Padum Narayan, Yujwal Raj, Bhavna Sangal, Nalini Chandra, **Saritha Nair**, **Jitenkumar Singh**, Laxmikant Chavan , Deepika Joshi Srivastava, Ugra Mohan Jha, Vinita Verma, Shashi Kant, Madhulekha Bhattacharya, Pushpanjali Swain, Partha Halder, **Lucky Singh**, Taoufik Bakkali, John Stover & Savina Ammassari. Sustained progress, but no room for complacency: Results of 2015 HIV estimations in India. *Indian Journal of Medical Research*, July 2017, pp 83-96 doi:10.4103/ijmr.IJMR\_1658\_16
  16. Begum S, Schensul JJ, **Nair S**. Effect of Indian women’s exposure to warning messages on intention to quit smokeless tobacco. *Int J Reprod Contracept Obstet Gynecol* 2017;6:5354-8. doi:http://dx.doi.org/10.18203/2320-1770.ijrcog20175241
  17. Million Death Study Collaborators (Shaza A Fadel, Reeta Rasaily, Shally Awasthi, Rehana Begum, Robert E Black, Hellen Gelband, Patrick Gerland, Rajesh Kumar, Li Liu, Colin Mathers, Shaun K Morris, **Saritha Nair**, Leslie Newcombe, Arvind Pandey, Faujdar Ram, Usha Ram, Peter S Rodriguez, **Damodar Sahu**, Prabha Sati, Prakash J Shah, Anita Shet, Jay Sheth, **Jitenkumar K Singh**, **Lucky Singh**, Anju Sinha, Wilson Suraweera, Prabhat Jha). Changes in cause-specific neonatal and 1–59-month child mortality in India from 2000 to 2015: a nationally representative survey. *Lancet*. September 19, 2017 [http://dx.doi.org/10.1016/S0140-6736\(17\)32162-1](http://dx.doi.org/10.1016/S0140-6736(17)32162-1)
  18. Naik DD, Donta B, Iddya U, **Nair S**. Awareness of sexually transmitted infections and cervical cancer among husbands in urban slums of Mumbai, India. *Int J Community Med Public Health* 2017;4:3261-6
  19. Kiyomi Tsuyuki, Balaiah Donta, Anidita Dasgupta, Paul J Fleming, Mohan Ghule, Battala Madhusudana, **Saritha Nair**, Jay G Silverman, Niranjana Saggurti, Anita Raj. Masculine gender ideologies, intimate partner violence and alcohol use increase risk for genital tract infections among men. *Journal of Interpersonal Violence*. Online April 2017. Doi: 10.1177/0886260517700619
  20. Fleming, P.J., Silverman, J., Ghule, M., Ritter, J., Battala, M., Gajanan, V., **Nair, S.**, Dasgupta, A., Balaiah, D., Saggurti, N., Raj, A. "Can a Gender Equity and Family Planning Intervention for Men change men’s gender ideology? Results from the CHARM cluster randomized controlled trial in rural India". *Studies in Family Planning*. Vol. 49 (1) Pg. 41-56, March.2018
  21. Sanjeev Singh, **Damodar Sahu**, Ashish Agrawal , Meeta Dhaval Vashi , (2017)

- "Evaluation of vaccination coverage and dropout rates among children aged 12-23 months in the slums of Mumbai, India", International Journal in Management and Social Science Volume 5 Issue 12, December 2017 ISSN: 2321-1784
22. **Adhikari T, Sahu D, Nair S**, Saha KB, Sharma RK, **Pandey A**. Authors' Response. Indian J Med Res 2017;145:570.
  23. Gupta A, Suri JC, Bhattacharya D, Sen MK, Chakrabarti S, Singh A, **Adhikari T**. Comparison of diagnostic yield and safety profile of radial endobronchial ultrasound-guided bronchoscopic lung biopsy with computed tomography-guided percutaneous needle biopsy in evaluation of peripheral pulmonary lesions: A randomized controlled trial. Lung India 2018;35:9-15
  24. **Balwan Singh Dhillon**, Nomita Chandhiok , **D.K. Shukla** :Maternal Morbidity and Mortality Following a Trial of Labor in Women with Previous Cesarean Section at Tertiary Care Teaching Hospitals in India. Journal of Medical Science and Clinical Research; 2017; 5 (9), 27587-27592.
  25. **Balwan Singh Dhillon**, Nomita Chandhiok , **M. Vishnu Vardhana Rao**: Is emergency caesarean section more risky than elective caesarean section in women with previous caesarean section?. Int J Reprod Contracept Obstet Gynecol 2018;7(5):1880-1884.
  26. **Umethala Srikanth Reddy** and **Jeetendra Yadav**, "Socioeconomic Disparities in Hospitalization Rate and Treatment Seeking Behavior of Major Morbidity in India. Demography India (2016), Vol.45, Issue: 1&2, pp: 143-152 ISSN: 0970-454X.
  27. **Jeetendra Yadav** "Correlates of maternal health services utilization among Scheduled tribes women in India, 1990-2006" in J A N A S A M K H Y A, Vol. XXXIV, 2016, Page-55-74, ISSN 091 - 698 X.
  28. **Jeetendra Yadav** and Dolly Kumari, "Does Socioeconomic and Regional Disparities exist in Health-Care Expenditure in India? (Insights from Nationally Representative Panel Surveys)" in Displacement and Rehabilitations (Edited book of Conference Proceeding) by Vishwa Bharati publication, ISBN-978-93-83109-49-4 first edition, 2017 page- 116-134.
  29. Dolly Kumari, **Jeetendra Yadav** and Anita Pal "Psychological Burden of Family Care Givers to the Elder Family Member in India (A Case Study of Urban Delhi) in Displacement and Rehabilitations (Edited book of Conference Proceeding) by Wishwbharati publication, ISBN-978-93-83109-49-4 first edition, 2017 page-152-178.
  30. Ashish Kumar Yadav, **Jeetendra Yadav**, Sarvesh Awasthi and **Subhash Gautam** "A Study on Relationship between Domestic Violence and Childhood Mortality in India: Using Weibull frailty Modelling Approach. Journal of Clinical and Diagnostic Research. 2017 Dec Vol-11(12): SC05-SC10.
  31. **Jeetendra Yadav**, "Urban-Rural Disparities in Awareness of HIV/AIDS and Correct Knowledge of HIV/AIDS Prevention Methods among Reproductive Age Women (15-49 Years) in India" in Demography India, Special Issue (2017), pp: 50-60, ISSN: 0970-454X
  32. Anita Pal, Dolly Kumari and **Jeetendra Yadav** "Role of Duration of Breastfeeding on Cognitive Development among Children in Andhra Pradesh: A Longitudinal Study" in Demography India, Special Issue (2017), pp: 50-60, ISSN: 0970-454X
  33. **Jeetendra Yadav**, Ashish kumar Yadav and Ranganadham Srinadh "Rural-urban disparities in prevalence of anemia among adolescent girls in India. International Journal of Community Medicine and Public Health, 2017,

34. Rajesh Kumar Rai, **Lucky Singh** & Prashant Kumar Singh (2017) Is maternal body mass index associated with neonatal mortality? a pooled analysis of nationally representative data from nine Asian countries. **Nutrition**, 41(68-72). doi: 10.1016/j.nut.2017.04.002.
35. Swati Kadian, Amandeep Kaur and **Kh. Jitenkumar Singh** (2017). Understanding the Burden of Anaemia among Children in Northeastern States, India: Evidence from National Family Health Survey 4 (2015-16). *Demography India, Special Issue*, 2017, pp: 138-142, ISSN: 0970-454X.
36. Apoorva Nambiar and **Kh. Jitenkumar Singh** (2017). A Spatial Analysis of caesarean Birth in Northeast States, India. *Demography India, Special Issue*, 2017, pp: 90-97, ISSN: 0970-454X.
37. **Kh. Jitenkumar Singh**, Apoorva Nambiar, Damini Yadav, Swati Kadian, Amandeep Kaur, Kiran Saini, Payal Kuchhal, Diksha Kashyap (2017). A Spatial Analysis of Child Health in Northeastern States, India: Evidence from National Family Health Survey 4 (2015-16). *International Journal of Advanced Research*, 2017 June; 5(6):1910-1921. ISSN: 2320-5407.
38. **Kh. Jitenkumar Singh**, Swati Kadian, Amandeep Kaur, Kiran Saini, Payal Kuchhal, Diksha Kashyap, Damini Yadav, Apoorva Nambiar (2017). Spatial Pattern of Maternal Health in Northeastern States, India: Evidence from National Family Health Survey 4 (2015-16). *Asian Pacific Journal of Health Sciences*, 2017 June; 4(2):147-156. e-ISSN: 2349-0659, p-ISSN: 2350-0964.
39. Ashwini Kedar, Sanjay Gupta and **Kh. Jitenkumar Singh** (2017). Tobacco use and its determinants among 13-15 year old adolescents of two central government schools of New Delhi district, *International Journal of Community Medicine and Public Health*, 2017 Jun;4(6):1912-1917.
40. **Kh. Jitenkumar Singh** and Mani Deep Govindu (2017). Prevalence of Exclusive Breastfeeding Practices and Its Associated Factors in Maharashtra: A Spatial and Multivariate Analysis. *Asian Pacific Journal of Health Sciences*, 2017 March; 4(1):145-151. e-ISSN: 2349-0659, p-ISSN: 2350-0964.
41. **Jeetendra Yadav**, Ashish Kumarr Yadav, **Umenthala Srikanth Reddy** and **Kh Jiten Kumar Singh** (2017). Socioeconomic and Regional Disparities in Under-Five Mortality in India. *Indian Journal of Public Health Research & Development*, 2017, June.
42. Singh S, Thakur T, Chandhiok N, Singh MK, **Dhillon BS** (2017). Perceptions and experiences of women seeking treatment for obstetric fistula. *Birth* 44:238-245.

## **F. Contributions in books**

**Road Traffic and Safety. Editors:** Amit Agrawal and **Geetha R. Menon** (Department of Neurosurgery, Narayana Medical Hospital and College, Pradesh, India) NOVA science publishers Pub Date : 2017 - 4th Quarter **ISBN:** 978-1-53612-489-7

### **India: Health of the Nation's States — The India State-Level Disease Burden Initiative**

Dr Damodar Sahu contributed in Burden of disease Initiative as expert group member to review causes of under-five mortality and report “India: Health of the Nation's States — The India State-Level Disease Burden Initiative. New Delhi: ICMR, PHFI, and IHME; 2017. ISBN 978-0-9976462-1-4” released by Vice President of India

## G. Training/Workshops Organized by scientists

Dr Ajit Mukherjee at Nodal Person	
March 25 2017	A brainstorming meeting on Big Data Analytics jointly organized Jointly by ICMR-NIMS, Division of ISRM, ICMR, and IIPH, Hyderabad In ICMR, New Delhi. One of the recommendations was to organise a workshop on Mathematical Modelling with major participation of ICMR scientists.
March 5-7 2018	<p>Following the Big Data Brainstorming meeting in May 2017 the following two activities were undertaken by the institute in the month of March, 2018</p> <p><b>Workshop on Public Health Dynamics (PHD)</b></p> <p>A training workshop on was organized by ICMR-NIMS, New Delhi in collaboration with School of Public Health, University of Pittsburgh, USA and SHARE India, Telangana from March 5-7, 2018 at ICMR Hqrs., New Delhi. A total of 37 participants from 14 institutes of ICMR and from other institutions, were trained in various tools of PHD using the software FRED (Framework for Reconstruction of Epidemic Dynamics) developed by the School of Public Health, University of Pittsburgh, USA. The teaching faculty came mainly from University of Pittsburgh. Topics such as Agent Based Modelling, Synthetic Population, and Disease Clustering among others were discussed and debated. Hands on sessions were also conducted to facilitate learning of FRED. On the whole, the workshop was a good learning platform for all the participants. In the end, all participants were given certificate of participation.</p>
	
March 8-9, 2018	An International Symposium on Health Analytics and Disease Modelling (HADM) was organized by ICMR-NIMS, New Delhi in collaboration with School of Public Health, University of Pittsburgh, USA and SHARE India, Telangana from at the auditorium of National Academy of Medical Sciences (NAMS), New Delhi. A total of 74 participants from across the country participated. Renowned speakers from all over the world delivered



talks on latest developments in the area of disease modelling covering wide range of diseases such as dengue, influenza, malaria and malnutrition among others. The speakers shared their experiences on various applications of disease modelling techniques such as Improving Population Health, High-dimensional Human Immuno-phenotypic Diversity, Epidemiological and Economic Impact of Vaccines, Standardization for Epidemic Modeling in Global Health, Climate and Dengue Modeling: A Big Data Analytics Perspective, Climatic and Socio-economic Factors of Dengue Transmission in a City like Delhi. Some keynote addresses and special talks such as Forecasting Epidemics, Penetrating Modeling at Administrative Units for Enhanced Decision Making, A Mathematical Model of CD8 T Cell Responses Calibrated with Human Yellow Fever Vaccine Data and A Stochastic Multi-scale Model for Mechanisms of Infection were very informative. Some other notable talks that evoked good response from the participants were Big Data Analytics in Nutrition and Health, Small Area Estimation in Health Sector by Combining Demographic Health Survey and Census Data. The international symposium provided an opportunity to all the participants to interact and share knowledge in the area of disease modelling with some of the best expertise of the world. All the participants were given certificate of participation in the end.



**Dr Damodar Sahu as Nodal Person**

April 26, 2017	The brain storming session on large scale health surveys in India at ICMR organized by ICMR-NIMS, (chaired by Secretary DHR & DG ICMR), New Delhi
July 26-28, 2017	Organised working group meeting on National HIV estimation & Projection 2017 for RI persons at ICMR-NIMS organized by NIMS, New Delhi
July 31, 2017	Coordinated 'Large Scale Health Surveys-NFHS-5" at 301 Conference Hall, Indian council of Medical Research, New Delhi organized by ICMR-NIMS, New Delhi
August 16-19, 2017	Organized and resource person for the Expert Consultation-Cum-Capacity Building Workshop HIV Estimations 2017 at Dr. Ramalingaswami

	Boardroom, AIIMS, New Delhi, organized by National AIDS Control Organisation & National Institute of Medical Statistics, Ministry of Health & Family Welfare, Government of India
--	---

## H. Certificate/awards/degree/diploma or any academic achievement by scientists and technical staff

Dr BK Gulati	Completed Post Graduate Diploma in Applied Statistics from Indira Gandhi National Open University with 70.44% marks on 28-3-2018 (June, 2016 – December, 2017).
Dr Tulsi Adhikari	Received Prof. P.V. Sukhatme for best paper published on Sampling/Nutrition award during the 35th Annual Conference of Indian Society for Medical Statistics at Sanjay Gandhi Postgraduate Institute of Health Sciences, Lucknow, 2-4 Nov 2017.
Dr Geetha R Menon	Received the Statistical Alliance for Vital Events (SAVE) – Advanced Queen Elizabeth Scholars (QES) Award led by the Dalla Lana School of Public Health and the Centre for Global Health Research (CGHR), Inc. (St. Michael’s Hospital; SMH) effective as of March 5 <sup>th</sup> , 2018 and ends February 28 <sup>th</sup> , 2019

## I. Foreign Visits by scientists and technical staff

Dr Saritha Nair  
and Dr Damodar  
Sahu

Attended the workshop to review in detail the plans for a Comprehensive Health and Nutrition Survey to be piloted in three districts of India at **National Center for Health Statistics, CDC, Maryland** and the Hubert Department of Global Health, Rollins School of Public Health of Emory University in Atlanta, Georgia, USA, 3-13 Dec 2017



## **J. Other Activities**

- The Institute has initiated Journal club on 1<sup>st</sup> and 15<sup>th</sup> of every month to stimulate scientific reading among the scientists and the technical staff. During the period under report the principal investigators of ongoing activities presented the background of their studies and updated knowledge on the topic. Some of the scientists presented statistical articles of interest.
- The Institute invited Dr Kavita Rajasekhar, Scientist D, DHR for delivering a talk on DHR funding Scheme and Grants on 10<sup>th</sup> April 2017.
- The Institute invited Dr Mudit Kapoor Associate Professor Economics and Planning Unit Indian Statistical Institute (ISI) New Delhi to discuss the possibilities of data analytics with their support on 30th November 2017.
- The Institute invited Dr Sanjay Agarwal, professor and Head Department of Nephrology , AIIMS for delivering a talk on Chronic Kidney Disease on the occasion of ICMR-NIMS Hindi Divas on 27<sup>th</sup> September 2017.
- The Institute has recruited two scientists Dr Denny John, Evidence Synthesis specialist, Campbell Collaboration and Dr Saumyadipta Pyne, Visiting Associate Professor, Biostatistics, Scientific Director, Public Health Dynamics Lab, University of Pittsburgh as adjunct faculties to build capacity of the scientists and research staff.
- The Institute invited Dr David William Lounsbury from Albert Einstein College of Medicine, Bronx, New York to deliver a lecture on Participatory System Dynamics Modelling on January 24<sup>th</sup> 2018.
- The institute invited Dr. Vivekanand Jha , Director, George Institute of Global Health (GIGH) New Delhi delhi to deliver a talk on exploring the possibility of future collaboration between ICMR-NIMS & GIGH, New Delhi.
- The institute invited Dr. Ramachandran, Ex-DG , Department of Information Technology New Delhi to deliver a talk on BIG DATA Analytics (BDA).

## **K. Members of the Ethics Committee**

1.	Prof. S.D.Seth, Ex-Advisor, Clinical Trial Registry-India, Ansari Nagar, New Delhi-110029.	Chairman
2.	Dr. Sudesh Nangia, UGC faculty Recharge Programme, Old CRS Building, JNU, New Campus, New Delhi-110067.	Member
3.	Dr. Sanghamitra Acharya, Director, Indian Institute of Dalit Studies, D-II/1, Road No.-4, Andrews Ganj, New Delhi-49.	Member
4.	Dr. Shashi Kant, Professor, Centre for Community Medicine, AIIMS, New Delhi 110029.	Member
5.	Dr. G.C. Shukla, Advocate, Supreme Court of India, New Delhi.	Member
6.	Prof. Arvind Pandey, Ex-Director, NIMS, Ansari Nagar, New Delhi.	Member
7.	Dr. S.K. Benara, Scientist 'F', National Institute of Medical Statistics, Ansari Nagar, New Delhi-110029.	Member Secretary

## **Members of the Scientific Advisory Committee**

1.	Prof. P.P. Talwar, Ex-Head, Deptt. of Statistics, NIHFV, B-1/1020, Vasant Kunj, New Delhi.	Chairman
2.	Dr. Padam Singh, Ex-Additional DG, ICMR Head - Health Research, New Delhi.	Member
3.	Prof. D.C.S. Reddy, Ex.-Head, Deptt. of PSM, BHU 506, Consultants Flats, T.G. Complex, K.G.M.U., Lucknow-226003.	Member
4.	Dr. R.C. Yadav, Professor, Department of Statistics, B.H.U., Varanasi 221 005.	Member
5.	Prof. D.K. Subbakrishna, Ex. Prof. & Head, Department of Biostatistics, National Institute of Mental Health & Neuro Sciences (NIMHANS), Bangalore-560029.	Member
6.	Dr. Shashi Kant, Professor, Centre for Community Medicine, All India Institute of Medical Sciences, New Delhi-29.	Member

7.	Dr. S.N. Dwivedi, Professor Deptt. of Biostatistics, AIIMS, New Delhi-29.	Member
8.	Dr. V.K. Srivastava, Chief Director, Ministry of Health & Family Welfare, Nirman Bhawan, New Delhi-110011.	Member
9.	Prof. C.M. Pandey, Professor & Head, Deptt. of Biostatistics & Health Information, Sanjay Gandhi Postgraduate Institute of Medical Science(SGPGI) Lucknow-226014.	Member
10.	Representative of RGI Office, Shri Shailesh	Member
11.	Dr. P.L. Joshi, Adviser, NIMR, Ex. DDG, Leprosy & Malaria, MOHFW, New Delhi.	Member
12.	Dr. Neena Valecha, Director, National Institute of Malaria Research, Dwarka, New Delhi.	Member
13.	Dr. R.R. Gangakhedkar, Director-in-charge, National AIDS Research Institute, Plot No.73, Block G, MIDC Complex, Bhosari, Pune-411026.	Member
14.	ICMR Representative, Head, ECD	Member
15	Dr. Arvind Pandey, Director, NIMS, New Delhi.	Member Secretary

## L. Staff

### Scientific

Name	Designation
Dr M Vishnu Vardhana Rao	Scientist G and Director (w.e.f. December 20, 2017)
Dr D.K. Shukla	Scientist G & Director-in-Charge (February 1, 2017-December 19, 2017)
Dr Ajit Mukherjee	Scientist F
Mr Ajit Mathur	Scientist F
Dr SK Benara	Scientist F
Mr BS Dhillon	Scientist F
Dr HK Chaturvedi	Scientist F
Dr Anil Kumar	Scientist F
Dr Damodar Sahu	Scientist E
Dr Tulsi Adhikari	Scientist E
Dr Atul Juneja	Scientist E
Dr Geetha R. Menon	Scientist D
Dr Saritha Nair	Scientist D
Dr BK Gulati	Scientist D
Dr Kh Jiten Kumar Singh	Scientist D
Dr Lucky Singh	Scientist C
Mr Bhagirath Lal	Scientist B
Dr Saurabh Sharma	Scientist B

### Technical Staff

Name	Designation
Mr Vinay Kumar	Principal Technical Officer
Mr Rajendra Singh	Principal Technical Officer
Mr Suman Kumar Bara	Senior Technical Officer (3)
Mr Gurmeet Singh Rana	Senior Technical Officer (3)
Mr Shiv Kumar	Senior Technical Officer (3)
Mr Parmatma Mahato	Senior Technical Officer (3)
Mr Subhash Gautam	Senior Technical Officer (2)
Mr Krishan Lal Badolia	Senior Technical Officer (2)
Mr Ajay Kumar	Senior Technical Officer (2)
Miss Sunita	Senior Technical Officer (2)
Mr Charan Singh	Senior Technical Officer (2)
Ms Parbila Toppo	Senior Technical Officer (2)



M. Madhu Mehra	Senior Technical Officer (1)
Mr Kapil Gautam	Senior Technical Officer (1)
Dr Jeetendra Yadav	Technical Officer
Mr Yatender Kumar	Technical Assistant
Ms Aspinder Kaur	Technical Assistant
Mr Thandimal	Technical Assistant
Mr Ganesh Prasad Jena	Technical Assistant
Ms Geeta Sharma	Senior Technician (3)
Ms Indu Rani	Senior Technician (3)
Mr Rajkumar Yadav	Senior Technician (2)

### **Administrative**

<b>Name</b>	<b>Designation</b>
Ms Poonam	Administrative Officer
Ms Neha Govind	Accounts Officer
Ms Usha Gulati	Private Secretary
Mr Balraj Sharma	Section Officer
Ms Raj Kala	Section Officer
Ms Shalini Bhatia	Assistant
Mr Mukesh Kumar Kaushik	Assistant
Ms Kusum Luthra	Assistant
Mr Brij Mohan Malhotra	Assistant
Mr Brahm Pal Singh	Assistant
Ms Satvinder Kaur	Personal Assistant

### **Group-C (Administration)**

<b>Name</b>	<b>Designation</b>
Mr Desh Bandhu	Sr. Driver
Mr. Krishan Kumar	Driver
Mr Dharamvir Singh	Attendant (Service)
Mr Gopi Chand	Attendant (Service)
Mr Jagili Sabar	Attendant (Service)
Mr Gyan Chand	Attendant (Service)
Mr Neeraj Kumar	Attendant (Service)
Ms Raj Mala	Attendant (Service)