# ANNUAL REPORT 2019-2020

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

# ANNUAL REPORT
# 2019-2020

## APRIL 1, 2019 - MARCH 31, 2020

**ICMR-NATIONAL INSTITUTE OF MEDICAL STATISTICS**
**Ansari Nagar, New Delhi**
**http://icmr-nims.nic.in/**

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# Director's Desk

I take pleasure in presenting the Annual Report of our Institute - the ICMR-National Institute of Medical Statistics (NIMS) - for the year 2019-20. Being the crucial link between scientific research and programme or policy, statistics plays a pivotal role in making the interpretation authentic and the understanding easy. Emerging from the vision of the Indian Council of Medical Research (ICMR) to have a separate institute with expertise in medical statistics, data analytics, mathematical modelling and programme evaluation, our institute, is perhaps one of its own kind in the country. The thrust areas of the Institute have been research, education and dissemination of statistical science. In tune with the changing times, the Institute has been constantly and consistently adopting cutting-edge statistical methods ranging from big data analytics to Artificial Intelligence, from multi-variate data analysis to evidence based meta-analysis to be at the forefront.

The Institute has been undertaking several flagship programmes. The Clinical Trials Registry - India (CTRI), which has been in operation since 2006 is one such programme, which facilitates registration of clinical trials in the country and has over 24,406 trials registered on its portal till 31-3-2020. I am pleased to state that this Institute has been identified by the WHO to advise on the establishment of Clinical Trial Registry at Nepal Health Research Council. The Institute has organised several national and international conferences and workshops to sensitise and capacitate researchers in the registration process.

The Institute continues to act as the nodal agency of NACO for developing national estimates of HIV prevalence and burden in India using various internationally accepted modelling methods.

I am glad to state that during these unprecedented times of the COVID 19, a few scientists and I have got a great opportunity to contribute to the country's fight against the pandemic on several scientific and administrative committees constituted by DG, ICMR. Also, we have spearheaded 4 COVID-19 related multi-centric projects on various subjects.

National Data Quality Forum (NDQF) housed at ICMR-NIMS extends partnership with various government institutions, agencies and ministries for identifying opportunities to build systems for ensuring data quality, enabling institutions with solutions and strategies to contribute to data quality improvement. Its foremost goal is to improve the health and demographic data ecosystem in India with a sole purpose of strengthening data quality.

Our research also has been inclusive and diversified by taking up studies on the health issues of tribal population.

Our scientist, alongside publishing their work in many reputed national and international peer reviewed journals have also delivered invited talks/lectures at various important scientific events. The institute has been discharging its advisory role to several policy and regulatory bodies in the country.

I am happy to inform that steps have been taken to expand the activities of the Institute by setting up Health Economics Unit and Big Data & Artificial Intelligence Centre to analyse large volumes of data, using deep learning and machine learning techniques. As part of the capacity building and dissemination activities, we have been conducting periodic workshops on the application of different statistical methods and statistical softwares to train various students/researchers/medical personnel from all over the country.

On behalf of the ICMR-NIMS family, I thank the members/experts of the Scientific Advisory Committee (SAC) and Ethics Committee of the Institute for providing valuable suggestions and guidance to carry out our research activities. We are indebted to Prof. Balram Bhargava, Secretary, Department of Health Research (DHR) & Director General, Indian Council of Medical Research, for his continued generous support, guidance and encouragement.

# 1. Completed Projects

## 1.1 Comparing Methods of Assigning Causes of Death

| | |
|---|---|
| **Principal Investigator:** | Dr. S.K. Benara, Scientist F |
| **Co- P. Investigator:** | Dr. Atul Juneja, Scientist E<br>Dr. Saritha Nair, Scientist E<br>Dr. B.K. Gulati, Scientist D<br>Dr. Lucky Singh, Scientist D<br>Dr. Saurabh Sharma, Scientist B |
| **Period:** | February 5, 2016 – October 30, 2019 |
| **Funding agency:** | MoHFW & WHO |
| **Budget:** | Rs. 2,61,73,692 |

**Background:** Information on causes of death (CODs) 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 useful on the causes of death. The information obtained by VA is assigned causes of death by physician certified verbal autopsy (PCVA) method as a convention. More recently, computer coded verbal autopsy (CCVA) methods have been developed as an alternative approach In India, PCVA has been used by the Registrar General of India since 1999.The Ministry of Health and Family Welfare (MOHFW) commissioned a research study to assess and compare the validity of different techniques (PCVA and CCVA) for assigning causes of death from WHO harmonised questionnaire, using the medical record based diagnosis for the select hospital deaths as reference values for validation of VA diagnosis for the same deaths from each of the different techniques and to conduct VA and assign COD in select rural areas with the help of existing health infrastructure and recommend the optimum methodology required for routine national VA programme to ascertain causes of death in India. Accordingly, ICMR-National Institute of Medical Statistics, New Delhi designed a study to compare the CODs assigned by PCVA and three CCVA methods (InterVA, InSilico and Tariff) using medical record-based diagnoses as a reference standard to evaluate the performance and accuracy of each method.

**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).
- 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 objectives the study was divided in two arms. The urban was designed to fulfil the first object i.e. to identify the optimal method to assign the cause of death and the second i.e. rural arm to recommend the optimum methodology required for routine national VA programme to ascertain causes of death in India with the existing infrastructure.

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

**Urban Arm: (Sample size-7000)**

Consider hospital-based deaths in urban areas in Delhi/NCR

1. To establish Reference diagnoses (gold standard);
2. Conduct VA of the same deaths in the household/community;
3. Use PCVA & CCVA to assign the cause of death and compare the 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.

**Conclusion:** In conclusion, the urban arm of the study found that the PCVA method has the best performance out of all the four COD assignment methods that were tested in our study sample. While the CCVA algorithms have not yet achieved an appropriate level of accuracy for them to be directly taken as alternatives to physician

assignment of causes of death, the data compiled from studies such as this one could be very useful for improving both PCVA and CCVA programs. The diagnostic errors in PCVA could be traced back to identify incorrect or incomplete VA data collection, or potential misinterpretation of VA responses by physician reviewers. Such information could be highlighted in VA interviewer as well as PCVA training programs towards minimising the occurrence of such errors. For the CCVA, details of symptoms and other diagnostic information available from the VA questionnaires, taken together with the established reference diagnosis for each case could serve as a valuable resource that could be used for further development of the diagnostic logic of the CCVA programs.

In conclusion, the rural arm of the study found that it is feasible to implement WHO 2016 VA questionnaire. In order to make it cost effective, feasible there is a need to digitize the system. Procurement of tablets and establishing online system is the main financial implication. This can be done by the existing infrastructure. As and when diagnostic performance of any CCVA method is improved to a level that matches the accuracy of PCVA, the same strategy can be adopted without much alteration.

## 1.2 Socioeconomic Inequality in Households Financial Burden Associated with Non-Communicable Diseases in India

| | |
|---|---|
| **Principal Investigator:** | Dr. Jeetendra Yadav, Technical Officer |
| **Co- P. Investigator:** | Dr. Geetha R. Menon, Scientist E<br>Dr. Saritha Nair, Scientist E |
| **Period:** | January 1, 2019 – December 31, 2019 |
| **Funding agency:** | Intramural Project |

**Background**: Households use a range of sources such as income, savings, borrowing, using loans or mortgages, and selling assets and livestock to meet OOP health spending. Available evidence rejects the hypothesis of full consumption insurance in the face of major health shocks. The growing burden of NCDs combined with technological innovation and heightened patient, community, and provider expectations pose challenges to the affordability of healthcare for households and governments alike. The large national-level economic impacts are underpinned by adverse economic outcomes for households affected by the disease. Catastrophic health expenditure has been found to occur in more than 60% of some patient populations with non-communicable diseases (NCDs; cancer, cardiovascular disease, and stroke); large variations in such outcomes occur by disease and context.

Being uninsured increases the risk of catastrophic health expenditure in patients with non-communicable diseases. Programmes to achieve universal health coverage need to adopt compulsory pre-payment via taxes or national insurance contributions. Cost-effectiveness and the targeting of the poorest groups need to be primary considerations in prioritizing services that are included in insurance programmes to achieve universal health coverage. Addressing the household economic burden of NCDs is an important step in efforts to alleviate global poverty and achieve the UN's Sustainable Development Goals. Poor health is a source of impoverishment among households in low –and middle- income countries (LMICs) and a subject of voluminous literature in recent years.

**Objectives:**

- To study the impact of financial burden on household due to NCD.
- To estimate inequality in Out-Of-Pocket Health Expenditure, Catastrophic Health Expenditure and hardship health financing due to NCD among socioeconomic groups
- To assess the extent of iatrogenic poverty due to NCD

**Methodology:** This study used secondary data (two rounds of NSSO data) of nationwide Consumer Expenditure Surveys for the years 2004 (NSSO 2004 (61st round), and 2014 (NSSO 2014 (71st round). National Sample Survey Organisation is a national organization under the Ministry of Statistics, established in 1950 to regularly conduct surveys and provide useful statistics on socio-economic status of households, demography, health, industries, agriculture, consumer expenditure, etc. The NSSO 60th round, 2004-05 surveys covered 73,868 household and NSSO 71th round, 2014 survey covered 65,932 household

Outcome Measures: This study examines the four-main outcomes namely Out of pocket expenditure, catastrophic health expenditure, Hardship health financing and poverty.

Statistical modelling: Descriptive statistics, bivariate estimates, decomposition and multivariable regression models have been performed to examine the levels, association, inequality and factors affecting the household economic burden by the selected socioeconomic characteristics.

**Results:** Results indicated that people from richer strata spent more on treatment than the poor people, since they are capable of paying more for better quality care. But the share of the health expenditure of total household expenditure is much higher among the poorest quintile. As expected, patients from urban areas spent more on treatment because of better accessibility of health care. Patients getting treatment from private hospitals spend more, which indicates that the cost of treatment in private hospitals is

high and also public hospitals charge minimal or sometimes nothing. Further, spending was more among patients in special wards and patients stayed a greater number of days in a hospital. Results also indicated that the expenditure on transportation were high in rural areas and expenditure on medicine was high in urban. Irrespective of time period, educated, urban and male patients spend more as compared to their counterparts for Outpatient care. As expected, patients getting treatment from private hospitals spend more than the patients who took treatment from public hospitals for Outpatient care.

One in every six households was faced with catastrophic health expenditure at the 40% threshold of total household consumption expenditure irrespective of time periods. Several other previous studies also indicated that the catastrophic health care payment was very high among households whose members suffered/suffering from Non- communicable diseases. It is important to note that the CHE due to OOPE increased if patients took the treatment in private hospitals in the past one decade while patients getting treatment in public hospitals decreased in the past one decade. This indicates that over a period private hospital treatment costs were increased while treatment costs in public hospitals were decreased. Among all the NCD, the highest incidence of CHE was reported for cancer irrespective of time period and type of health facility and similar findings observed in previous studies.

This study defined hardship financing as a situation when a household has to borrow money with interest or sell their property/assets to meet its health care expenses. This study found that more than half (52.2%) households were facing hardship health financing those who were taking treatment in private hospital and it was substantially higher than in public hospitals (43.6%) in 2004 where hardship financing is reduced after ten years in 2014 but still almost one fourth (24.4%) households were exposed to hardship financing those who took the treatment in private hospitals as compared to 18.4 % percent in public hospitals. A study done by Doorslaer pointed out that near about two thirds of patients had borrowed money from friends or selling their property to meet their health care expenditure during

hospitalization. Similar findings showed by another previous study that about two thirds of hospitalized patients (all-India average) had to sell assets or borrow money from friends to pay the treatment cost during treatment in hospital. This study reconfirmed that the Cancer patients reported higher hardship financing and it was considerably higher among those who sought care in private hospitals as similar findings indicated by previous study.

Almost one in every fifth household and one in every eight households became poorer as a consequence of the OOP for health care for NCD who have taken treatment in private hospitals and public hospitals respectively. Households living in rural areas seeking treatment in private hospitalization are more likely to push to poverty. It is noted that the OOP expenditure for wealth quintile can be seen highest in the low quintile group. Duration of stay in hospital is one of the main indicators which push the household into the trap of poverty, the longer the stay the higher the OOP expenditure. The patients suffering from cancer are exposed to poverty due to OOP expenditure in both the time period and type of health facility.

**Conclusion:** This study provides indication that socioeconomic inequalities in OOPE, catastrophic health care expenditure, hardship financing and poverty due to OOPE for NCDs exist in India. This study recommends for including treatment of NCDs specially, cancer, CVD and others major diseases in the ambit of the health insurance coverage. Further this study also suggested providing free treatment to the weaker section of the population for the treatment of NCDs. To avert catastrophic health care expenditure and poverty, proper interventions in terms of improving healthcare access and eliminating economic barriers to accomplish NCDs disease are essential and these interventions should target weaker section, such as households whose members are suffering from NCDs, households who belong the lowers economic Stata or households in the bottom socioeconomic status. This study reveals that households were making higher average healthcare payments for treatment care of NCD, particularly in case of hospitalization and as a result, households were faced catastrophic health expenditure and also pushed to poor from non-poor due to higher

out of pocket expenditure. Furthermore, this study also recommends developing appropriate policies to expand the effectiveness of health insurance, such as developing a specialized NCD service package to be included in the health insurance program like Ayushman Bharat.

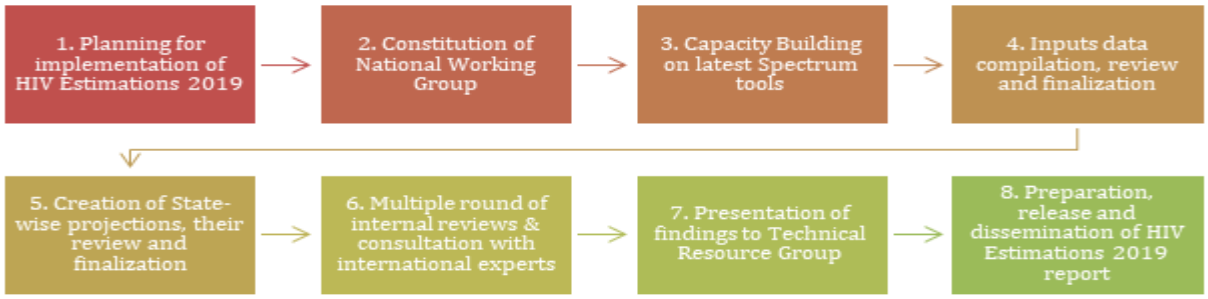
## 1.3 HIV Sentinel Surveillance 2019: Data Management, Analysis, and Estimation of HIV burden in India and its states

| | |
|---|---|
| **Principal Investigator:** | Dr. Damodar Sahu, Scientist F |
| **Co- P. Investigator:** | Dr. Anil Kumar, Scientist F<br>Dr. Saritha Nair, Scientist E<br>Dr. Kh. Jitenkumar Singh, Scientist D |
| **Period:** | April 1, 2018 – March 31, 2020 |
| **Funding agency:** | NACO, MoHFW |
| **Budget:** | Rs. 55,16,000 |

**Background:** HIV Estimation has been the cornerstone of the National AIDS Control Programme (NACP). The ICMR- National Institute of Medical Statistics is designated by the National AIDS Control Organisation (NACO), MoHFW, Government of India as a national institute to provide HIV burden estimates biennial in the country/State/UT on key epidemiological parameters of HIV adult prevalence, people living with HIV, new HIV infections and AIDS-related mortality. The HIV estimates exercise has been carried out in the country for the past 21 years, since 1998 and it is a technically rigorous scientific process.

**Objectives:** To provide updated information on the status of HIV epidemic in India at national and State/Union Territory (UT) levels, on adult (15-49 years) HIV prevalence, annual new infections (HIV incidence), AIDS-related mortality and prevention of mother-to-child transmission (PMTCT) needs.

**Methodology:** The 2019 round HIV burden estimates process are given below:




**India HIV Estimation 2017 technical report was published and is available on NACO and ICMR-NIMS website.**

**Summary of HIV estimation round 2019:** HIV Estimations 2019 is the report on the latest round in the series of HIV Estimations process. Like all previous rounds, the State/UT models in this round are improved over previous rounds in terms of data inputs, approach to handling the survey data as well as assumptions of various epidemiological parameters. Improvements included updating fertility rates and age distribution of fertility and updating programmatic and epidemiological data, including use of State-specific HIV prevalence data (95% confidence interval [CI]) from the latest round of National Family Health Survey (NFHS)-IV to calibrate the epidemic curve. For the first time, the HIV Estimations 2019 exercise has also used data on routine HIV testing of pregnant women under NACP to inform the epidemiological curve. Further, the ratio of female to male incidence for 15–49 years was also updated using NFHS IV data.

In view of these improvements, results from HIV Estimations 2019 cannot be compared with any of the previous rounds of estimations and will be considered as replacements for all previous estimations concerning the level and trends of the HIV epidemic as well as programmatic needs.

In 2019 at the national level, there were an estimated 23.49 lakh (17.98 lakh – 30.98 lakh) people living with HIV (PLHIV), with an adult (15–49 years) HIV prevalence of 0.22% (0.17– 0.29%). Children living with HIV (CLHIV) comprised 3.4% of the total

PLHIV estimates. HIV-infected women (15+ years) constituted around 44% of the total estimated 15+ years PLHIV. There were 69.22 thousand (37.03 thousand – 121.50 thousand) new HIV infections in 2019 which has declined by 37% since 2010 and by 86% since reaching the peak in 1997. There were 58.96 thousand (33.61 thousand – 102.16 thousand) AIDS related deaths in 2019, which has declined by 66% since 2010 and by 78% since attaining peak mortality in 2005. HIV incidence was estimated at 0.05 per 1,000 uninfected population in 2019. Around 20.52 thousand (14.98 thousand – 28.13 thousand) pregnant women were estimated to be in need of prevention of mother-to-child transmission (PMTCT).

Mizoram was estimated to have the highest adult HIV prevalence (2.32% [1.85–2.84%]), followed by Nagaland (1.45% [1.15–1.78%]) and Manipur (1.18% [0.97–1.46%]). Other States/UTs with an estimated adult HIV prevalence that was higher than the national average included Andhra Pradesh (0.69% [0.54–0.89%]), Meghalaya (0.54% [0.46– 0.63%]), Telangana (0.49% [0.35–0.66%]), Karnataka (0.47% [0.37–0.59%]), Delhi (0.41% [0.33–0.50%]), Maharashtra (0.36% [0.25– 0.53%]), Puducherry (0.35% [0.20–0.58%]), Goa (0.27% [0.19–0.46%]), Punjab (0.27% [0.22–0.35%]), Dadra and Nagar Haveli (0.23% [0.14–0.37%]), and Tamil Nadu (0.23% [0.16–0.29%]). Maharashtra had the highest estimated number of PLHIV (3.96 lakh), followed by Andhra Pradesh (3.14 lakh), Karnataka (2.69 lakh), Uttar Pradesh (1.61 lakh), Telangana (1.58 lakh), Tamil Nadu (1.55 lakh), Bihar (1.34 lakh) and Gujarat (1.04 lakh). Together, these eight States constituted 72% of the total PLHIV estimates in the country. West Bengal, Delhi, Punjab, Rajasthan, Madhya Pradesh, Odisha and Haryana contributed another 18% of the total PLHIV size.

HIV incidence per 1,000 uninfected population in 2019 was estimated to be the highest in Mizoram (1.18 per 1,000 uninfected population), followed by Nagaland (0.73) and Manipur (0.34). Other States estimated to have HIV incidence per 1,000 uninfected population above the national average of 0.05 were Meghalaya (0.23), Delhi (0.15), Tripura (0.11), Chhattisgarh (0.10), Haryana (0.09), Punjab (0.08), Telangana (0.08),

Bihar (0.07) and Maharashtra (0.07). The incidence rate among high-risk groups (HRGs) was higher than the total incidence estimates.

Maharashtra was estimated to have the highest number of new HIV infections in 2019 (8.54 thousand), followed by Bihar (8.04 thousand), Uttar Pradesh (6.72 thousand), West Bengal (3.97 thousand), Gujarat (3.37 thousand) and Delhi (2.99 thousand). Madhya Pradesh, Chhattisgarh, Andhra Pradesh, Telangana, Rajasthan, Tamil Nadu, Haryana, Punjab and Odisha were the other States with the estimated annual new HIV infections each ranging between 2,000 and 3,000 in 2019. Together, these 15 States accounted for 83% of the total new HIV infections in the country. Nationally, the annual new HIV infections has decreased by 37% since 2010. The decline in annual new HIV infections has been noted in all States/UTs except for Tripura, Arunachal Pradesh, Chhattisgarh and Chandigarh. The highest decline has been noted in Karnataka (75%), followed by Himachal Pradesh (74%) and Andhra Pradesh (65%). Annual new HIV infections are estimated to have increased in Tripura, Arunachal Pradesh and Chhattisgarh; while they have stabilized in Mizoram and West Bengal.

AIDS mortality was estimated at 4.43 per 100,000 population in 2019 at the national level, which peaked at around 25 during 2004/05 and then continued to decline. State/UT-wise, AIDS mortality per 100,000 population was estimated to be the highest in Manipur (36.86), followed by Mizoram (28.34), Nagaland (26.20), Andhra Pradesh (21.76), Puducherry (15.33), Meghalaya (11.08) and Telangana (10.79). In addition, Karnataka (9.72), Goa (9.68), Maharashtra (7.81), Haryana (6.83), Chandigarh (5.74), Chhattisgarh (5.25) and Delhi (5.21) were the other States/UTs where AIDS mortality was estimated to be at 5 per 100,000 population or higher.

Nationally, there were an estimated 20.52 thousand (14.98 thousand – 28.13 thousand) pregnant women who would require antiretroviral treatment (ART) to prevent mother-to-child transmission of HIV. States accounting for the highest need were Maharashtra (14.7% of the total PMTCT needs), Bihar (12.3%) and Uttar Pradesh (10.8%), Karnataka (6.8%), Andhra Pradesh (6.8%), Telangana (5%), Gujarat (4.8%),

Rajasthan (4.2%), Tamil Nadu (4.1%) and West Bengal (3.3%). The HIV Estimations 2019 report reiterates that while the country is on track in achieving the reduction in AIDS-related deaths at the national level and also in majority of the States/UTs, fast-tracking the progress to achieve targets for reduction in new HIV infections remains a priority. Further, district level disaggregation of these estimates will provide a more granular understanding of the epidemic in these States/UTs and may further augment the process of prioritization at the sub-national level and also strengthen the AIDS response at the local level.

# 2. Ongoing Projects

## 2.1 Clinical Trials Registry – India (CTRI) www.ctri.nic.in

| | |
|---|---|
| **Principal Investigator:** | Dr. M Vishnu Vardhana Rao, Director |
| **Co- P. Investigator:** | Dr. Atul Juneja, Scientist E<br>Dr. Tulsi Adhikari, Scientist E |
| **Member Secretary:** | Dr. Saurabh Sharma, Scientist B |
| **Period:** | April 2006 … |
| **Funding agency:** | Intramural Project |

**Background:** The Clinical Trials Registry – India (CTRI) is a national online register for registering clinical trials being conducted in India (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 ICMR-National Institute of Medical Statistics, New Delhi.

**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 of clinical studies, 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. After login to CTRI the Registrants may upload trial data by filling and submitting the requisite data set form that appears. A prototype filled trial registration data set is available on the Home Page for reference purposes.

The submitted trial details are scrutinized and sent back for modifications wherever applicable. Following a cycle of clarifications and incorporation of necessary modifications, the trial is registered. Upon registration, all details are viewable in the public domain and any changes (protocol amendments) made to a registered trial are also viewable.

New Developments

- Prospective Registration: The CTRI which was accepting ongoing and completed trials for registration has shifted to only prospective registration from 1st April 2018
- ICD Implementation: Developed and implemented ICD-10 coding for health conditions to have uniform data capture for better data analysis.
- Results Disclosure: In the process of developing a software application for collecting and displaying tabulated summary results as per WHO requirements

WHO Collaborating Centre: WHO-SEARO is looking to strengthen trial registration in the region and a proposal has been mooted to make CTRI a WHO Collaborating Centre to provide support to Nepal develop their own Registry.

The Clinical Trials Registry – India (CTRI), in collaboration with WHO, is assisting Nepal in the development of a clinical trials registry of their own. In this connection,

a delegation of officials from the Nepal Health Research Council (NHRC) who visited ICMR and DHR between 25th and 28th June 2018 also had a one day meeting with CTRI to understand the administrative, technical, software and logistic support required for the setting up of a similar registry in Nepal.

Subsequently, a team of two personnel from NHRC visited the ICMR- National Institute of Medical Statistics N (with financial support from WHO) between 23 to 27 September 2019. To prepare for the same, and have a process in place, an internal meeting with the CTRI team was held on 27-Aug-2019. During their visit, the NHRC representatives worked in close coordination with the CTRI team to understand and learn the functioning and process of CTR and linkages to WHO software.

Some of activities shared with the Nepal team included the following:

Understand with the three levels of access to the CTRI

a. The Public
b. The Registrant
c. The Administrator

They were also familiarized with processes involving the following

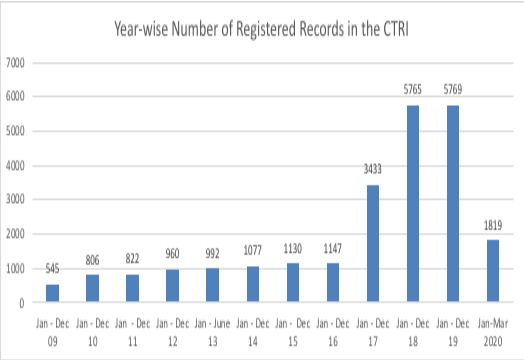
a. How to enter the data in CTRI platform
b. How/where to get information for CTRI entry
c. How to validate and cross validate the entries
d. Software requirements of NCTR
e. Maintenance and sustainability concerns
f. Advocacy, dissemination and compliance

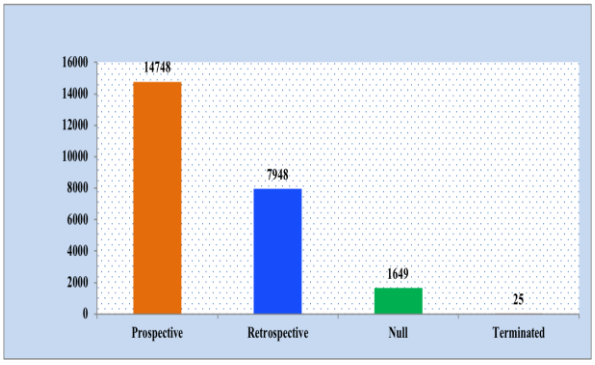
Subsequently, on 12 Jan 2020, an email communication was received from the Nepal team regarding their progress on developing the registry platform with technical support from WHO, while their executive team explored at ICMR for signing the MoU between NHRC and ICMR.

It was intimated that after the finalization of platform development, they would share it with CTRI for further feedback.

There is also a proposal for CTRI to help WHO-SEARO in advocating trial registration to the other 7 SEARO countries which do not have a registry of their own.

Registration numbers: There are 24406 records registered (till 31st March, 2020) and the year wise break up of registration is given below:




Break up of registered records according to status at the time of registration.

The automatic flagging system was introduced in March 2011 and hence there is no data (Null) for 1649 records.

Future Plans

- Develop test and implement results disclosure
- To undertake dissemination workshops to enhance awareness and encourage result disclosure
- Implement IPD

## 2.2 Strengthen Research in Ayurveda by utilizing the CTRI Platform and Impart Capacity Building in Research Methodology

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| **Principal Investigator:** | Dr. M Vishnu Vardhana Rao, Director |
| **Co- P. Investigator:** | Dr. Atul Juneja, Scientist E<br>Dr. Tulsi Adhikari, Scientist E<br>Dr. Saurabh Sharma, Scientist B |
| **Period:** | October 16, 2019 … |
| **Funding agency:** | ICMR Extramural Project under CTRI |

**Background:** In view of the tremendous potential of TM to alleviate human suffering it would be worthwhile to undertake an in-depth analysis of the type of research being undertaken in this area using the information available with the CTRI. This would help to identify research weaknesses and lacunas, dissemination of which would in turn help raise the standard of research in Ayurveda. Customized CTRI data set items as per Ayurveda would further help collect data which is standardized and easily analysed while identifying research which is repetitive or not in line with the country's health requirements.

**Objectives:** Develop and incorporate tailor-made data set items in CTRI pertinent to Ayurveda.

**Methodology:** Working in collaboration with experts from traditional medicine, we could develop a separate data set element tailor-made for traditional medicinal system so that more effective and relevant information is collected for traditional medicinal research which can then be used as a training ground to guide further research in a more structured, uniform manner that is relevant to the country's health needs.

**Progress:** CTRI has undertaken the task to utilize CTRI data to strengthen research in traditional medicines under the ICMR task force for leveraging Traditional System of Medicine. Under this project, the CTRI has undertaken to develop a distinct data set

which is comprehensive and tailor made for sharing research details of Ayurvedic studies.

The Health condition Section has been developed, with 3866 codes, using the classification coding from the Namaste Portal. It was proposed to have both the ICD-10 as well as the health condition coding as developed for the traditional systems of medicines. This would help in both transition as well as ratification of the robustness of the health condition coding system.

For the modification of the intervention/comparator section, all Ayurveda trials registered since 2008 were screened and worked upon. Subsequently the intervention/comparator section was suggested to be divided into three subsections i.e. Drug, Procedure and Lifestyle and is in the process of being finalized in consultation with experts from CCRAS.

## 2.3 Innovations to Improve and Institutionalize Data Quality and Analytics (National Data Quality Forum)

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| **Principal Investigator:** | Dr. M Vishnu Vardhana Rao, Director |
| **Co- P. Investigator:** | Dr. Damodar Sahu, Scientist F<br>Dr. Saritha Nair, Scientist E<br>Dr. B.K. Gulati, Scientist D |
| **Period:** | July 1, 2019 – August, 2021 |
| **Funding agency:** | Population Council, Delhi |
| **Budget:** | Rs. 1,22,93,875 |

**Background:** The National Data Quality Forum (NDQF) which is a "multi stakeholder, collaborative platform for a sustained dialogue among the producers and consumers of demographic and health data in India on issues related to data quality and potential solutions, and for supporting institutionalisation of promising solutions". The NDQF extends partnership with various government institutions, agencies and ministries for identifying opportunities to build systems for ensuring data quality, enabling institutions with solutions and strategies to contribute to data quality improvement.

NDQF's foremost goal is to improve the health and demographic data ecosystem in India with a sole purpose of strengthening data quality. Capacity building in various institutions, initiating novel solutions for improving data quality, and carrying out data quality assurance (DQA) activities are some of the forum's work strategies. NDQF's approach includes working hand-in-hand with stakeholders in research and data analytics with an in-depth understanding of data quality and tools to communicate and advocate for enhanced quality and reinforce them within their agencies. NDQF also strengthens different institutions and individuals to effectively implement data quality assurance protocols along with standard operating procedures (SOPs).

**Objectives**

- To convene and discuss about quality issues in surveys and administrative data
- To prepare and guide the data quality assurance methodologies and procedures
- To support institutionalization of data quality assurance mechanisms
- To build a community of practice (COP) for effective knowledge sharing, results utilisation, and sustaining the dialogue

**Activities completed during April 1, 2019-March 31, 2020**

1. Memorandum of Understanding signed between ICMR-NIMS and Population Council for setting up National Data Quality Forum on 8thMay 2019.
2. Launch of National Data Quality Forum activities by Prof. Vinod K Paul, in the presence of the Secretary DHR and DG ICMR on 24thJuly 2019.
3. Awards of Data Q-thon, an initiative to crowd source insights on the quality of data (survey and programme data) that are used to design public health programs and policies was given during the launch of NDQF in July 2019.
4. NDQF website (https://www.ndqf.in) launched for disseminating and obtaining feedback on addressing data quality issues.
5. Infographics and blogs were written on various topics and posted at NDQF web-page.
6. Consultation on Data quality in Family Planning, Immunization and Nutrition at The Theatre, India Habitat Centre (IHC), New Delhi organized 25th November, 2019.
7. TAG constituted and organized TAG meeting to review proposed activities and suggestions/recommendations at NIMS-ICMR, New Delhi, 26th November, 2019.
8. Second Data-Q-Thon articles on data quality, February-March 2020.
9. A series of internal as well as external meetings with Population Council to take forward objectives of NDQF project.
10. Project staff, viz, Scientist C, SRF, and Project Officer joined the project.

## 2.4 HIV Surveillance and Estimation: Estimation of Probability of HIV related Mortality on ART by CD4 counts among PLHIV

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|---|---|
| **Principal Investigator:** | Dr. Damodar Sahu, Scientist F |
| **Period:** | April 1, 2019- March 31, 2020 |
| **Funding agency:** | NACO, MoHFW under HIV Surveillance and Estimation |
| **Budget:** | Rs. 38.5 lakhs |

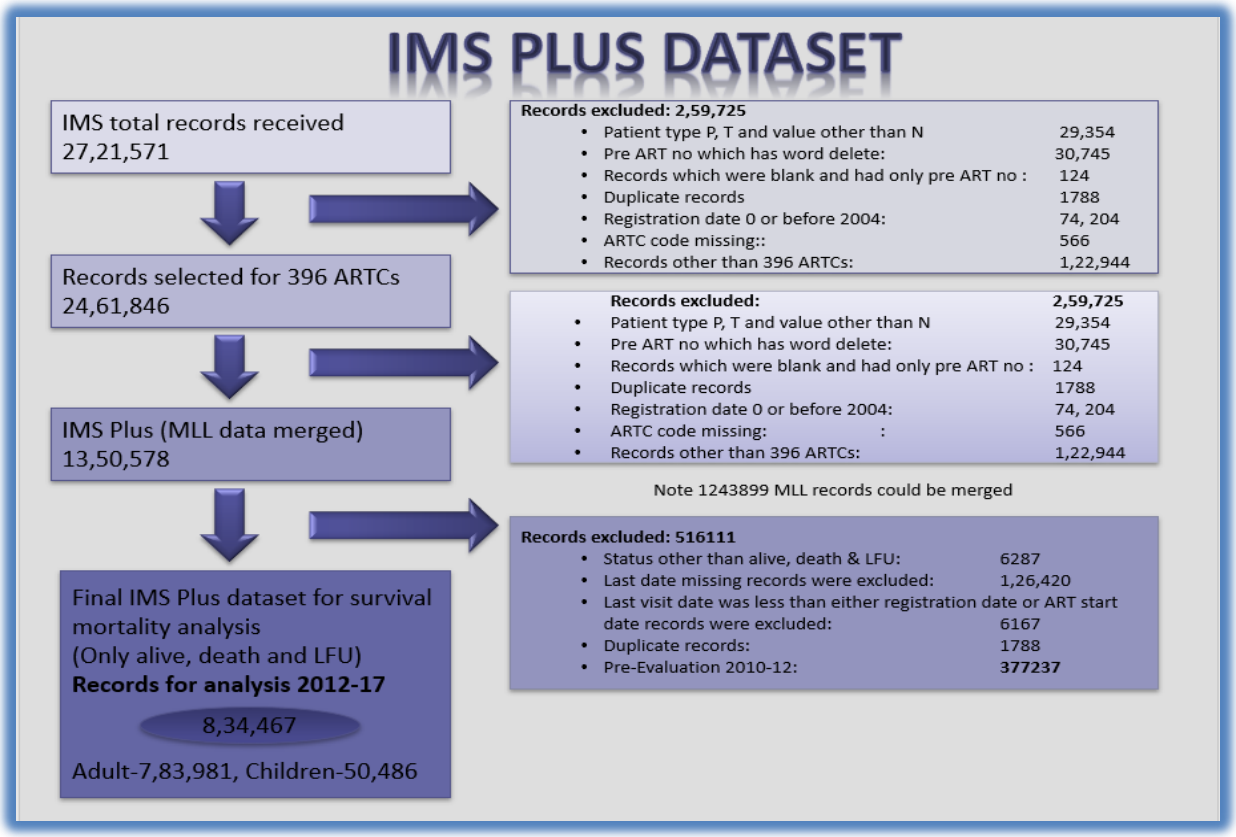
**Background:** ICMR-NIMS have been designated as a nodal institute for the HIV estimation process since 2003. HIV Estimation used spectrum software, an analytical tool for the policy makers to support the decision-making process recommended by UNAIDS reference Group on Estimates, Modelling and Projection since 2007 for HIV Estimation in India. Probability of HIV related mortality on ART by CD4 count according to age and gender used in India HIV estimation was based on cohort studies conducted in other countries. Further, NACO's ART Impact Evaluation Study collected information from 394 ART centres computerised data in IMS & MLL and SDE 81 ART centres across 35 States/UTs. Therefore, these data sets give an opportunity to validate the probability of HIV related mortality among PLHIV on ART in Indian population.

**Objective:** To estimate probability of HIV related mortality of PLHIV on ART by CD4 counts and PLHIV not on ART by CD4 counts, by gender and age group.

**Methodology:** The study involved the use of two data sets which are Inventory management system (IMS) and Master Line List (MLL) from 394 ART Centres. IMS is SQL based online system maintained daily by pharmacists and laboratory technician/nurse. It has been used since January 2016 in the 394 ART Centres. Deaths were captured from the status variable and last follow up date used for all the patients (dead/ alive) to estimate time to event. Master Line List (MLL) an excel based dataset

maintained at ART Centres was also used and captured individual data of persons registered in ART centres.

IMS plus data: The IMS plus data was created as a part of ARTIE project. The details about all individual records' individual HIV patients i.e., adult (15+ years) and children (0-14 years, number of records exclude with reasons are given below:




**Progress:** Data sets are cleaned, prepared for analysis. IMS and MLL data sets were merged and 8,34, 467 records were considered for analysis (Adults 7,83,981 and Children-50, 486) after excluding 5,16,111 records.

The basic descriptive analysis was carried out the see the distribution of study population, the entire PLHIV data sets is divided into two groups i.e., children aged 0-14 years and Adults 15+ population. The survival analysis is to be carried out for the entire cohort data i.e., ARTIE study evaluation period 2012-2017 and currently data analysis is going on.

## 2.5 HIV Surveillance and Estimation: District level HIV burden estimation in India under National AIDS control Programme (NACP)

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|---|---|
| **Principal Investigator:** | Dr. Damodar Sahu, Scientist F |
| **Co- Principal Investigators:** | Dr. Anil Kumar, Scientist F<br>Dr. Saritha Nair, Scientist E<br>Dr. Kh Jitenkumar Singh, Scientist D |
| **Period:** | April 1, 2019- March 31, 2020 |
| **Funding agency:** | NACO, MoHFW under HIV Surveillance and Estimation |
| **Budget:** | Rs. 38.5 lakhs |

**Background:** Biennial HIV estimations is carried out by National AIDS Control Organization (NACO), Ministry of Health and Family Welfare (MoHFW), Government of India in collaboration Indian Council of Medical Research - National Institute of Medical Statistics (ICMR-NIMS).The 2019 round of HIV Estimations provide an updated information on the status of HIV epidemic in India at national and State/Union Territory (UT) levels which have been published earlier. India is moving ahead and determined to meet the targets of 75% decline in annual new HIV infections from 2010-20, the 90-90-90 treatment targets by 2020, and the elimination of mother to child transmission of HIV by 2020.

The National AIDS Control Programme of India has a strong decentralized sub-national level focus. The need was felt to have a more granular epidemiological information and geographical prioritization of high burden areas or where the new infections may be increasing or decreasing to achieve the targets as mentioned in the National Strategic planning 2017-2024. This enhances the robust programme prioritization and planning and enabling more focused and targeted approach towards the high burden districts and improves programme implementation.

Recognizing the richness and need for this granular information on the HIV epidemic, the National Working Group (NWG) planned on generating district level HIV estimates for all states under the 2019 HIV estimations round.

**Objective:** The prime objective of this exercise is to generate district level HIV estimates on key indicators using the TAG approved Spectrum (Sub-epidemic) disaggregation method for District level HIV Estimates. The indicators are as follows

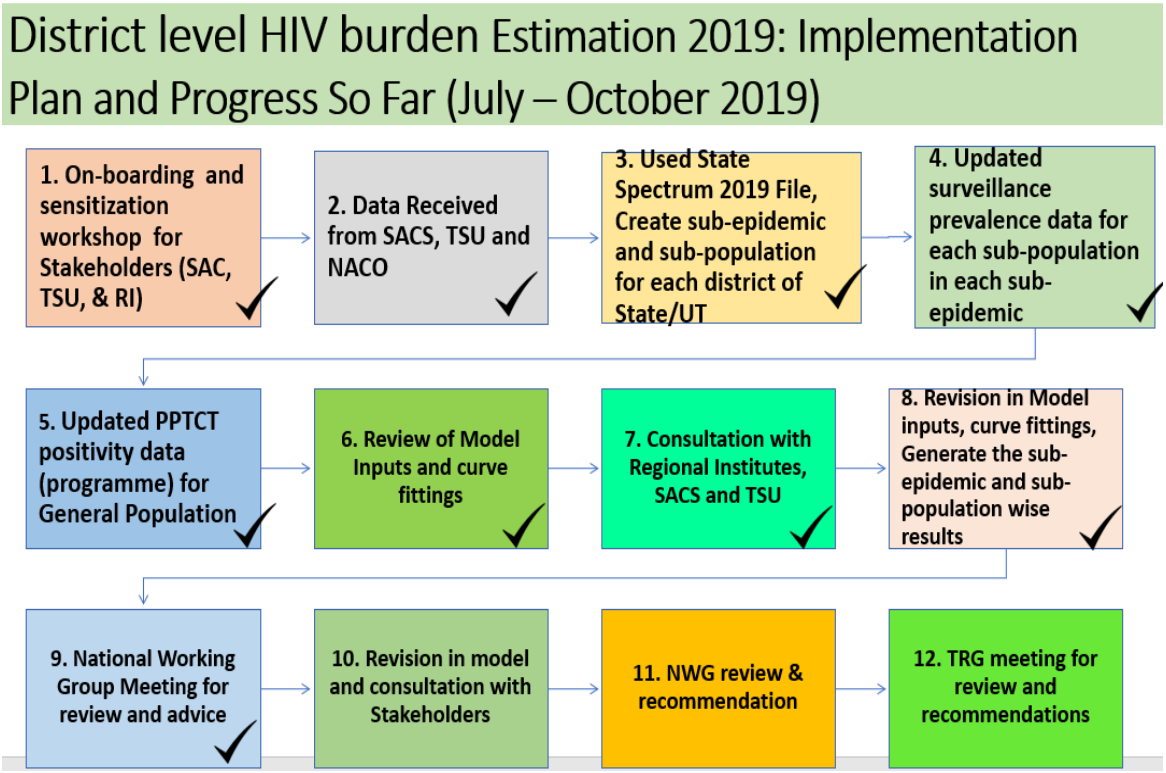
- Adult HIV prevalence,
- Number of people living with HIV,
- Annual new HIV infections,
- Annual AIDS related deaths &
- PMTCT need

**Methodology:** The UNAIDS Global Reference Group on HIV Estimations, Modelling and Projections recommended software spectrum version 5.8 is used in the 2019 district level HIV burden estimations. Spectrum is a suite of mathematical, demographic and epidemiological models which provide policymakers with an analytical tool to support the decision-making processes. The TAG approved Spectrum (Sub-epidemic) disaggregation method has been used in the 2019 round of district HIV estimations.

The data sets required in the district estimation exercise are:

a) Demographic data sets prepared for the full projection period 1981-2026, for all districts [including newly formed districts post Census 2011]. The proportional distribution method based on the 2011 population (Census) for 15-49 population was used to calculate the district wise population and applied to the years (1981-2026)
b) HRG Population Size Estimation data sets have also been prepared.
c) HSS data sheet for each district in the State/UT prepared. Wherever the criteria of "1X3" or "2X2" (sites and data points) was not met for any district, data has been borrowed from the region. If the criteria of "1X3" or "2X2" was not met for any region, the pooled state/UT data was referred to.
d) ANC positivity data, district wise, consolidated by SACS for the years 2010-2019.

**Progress:** The on boarding and sensitization workshop was held on virtual platform on 16th-17th July, 2020 with all the stakeholders to initiate the district level HIV estimations 2019. The data compilation and data collation were done for all the states/UTs and excels sheets created for each state and subsequently reviewed and discussed for key data issues. Data was inputted in spectrum, curve fitting done and state models for each state was created.




The first National Working Group (NWG) meeting was held on 21st -22nd, October 2020 and progress reviewed and guidance sought for the key data related problems with the experts. The decisions taken during the NWG meetings were incorporated to the data sets and corrections made accordingly. The revised documents are being shared with the states for their review and feedback following NWG.

## 2.6 Evaluation of the Impact of Antiretroviral Therapy under National AIDS Control Program in India (ART-IE)

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|---|---|
| **Principal Investigator:** | Dr. Damodar Sahu |
| **Co- P. Investigator:** | Dr. Saritha Nair |
| **Technical support:** | All Technical Officers |
| **Period:** | June 1, 2018 - August 31, 2020 |
| **Funding agency:** | ICMR-NARI from NACO, MoHFW |
| **Budget:** | Rs. 58,09,202 |

**Background:** The "Evaluation of Impact of Antiretroviral Therapy under National AIDS Control Programme in India [The ART Impact Evaluation- India Study (ARTIE-India)] is a collaborative study where ICMR-NARI, Pune is lead coordinating unit and ICMR-NIMS was one of the RP – Regional Partners and TP – Technical Partner Institute to implement in Northern region states i.e., Punjab, Haryana, Himachal Pradesh, NCT of Delhi, Uttarakhand, Chandigarh and Uttar Pradesh.

**Objectives:**

1. To assess the impact of ART programme on mortality, morbidity, including opportunistic infections profile, hospitalization rates and incidence of TB and quality of life in PLHIV in NACO supported ART Centres in India at National and Regional level.
2. To assess the implementation of the ART programme with reference to the clinical and programmatic goals of ART program under NACP.

**Methodology:** Health data available at ART centres, parent hospitals, NACO and State AIDS Control Societies and any other data available publicly for an impact evaluation was collected. The study also directly collected information (through interviews/focused group discussions) and some samples from some selected persons seeking care at selected ART centres in the north region that includes ART centres

from Delhi, Uttar Pradesh, Meerut, Haryana, Uttarakhand, Srinagar, Chandigarh, Punjab.

**Progress:** The Core Evaluation Team (CET) and key expert group meeting was held on April 3-4, 2018 to review the project proposal. The following activities were undertaken in the project during the reporting period. MoU and the data confidentiality agreement between ICMR-NIMS and ICMR-NARI was signed on dated May 30, 2018 to implement the IE-ART project in Northern region. Institute Ethics and Scientific Advisory committee approval was obtained. The study investigators participated in all the meetings organised by ICMR-NARI and contributed in the development of study design. Field primary data protocol was prepared by ICMR-NARI and reviewed by regional partners and implemented during data collection. ICMR-NIMS also contributed towards finalisation of sampling plan and tools required for secondary and primary data collection. Recruited project staff Regional coordinator, Investigator, Data entry operator for the study as per the salaries mentioned in approved budget on dated October 5, 12, 2018

Training of trainers: The study team from different regions received orientation on the project activities and on the methodology at ICMR-National AIDS Research Institute. Tools of data collection were discussed in detail and mock sessions were conducted for tool finalisation. Following this, ART centres in the Northern region were briefed about the project and permission was sought to conduct the different activities as delineated in the project.

Training on quantitative data collection: Training programme was organised in the institute for the technical officers and the project team on techniques and procedures to be followed for the collection of secondary and primary data including collecting information on out-of-pocket expenditure. Project activities for North India States namely Himachal, Pradesh Uttar Pradesh, Uttarakhand, Panjab, Haryana, Delhi, Jammu & Kashmir & Chandigarh was initiated following the training.

**Community Viral Load Testing:** A total of 175 interviews are being done in the Lok Narayan Jai Prakash Hospital, New Delhi under the community viral load testing component of the project. Along-with the interviews, blood samples of these 175 respondents are being collected and after plasma separation transported every-day to the virology department of AIIMS, New Delhi for viral load testing.

During the reporting period, the secondary data extraction and both quantitative and qualitative primary data collection, data cleaning, data analysis, and internal review meeting by core team were completed.

Draft summary report was prepared and submitted for review to NACO. Key summary findings from the study:

I. The study on Impact Evaluation of ART under NACP, shows that Government of India's free antiretroviral treatment initiative has been a success story for the National AIDS Control Program (NACP) in terms of reducing mortality, improving survival and quality of life, achieving viral suppression and preventing TB among those who have been retained with the program.
II. Our evaluation of the impact of this large program on various parameters shows the positive impact of ART on the lives of PLHIV. Moreover, the study also offered an opportunity to identify a few key challenges both in program delivery and its future impact evaluation.
III. While the programme has shown overall impact in terms of survival benefits, to further improve upon these the focus needs to be on improving monitoring of PLHIV on ART and improving access to next-line ART.
IV. Viral suppression in India's free-ART program clinics exceeds 90% - a survey among beneficiary communities in four regions
V. Three research papers jointly with all partner institutes were submitted at international AIDS conference 2020

Next step: Prepare final report with strategic recommendations and challenged face during implementation and dissemination of the findings at the end of the study.

## 2.7 Spatio-Temporal Variations in Malnutrition among Children of Tribal and Non- Tribal Population of India: Level & Trends from various rounds of NFHS (1992-2016)

**Principal Investigator:** Dr. Tulsi Adhikari, Scientist E

**Co- P. Investigator:** Dr. Jeetendar Yadav, T.O.-B
Mr. Prasant Tapase, Sr TO-1
Dr. Harpreet Kaur
Dr. Mangeet Singh Chalga

**Period:** June 2019-November 2020

**Funding agency:** ICMR

**Budget:** Rs. 26,10,400

**Background:** Most of the studies conducted in India to examine child nutrition situations in the country did not consider the geographical variation in childhood malnutrition and its correlates across India. This is a key information gap facing policy makers responsible for the nutrition and health of children in India.

Nutritional outcome of children could, not only vary, over place but also over time and none of the studies investigates spatial and temporal variations in childhood chronic malnutrition. This is crucial because to better inform carefully targeted interventions to reduce childhood malnutrition prevalence to some appreciable level in India, public health planners and policymakers need access to timely and relevant malnutrition prevalence data, trend analyses over time and place, and forecast estimates but these are largely unavailable presently. Also, since malnutrition prevalence persists in India, continued examination of the trend in the risk of malnutrition over time and space and their confounders is warranted if an appreciable level of progress is to be made in reducing the prevalence.

This study seeks to fill this gap by investigating spatial and temporal trends in the risk of malnutrition and to identify communities at highest risk overtime in India.

**Objectives:**

- To develop an online geo-referenced database with state level and district level indicators of under-nutrition and its correlates separately for tribal and non-tribal populations.
- To compare the spatio-temporal variations, spatial variations using NFHS-4 data and temporal variations using NFHS-2, 3 and 4 state level indicators.
- To provide district-wise analytical information for facilitating in developing a district plan of action for meeting the SDG on malnutrition (Goal 2.2).

**Methodology:** We study the distribution of population by background characteristics, prevalence of stunting, wasting and underweight for both tribal and non-tribal children. Descriptive statistics are used to examine the patterning of anthropometric failure among children. In addition, multilevel logistic regression models were fitted to examine the adjusted effected of social groups (tribal vs. non-tribal), economic, demographic and contextual factors on the risk of anthropometric failure, accounting for the hierarchical nature of the data. Multilevel modelling is presented in separate chapters. To study the spatio-temporal variation at state level Bayesian Spatio-temporal modelling is undertaken.

**Progress:**

- The State level indicators of under-nutrition and its correlates for both tribal and non-tribal population have been completed.
- District level indicators of under-nutrition and its correlates is in progress
- Study of spatio-temporal variations has been completed. For studying the spatial variations NFHS 4 district level data and temporal variations using NFHS-2, 3 and 4 state level indicators.
- Development of district-wise analytical information for facilitating district plan of action for meeting the SDG on malnutrition (Goal 2.2) is in progress.

## 2.8 Development and pilot testing of intervention strategies for smokeless tobacco and areca nut cessation among tribal women in Manipur

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|---|---|
| **Principal Investigator:** | Dr. Saritha Nair, Scientist E |
| **Co- P. Investigator:** | Dr Nirendra Haoibjam, Jawaharlal Nehru Institute of Medical Sciences (JNIMS), Imphal |
| **Co-Investigator:** | Dr. Kh. Jitenkumar Singh, Scientist D<br>Dr. Lucky Singh, Scientist D<br>Dr. Saurabh Sharma, Scientist B |
| **Period:** | June 13, 2019 – June 12, 2021 |
| **Funding agency:** | ICMR |
| **Budget:** | Rs. 48,08,000 |

**Background:** Research from India suggests that smokeless tobacco (SLT) use is associated with increased morbidity including risks of oral cancer and premature birth, low birth weight, still birth and maternal morbidity among women using SLT during pregnancy. In the wake of increasing cancer incidences in NE India including Manipur, the results of Global Adult Tobacco Study-2 on increased consumption of smokeless are of serious health concern. There have been few cessation interventions which have addressed SLT and areca nut use among women in general or tribal women in Manipur in particular. The study proposes qualitative research to identify factors associated with use and barriers to quitting SLT and areca nut use and develop culturally appropriate intervention strategies for cessation among tribal women SLT and areca nut users in Manipur.

**Objectives:** The overall objective is to develop culturally appropriate cessation strategies for smokeless tobacco and areca nut use among tribal women users in Manipur.

**Methodology:** The study objectives would be achieved by (i) conducting analysis of secondary data Global Adult Tobacco Survey (GATS-1 and GATS-2 India data) and to

associate with health outcomes (National Family Health Survey-4) (ii) review of existing policies and programmes on cessation; (iii) conducting qualitative research using social mapping, key informant interviews, in-depth interviews and focus group discussion and (iv) develop tailored community based intervention and pilot test the intervention using two delivery channels in two different communities with approximately 35 women each.

**Progress:** Primary data collection for the study has been initiated and is in progress. Secondary data analysis of Global Tobacco Adult Survey-1&2 was conducted to understand patterns and predictors of smokeless tobacco use among women in the age group of 18-49 years. Multivariate logistic regression revealed that age, education, wealth quintile, region, were significant predictors of current daily SLT use among women. Analysis of National Family Health Survey-4 is in progress to understand associations of SLT use with health outcomes.

## 2.9 Gain in life expectancy by age after elimination of death due to specific cause in selected states of India using MCCD data

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|---|---|
| **Principal Investigator:** | Dr. B.K. Gulati, Scientist D |
| **Co- P. Investigator:** | Dr. Damodar Sahu, Scientist F |
| **Period:** | January 1, 2020 - March 31, 2021 |
| **Funding agency:** | Intramural Project |
| **Budget:** | Rs. 1.00 Lakh |

**Background:** Data on mortality by age, sex and cause are primary inputs for assessing population health status and a cornerstone of the evidence base for health policy in combination with other epidemiological and socio-economic information. While medically certified cause of death data from complete civil registration systems is the 'gold standard' for such statistics, these are generally not available in over two-thirds of all countries. Even if the levels and trends were reliably estimated, further improvements in population health would require accurate information on cause-specific mortality to guide policy and programme priorities. The cause of death pattern gives a clear idea about the mortality situation in the study population. The causes of death pattern are different for males and females. It is very important to look into the role of each cause in influencing the life expectancy at various ages.

Life expectancy is a statistical measure of the average time a person is expected to live at a given age under given age specific mortality rates. Potential gain in life expectancy by eliminating a disease means that on average people will live more than they would in the presence of that disease. Life table technique helps in examining the effect of a specific cause of death elimination in life expectancy. One gets an idea about the gain in life expectancy if one is able to control a specific disease.

The complete elimination of some causes of death is practically not possible, partial elimination can reduce the effect of these causes substantially. The study will construct

the cause of death life table and estimate cause specific death rates and estimate potential gain in life expectancy after partial and complete elimination of specified cause of death for urban population of India and major states. The analysis will be in line with national health programme's elimination targets including infectious diseases.

**Objectives:**

1. To construct multiple decrement life tables and cause-eliminated life tables
2. To estimate gain in life expectancy after partial and complete elimination of death due to specific cause

**Data and Methodology:** Secondary data from the Registrar General of India (RGI)'s Medical Certification of Causes of Death (MCCD) for the year 2017 will be used in the study. In the Report, data on medically certified cause of deaths has been tabulated in conformity with the International Classification of Diseases (ICD) - Tenth Revision. Data is available in printed report format. It will be entered in MS-Excel and after doing necessary data cleaning multiple-decrement life tables and cause-eliminated life tables will be generated for India and major states.

Deaths will be adjusted by distributing the deaths under the head "age not stated" in all the age groups in proportion to total deaths in those age groups for estimating the age- specific death rates. The age-specific death rate is related to age-cause-specific death rates (${}_nm_{xd}$) as

$$ {}_nm_x = {}_nm_{x1} + {}_nm_{x2} + {}_nm_{x3} + \ldots + {}_nm_{xr} $$

The ${}_nm_x$ values will be based on the Medical Certification of Cause of Death (MCCD) 2017 data and the projected urban population for the year 2017. Crude birth rate, crude death rate, infant mortality rate, age-specific death rate and sex ratio of urban population for 2017 will be taken from Sample Registration System (SRS).

For estimating the probability of dying (${}_nq_x$) between age x and x+n, Greville's following formula will be used:-

$$ {}_nq_x = \frac{{}_nm_x}{\frac{1}{n} + {}_nm_x[\frac{1}{2} + \frac{n}{12}({}_nm_x - \log_e c)]} $$

where, loge c =0.09

Other life table functions namely $l_x$, $L_x$, $T_x$, $e^0_x$ will be calculated as per usual procedure using Microsoft Excel.

For each cause of death elimination, the following formula will be used -

$${}_nm_x = {}_nm_x - {}_nm_{xd}$$

where, d refer specific case of death.

The cause elimination life tables will be generated for elimination of all the causes of death groups for India and its major states. However, results of ten leading causes of death groups viz., certain infectious and parasitic diseases (A00-A99); neoplasms (C00-D48); diseases of blood & blood forming organs & certain disorders involving the immune mechanism (D50-D89); endocrine, nutritional and metabolic diseases (E00-E89); diseases of the nervous system (G00-G98); diseases of the circulatory system (I00-I99); diseases of the respiratory system (J00-J98); diseases of the digestive system (K00-K92); diseases of the genitourinary system (N00-N99); and injury, poisoning and certain other consequences of external causes (S00-T98) will be summarized.

Gains in life expectancy will be

$$e_x^{(-1)} - e_x$$

where,

$e_x^{(-1)}$ is cause-eliminated life expectancy; and $e_x$ is life expectancy

**Progress:** Medical Certification of Causes of Death (MCCD) data for the year 2017 from Registrar General of India; projected urban population for the year 2017 from Technical Group on Population Projections; crude birth rate, crude death rate, infant mortality rate, age-specific death rate and sex ratio of urban population for 2017 from Sample Registration System for India and states, in printed report format, are being compiled and got entered into MS-Excel.

## 2.10 Modelling Undernutrition in Under-Five Year Children, Northeast States, India

**Principal Investigator:** Dr. Kh. JitenKumar Singh, Scientist D

**Period:** 1 Year

**Funding agency:** Intramural Project

**Background:** It is well established that the individual-level characteristics of the child have a significant influence on child malnutrition. However, very few studies have explored the impact of contextual factors on the malnourishment of children. Though well known, what is essential for a thorough understanding of the determinants of malnourishment and therefore for effective policy intervention, is the degree to which the geographical variations in malnutrition are related to the district-level differences, along with the differentials at the village and household level. Thus, the contextual aspect of child malnutrition needs to be explored to understand the process of malnourishment as a whole in the northeast state. The sex of a child is important in the context of discrimination against the girl child in access to intra-household resources particularly food, healthcare and education. The current study attempted to see the extent of gender difference in the nutritional status of children and its causing factors. If, there was a gender difference in child undernutrition, then to what extent demographic and socioeconomic factors explain this gap. And, also, it examined the spatial distribution of child malnutrition and to assess high and low prevalence district/cluster of child malnutrition.

**Objectives:**

1. To examine the gender difference in child undernutrition in Northeast states, and understand the role of factors underlying the difference.
2. To examine the spatial distribution of child malnutrition and high and low prevalence district/cluster of child malnutrition.

**Research questions of the study:** Whether there was gender difference in child undernutrition and, if so, to what extent demographic and socioeconomic factors explain this gap. And how much gender gap in nutrition was explained and how much was unexplained by differences in characteristics. And what were the geographical variations by district and spatial distribution of child malnutrition by cluster in 2015 and was child malnutrition hot spot scatter or not.

**Data and Methods:** This study utilized data collected in the fourth round of National Family Health Survey (NFHS-4), which was conducted during 2015-2016, it provides information on population, health, and nutrition for India and each state/ Union territory. NFHS-4 conducted under the Stewardship of Ministry of Health and Family Welfare (MoHFW), Government of India, coordinated by the International Institute for Population Sciences, Mumbai.

The survey covered a range of health-related issues, including child health, maternal, fertility, malaria, reproductive health, infant and child mortality, non-communication diseases and HIV knowledge and provided information on key indicators of all the districts above state and national level. And helps to produce reliable estimates of most indicators for rural, urban and total of the districts as a whole. We obtained data for 86 districts of 8 states in northeastern states viz., 27 in Assam, 16 in Arunachal Pradesh, 9 in Manipur, 7 in Meghalaya, 8 in Mizoram, 11 in Nagaland, 4 in Sikkim and 4 in Tripura, respectively. Northeastern states shape file were extracted from India shapefile after downloading through Diva GIS, the final feature class had 86 polygons representing each survey district in NFHS-4.

**Study variables:** Children's nutritional outcomes was measured using z-scores of weight-for-height (WHZ), height-for-age (HAZ) and weight-for-age (WAZ).

**Anthropometric measures:**

- Wasting or thinness (low weight for height) measures weight loss due to starvation and episodes of severe diseases.

- Stunting (low height for age) reflects the continuous failure of growth associated with poor living conditions and recurrent diseases.
- Low weight for height indicates low body mass relative to height due to a shortage of food and energy and is considered as a composite of weight for height & height for age. It captured both chronic and acute malnutrition.

Based on these z-scores, three measures of undernutrition: wasting, stunting and underweight was computed and categorized as severe and moderate malnutrition corresponding to below -3SD and between -2SD & -3SD in comparison to NCHS/WHO international reference population.

**Explanatory variables:** Household characteristics: Household wealth index, Caste (social status), Religion, Tribal/Non-tribal, Place of residence. Hygienic: Water sources, Toilet sources. Maternal: Mother's education, BMI (kg/m2), Current age, Children ever born, Mother's nutritional knowledge, Mother's personal habits: Mother's smoking, consumed smokeless tobacco and alcohol. Child's characteristics: Current age, Gender, Birth order. Other's: Father's education, separate kitchen, Type of cooking fuel and Number of family members.

**Methodology:** Descriptive statistics was performed for the socio-demographic characteristics of the household, mothers and child. Chi-square analysis was used to examine associations between background characteristics and their levels of stunting, wasting and underweight.

**Results:** Situation of undernutrition child in India and northeastern states: 38% of Indian children aged <5yr were stunted (or short), 21% were wasted (or thin) and 36% of children in the same age group were underweight (or light) (NFHS-4, 2015-16), overall, girls and boys were about equally undernourished. The Prevalence of stunting increases with a child's age through 18-23 months and decreases slightly thereafter. Children born to mothers, BMI less than 18.5 kg/$m^2$ are likely to be stunted, wasted, and underweight. Stunting is higher among children in rural areas (41%) than urban (31%). The prevalence of stunting children aged <5yr is highest in Bihar (48%), Uttar

Pradesh (46%), Jharkhand (45%) and Meghalaya (44%). Underweight (48%) and wasting (29%), highest in Jharkhand.

| State | Low height-for-age (Stunted) (% below -2 SD) | Low weight-for-height (Wasted) (% below -2 SD) | Low weight-for-age (Underweight) (% below -2 SD) |
|---|---|---|---|
| Arunachal Pradesh | 29.3 | 17.3 | 19.4 |
| Assam | 36.4 | 17.0 | 29.8 |
| Manipur | 28.9 | 6.8 | 13.8 |
| Meghalaya | 43.8 | 15.3 | 28.9 |
| Mizoram | 28.1 | 6.1 | 12.0 |
| Nagaland | 28.6 | 11.3 | 16.7 |
| Sikkim | 29.6 | 14.2 | 14.2 |
| Tripura | 24.3 | 16.8 | 24.1 |
| India | 38.4 | 21.0 | 35.7 |

Source: NFHS 4 India report (2015-16)

Table 1. Number of children under five year by states in northeastern states, India, NFHS-4 (2015-16)

| States | Number of districts | Number of clusters (PSU) | Number of children |
|---|---|---|---|
| Arunachal Pradesh | 16 | 604 | 3851 |
| Assam | 27 | 1136 | 8855 |
| Manipur | 9 | 556 | 5256 |
| Meghalaya | 7 | 342 | 3823 |
| Mizoram | 8 | 542 | 4309 |
| Nagaland | 11 | 533 | 3825 |
| Sikkim | 4 | 215 | 898 |
| Tripura | 4 | 315 | 1188 |
| Total | 86 | 4243 | 32,005 |

## 2.11 Quality of care in maternal and new-born health in Rural India: a multilevel modelling

| | |
|---|---|
| **Principal Investigator:** | Dr. Lucky Singh, Scientist D |
| **Co - Investigator:** | Dr. Saritha Nair, Scientist E |
| **Technical support:** | Mr. Ganesh Prasad Jena, Technical Officer |
| **Period:** | January, 2018- July, 2020 |
| **Funding agency:** | ICMR |
| **Budget:** | Rs. 12,50,000 |

**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 a 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 among the Indian women and
- To ascertain the association between quality of antenatal care, safe delivery, and post-natal care and its effect on early neonatal mortality in India.

**Methodology:** First, bivariate analyses have been performed to examine the nature of association between quality of care for maternal and newborn health, early neonatal mortality and selected background characteristics. To consider the hierarchical structure of the data, the study has employed 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; $x_{icd,}w_{cd}$ $and$ $z_a$ are vectors of individual/household, community level and district level characteristics; α is a constant, while $\beta$, $\gamma$, and η are vectors of estimated parameter coefficients; and $u_{cd}$ and $v_a$are unexplained residual terms at the community level and district level, respectively.

**Progress:** Analysis is currently ongoing using DHS data. Results revealed that only 21.2% of all women in India received quality antenatal care, while the corresponding percentage was higher in other south Asian countries like Nepal (23.3%), Pakistan (30%) and Maldives (53.3%). Women's education emerged as the most influential factor associated with quality ANC.

## 2.12 Investigating fetal and maternal factors for perinatal mortality in India– A Systematic Review and Meta-analysis

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|---|---|
| **Principal Investigator:** | Dr. Saurabh Sharma, Scientist B |
| **Co- P. Investigator:** | Dr. Anjum Pradhan, Scientist F, ICMR<br>Dr. Geetha Menon, Scientist E |
| **Period:** | July 1, 2018 – December 31, 2020 |
| **Funding agency:** | ICMR |
| **Budget:** | Rs. 3,73,800 |

**Background:** The countdown to the 2015-decade report (2000-2010) shows that child mortality rates have been declining across the globe; however; primarily due to persistently high perinatal and neonatal mortality, India is unable to achieve the desired goals. India, with 592100 stillbirths, accounted for 22·6% of the global burden of stillbirths in 2015. As per the NFHS 2015 report, perinatal mortality in India is still very high at 36 per 1000 live births.

The perinatal mortality rate is the bed index of existing obstetrical and neonatal services especially with the decline of IMR to low level. The perinatal mortality rate has, in recent years assumed a greater significance as a reliable yardstick of maternal & child health care.

United Nations Millennium Development Goals (MDGs) focused a great deal on improving maternal and child health, which has now been carried forward to the Sustainable Development Goals (SDGs). India Newborn Action Plan (INAP) has been developed in line with the WHO Every Newborn Action Plan with the goal of ending preventable neonatal deaths to achieve Single Digit NMR by 2030 and a target of <10 stillbirths per 1000 births. The National health policy 2017 also identifies maternal and child health as primary thrust areas for research and targets reduction of perinatal deaths by 2025.

Multiple maternal and fetal risk factors have been inconsistently attributed to the high perinatal mortality in developing countries like India. The purpose of this systematic review is to identify and substantially validate maternal and fetal factors predicting perinatal mortality which will generate strong evidence and streamline future thrust areas for research.

**Objective:** To study the association of maternal and fetal risk factors for perinatal mortality in India.

**Methodology**: Systematic Review and Meta-analysis.

Search strategy: A Computer-based literature search will be conducted mainly in the electronic databases of PubMed, EMBASE, Google Scholar and Cochrane Library. The following search terms will be used: perinatal mortality, perinatal deaths, neonatal mortality, neonatal deaths, stillbirth, early neonatal mortality, early neonatal deaths, intrauterine deaths, and risk factors, predictors, determinants. The selected search terms will be combined alternatively using the Boolean logic searching (AND, OR & NOT).

Inclusion Criteria: Eligibility assessment was conducted and studies were included in this review if they

- Focused on perinatal mortality
- Conducted in India
- Reported factors associated with perinatal mortality.
- Published between 1 January 1990 and 20 March 2018
- Observational studies (cross-sectional studies, cohort studies and case-control studies)

Exclusion Criteria: Non-peer reviewed research, reviews, commentaries, letters to editors and conference presentations will be excluded.

Data Extraction and Quality assessment: Data will be extracted in a form. Variables like total births, the number of perinatal deaths, setting (community-based or hospital-based), city, study design and risk factors will be collected by two independent reviewers. The predetermined inclusion criteria will be used for studies that assessed perinatal mortality in India, written in English and published after the year 1990. The study selection process will be conducted in two phases by two reviewers independently. In the first phase, titles and abstracts of all the retrieved articles will be reviewed and then grouped as —eligible for full document review and —ineligible for full document review. In case of discrepancy in the grouping of articles, inclusion or exclusion of the disputed articles will be resolved by a third reviewer. The assessment of the quality of each study will be done using the Joanna Briggs Tool.

In the second phase, the full document of all the articles will be grouped as —eligible for full document review will be reviewed in detail and grouped as —eligible for meta-analysis and —ineligible for meta-analysis. In the case of discrepancy in the grouping of articles, inclusion or exclusion of the disputed articles will be resolved by discussion and by reviewing the articles together. The selected studies can be observational (a mix of retrospective, prospective and cross-sectional) by design, or a mix of community-based and hospital-based by sites with common outcome measures as perinatal mortality. MOOSE guidelines for reporting of Meta-Analyses and Systematic Reviews of Observational Studies will be used.

Statistical analysis: Perinatal mortality in relation to selected obstetric factors will be evaluated using the random-effects model. Odds ratios (OR) and 95% confidence intervals (95% CI) for the selected variables will be computed with the Mantel-Haenszel (MH) method. Where the 95% CI does not contain number 1, it will be considered as statistically significant. In each forest plot, the length of the horizontal lines will represent the width of the 95% CI and the size of each square on the horizontal line will represent the sample size. The consistency of the included studies will be assessed by heterogeneity testing using I2 statistics. Subgroup analysis will

also be undertaken for each decade. All the analysis will be done by using Comprehensive Meta-Analysis software.

**Progress:** The project has been initiated and based on the search strategy as defined in the methodology, literature search of electronic databases has been completed. Rayyan QCRI a web-based application is being utilised for conducting the review. The identified articles from all electronic databases have been imported into Rayyan QCRI and screening and deletion of duplicate articles has been completed. Collaborators have been blinded for both initial screening of articles and full text review. A total of 871 articles were identified after removal of duplicates. First level screening of articles has been completed by two independent reviewers and a total of 117 articles were included for full text review. Further full text review by using Joanna Briggs Tools was done by two independent reviewers and a total of 21 articles have been identified for data extraction.

## 3. Invited Talks/Lecture delivered by the Institute Scientists and Technical Officers

| Date | Speaker and details of the lecture |
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| **1. Dr. H.K. Chaturvedi** | |
| June 24-28, 2019 | Delivered talks on different topics, "Project Management" and "Survival Analysis" during the summer training programme organized for M.Sc. (Statistics) Students from Kurukshetra University at ICMR-NIMS, New Delhi |
| July24-26, 2019 | Delivered talk on "Residuals and its estimation in multilevel modelling" in the workshop on Multilevel modelling organized by the ICMR-National Institute of Medical Statistics, New Delhi |
| February 10-12, 2020 | Delivered talks on different topics and participated in discussion to answer the research methodology related queries raised by the participants during the workshop on "Statistical Methods in Biomedical Research" at National Institute of Occupational Health (NIOH), Ahmadabad. |
| **2. Dr. Damodar Sahu** | |
| June 24-28, 2019 | Delivered lecture on "Sampling Methodology" in summer training for MSc Student (Statistics) from Kurukshtra University |
| July 24-26, 2019 | Delivered lecture on Multivariable multilevel analysis in the workshop on "Multilevel Modelling in Health research using STATA", Venue: ICMR-NIMS Conference Hall organized by ICMR-NIMS, New Delhi |
| **3. Dr. Tulsi Adhikari** | |
| June 24-28, 2019 | Delivered lecture on "Observational studies" and Introduction of NFHS, in the summer training programme organized for M.Sc. (Statistics) Students from Kurukshetra University at ICMR-NIMS, New Delhi |
| July 24-26, 2019 | Delivered lecture on Multilevel data structure", in the Workshop on "Multilevel Modelling in Health research using STATA" at ICMR-NIMS, New Delhi |
| December 14-15, 2019 | "Workshop on Introductory Statistics on SPSS" at Rajendra Prasad Government Medical College Kangra Tanda. Himachal Pradesh. Delivered lectures on "Introduction to |

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| | SPSS & Import, Export of Data using SPSS", "Correlation & Regression Analysis using SPSS", and "Time series Analysis using SPSS" |
| Jan 8-9, 2020 | Delivered Lecture on "Fundamental of Research Methodology & its steps", "Fundamental of Statistics, Data, Data Quality & Collection Methods", "Parametric Test & Its interpretation", "Non- Parametric Test & Its interpretation" and "Fundamentals of Correlation and Regression" in the Introductory Course on Research Methodology & Biostatistics" at Hamdard Institute of Medical Sciences & Research, Jamia Hamdard, New Delhi |
| **4. Dr. Atul Juneja** | |
| May9-10, 2019 | Invited as Panellist for the panel Discussion on Project entitled "Adolescent Friendly Health Clinics" by Govt. Medical College, Chandigarh |
| May 29, 2019 | Invited to deliver a lecture on Study design to the functionaries of NGO at NIPCCD, New Delhi |
| June 24-28, 2019 | Delivered Lectures to the Final year M.Sc, students of Kurukshetra University at Summer Training Program at NIMS New Delhi |
| July 3-4, 2019 | Invited by DG, Central Council for Research in Homoeopathy (CCRH) to set the paper for the appointment of Statistical Assistant |
| August 7, 2019 | Invited as expert by DG, CCRH for the collaborative project with Israel on project on Maternal Health on Integrating Allopathy and Homeopathy at CCRH New Delhi |
| October 15, 2019 | Invited to clinical Development Service Agency, department of Biotechnology for recording the lecture on CTRI for their online course-Video recording of the program was done at IIT New Delhi |
| December 22, 2019 | Invited by Head Department of Mathematics MD University Rohtak to chair a session during a seminar organised in memory of Prof Ramanujam |
| January 8-9, 2020 | Invited to deliver lectures during a workshop on Research Methodology and Biostatistics at Jamia Hamdard University New Delhi |
| January 9-11, 2020 | Invited to deliver a talk and participate as panellist for the |

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| | seminar on Integrative Medicine organised by Central Council for Research in Ayurvedic Sciences at Jammu. |
| March 2-4, 2020 | Invited to Deliver lectures during the faculty Development Program organised by Department of Statistics, Panjab University Chandigarh |
| **5. Dr. Geetha R.Menon** | |
| April 10-12, 2019 | Panellist on Evidence in(formed) policy: what works and for whom in the National Symposium on Evidence Synthesis for Medicine, Public Health & Social Development held in India habitat Centre, New Delhi |
| May 7- 9, 2019 | Delivered two lectures on Statistical Approach for Meta-Analysis and Reporting and Presenting a Systematic Review in the Workshop on Systematic Reviews and Meta-analysis organised by NIREH, Bhopal |
| May 10, 2019 | Delivered two lectures on Burden of Disease in India and Systematic reviews in the DHR sponsored training course on Molecular Diagnostics and Disease Informatics in Health care held at NIRRH Mumbai |
| June 24-28, 2019 | Delivered lectures to the Final year M.Sc, students of Kurukshetra University at Summer Training Program at NIMS New Delhi |
| July 24-26, 2019 | Delivered a lecture on Multilevel Models for Binary Responses in the workshop on Multilevel modelling held at ICMR-NIMS New Delhi |
| **6. Dr. Lucky Singh** | |
| June 24-28, 2019 | Delivered a lecture in a training workshop on Medical Statistics for M.Sc. (Statistics) students of Kurukshetra University at ICMR-NIMS, New Delhi. |
| July 24-26, 2019 | Delivered a lecture on "Random Intercept and Random Slope Models" and hands-on training with Multilevel Modeling (linear outcome & binary outcome) during workshop on "Multilevel Modelling in Health Research using STATA" at ICMR-NIMS, New Delhi. |
| **7. Dr. Kh. Jitenkumar Singh** | |
| March 6-7, 2020 | Invited to Deliver lectures during the Faculty Development Program organised by Department of Statistics, Panjab University Chandigarh |

## 4. Scientific Meetings /Conferences/Training/Workshops attended by the Institute Scientists and Technical Officers

| 1. Dr. M.Vishnu Vardhana Rao | |
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| **Date** | **Title of the Meeting** |
| April 9-10, 2019 | Attended First Data Users Conference for successful conduct of Census 2021 of Registrar General and Census Commissioner of India officer at Vigyan Bhawan, New Delhi |
| April 12, 2019 | First Meeting of the Task Force on optimizing the use of Cesarean Section in India at ICMR HQs., New Delhi. |
| April 15, 2019 | Development seminar on "Smallpox Eradication: Inclusive histories as meaningful roadmaps for Global Health" with Dr. Sanjoy Bhattacharya, Professor in the History of Medicine, Director of the Centre for Global Health Histories and Director of the WHO Collaborating Centre for Global Health Histories, University of York at Brookings India, No. 6, Second Floor, Dr. Jose P. Rizal Marg, Chanakyapuri, New Delhi |
| April 16, 2019 | A discussion meeting on Cost Estimation and Investment Case for Malaria Elimination Leading to Eradication in India at NIMS Conf. Hall, ICMR headquarters. (The objective of the meeting is to develop costing and investment case using malaria burden data from NVBDCP, WHO and CHAI. in collaboration with Sun Pharmaceuticals Industries Ltd. |
| April 16, 2019 | Revised Meeting Notice of RAC MRHRU Bhunga, Punjab in the Committee Room, First Floor, Pariwar Kalyan Bhawan, Sector 34-A, Chandigarh of DGHS. |
| April 24, 2019 | Stakeholder's Meeting of Malaria Elimination Research Alliance India (MERA India) Stakeholders' Meeting of MERA India, a day prior to the World Malaria Day at Conference Hall of ICMR, New Delhi to have vibrant discussions on the roadmap of the Allianc. |
| April 24, 2019 | Budget Review Meeting under the Chairmanship of the DG in Room No.301,Conf. Hall, 2nd Floor, New Delhi |
| May 5, 2019 | Third Meeting of the Technical Group on Population Projection in the Nirman Bhawan, New Delhi |
| May 7, 2019 | Meeting with Prof. K. Anand, AIIMS & Dr. Ashu Grover (Closer collaboration between AIIMS & ICMR on causes of death systems in India) at NIMS |
| May 8, 2019 | Expert Group Meeting to finalize the bid for DBS data management software - to finalise the format of bid and upload tender on website |

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| May 8, 2019 | Meeting at NIMS to complete the modalities of signing the agreement between NIMS and Population council and Population Council made a presentation of the project so that NIMS Scientist will have the understanding of the objectives of our mutual cooperation at NIMS Conf. Hall. (Dr. Nianjan Saggurti, Country Director, Population Council will make a presentation |
| June 6, 2019 | 7th TAC Meeting with Sucheta Banerjee Kurundkar, Director, Training Project, Clinical Development Services Agency, (An extramural unit of Translational Health Science & Technology Institute, Deptt. of Biotechnology, Ministry of Science and Technology, Gurgaon |
| June 11, 2019 | ICMR-ICSSR fund project "Development, Validation and dissemination of Comprehensive Healthy Eating and Living Index (CHELI) for adolescents |
| June 12, 2019 | Screening Committee Meeting under the chairmanship of Sr. DDG, ICMR for reviewing the case of Scientific Staff under FR-56(i) in ICMR Headquarter. who have completed 50 years of age or 30 years of qualifying service whichever is earlier |
| June 14, 2019 | Third Meeting of the Project NACO & NIMS - National Working Group for District Level PLHIV Estimation Under NACP at ICMR-NIMS. |
| June 17, 2019 | ICMR-CGHR Meeting on" Malaria and Adult Febrile Illness Mortality working Group" to discuss contribution of malaria to adult mortality in Asia and discuss on structured review of the literature, listing sample sizes of studies and preliminary findings. |
| June 29, 2019 | Celebration of 'Statistics Day', Ministry of Statistics and Programme Implementation, New Delhi and the theme is on "Sustainable Development Goals (SDGs) at Vigyan Bhawan, Maulana Azad Road, New Delhi |
| July 1, 2019 | Celebration of "National Statistics Day" at NIMS Conference Hall. On this occasion, Prof. Abhaya Indrayan, Founder Prof. of Biostatistics, and Head (Retd.), Deptt. of Biostatistics and Medical Informatics, UCMS will deliver a talk on "Dicey Clinical Decisions and Biostatistics |
| July 8, 2019 | ICMR-Meeting regarding True Net Study of NIRT at NIMS |
| July 8, 2019 | NIMS-COD Meeting with WHO person at NIMS |

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| July 10, 2019 | Capacity Building of ICMR Scientists for GBD under the chairmanship of DG, ICMR at ICMR |
| July 19, 2019 | Meeting with WHO representative to India, Dr. Henk Bekedam regarding National Data Quality Forum at WHO Country Office, R.K. Khanna Stadium, New Delhi |
| July 24, 2019 | Launch of ICMR-NIMS National Data Quality Forum (NDQF) in partnership with Population Council, India, and the Bill & Melinda Gates Foundation on 'Challenges and Solutions to Improve Data quality in India" at Conf. Room, ICMR, New Delhi |
| July 24-26, 2019 | ICMR-NIMS Workshop on "Multilevel Modelling in Health research using STATA at NIMS, New Delhi., |
| July 1, 2019 | Participated in celebration of 'Statistics Day' at Vigyan Bhawan, Maulana Azad road, Ministry of Statistics and Programme Implementation, New Delhi and the theme is on "Sustainable Development Goals (SDGs). |
| July 8, 2019 | Meeting regarding True Net Study of NIRT at NIMS Conference Hall, New Delhi. |

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| July 10, 2019 | Meeting Capacity Building of ICMR Scientists for GBD under the chairmanship of DG, ICMR at ICMR. |
| July 18, 2019 | ICMR-NIMS Project Meeting on "Development and Pilot testing of intervention strategies for smokeless tobacco and areca nut cessation among tribal women in Manipur" funded by ICMR at NIMS Conference Hall. |
| July 26, 2019 | Training Advisory Committee (TAC) meeting at Board Room, THSTI Building, Clinical Development Services Agency (CDSA), Translational Health Science & Technology Institute (THSTI) Faridabad. |
| August 1, 2019 | Visited Gwalior for the ICMR-NIMS Project's Second Dissemination Workshop on "Improvement in utilisation of RCH Services through Male Participation among Saharia Tribes in Gwalior District of Madhya Pradesh. |
| August 5, 2019 | Small core group meeting (Support towards) before the TRG Meeting on Surveillance and Estimation on 6th August 2019 to review the Agenda of TRG Meeting at NIMS. |
| August 6, 2019 | TRG Meeting for district level HIV burden estimation under the chairpersonship of Director ICMR-NIMS and co-chairmanship of ADG (SI, NACO, MoHFW) at NACO. |

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| August 21, 2019 | Address the Participants in the concluding session of Refresher Training Course Programme for NIPCCD Faculty at NIPCCD, Siri Institutional Area, Hauz Khas, New Delhi. |
| August 22, 2019 | 4th Meeting of the Technical Group on Population Projection for the period 2011-35 in the committee room No.249-A Wing, Nirman Bhawan, New Delhi. |
| August 27-29, 2019 | NACO 2019 rounds of HIV Estimations Expert Consultation-Cum-Capacity Building Workshop on HIV Estimations 2019 at TBD, National AIDS Control Organisation,6th Floor, Chanderlok Building, New Delhi. |

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| August 28, 2019 | Meeting to review the status of Physician coding of Verbal Autopsy Records under the RGI's Sample Registration System (SRS) for the period (2015-18) with all concerned (RGI, Dept. of Community Medicine, AIIMS, Statistics Division, MoH&FW, ICMR) in the ICMR committee room. |
| September 9, 2019 | First meeting of Sectoral Committee on Health & Gender on SDGs data related matters at Computer Centre (DSDD), R K Puram, Sector 1 under chairpersonship of DG, Statistics, Ministry of Health & Family Welfare at East Block-10, Conference Hall, Computer Centre (DSDD), R K Puram , New Delhi. |
| September 11, 2019 | Meeting to discuss establishment of Science & Technology cluster with Prof. K Vijay Raghavan and a small number of leaders of academic R&D institutions, industry, philanthropic foundations and government with the joint collaboration of office of Principal Scientific Adviser(PSA) to Government of India along with NITI Aayog at Town Hall, IIT, New Delhi. |
| September 11-13, 2019 | Technical Advisory Group Meeting with Principle Investigators to discuss the Task Force activity of Rational Use of Medicines at Conf. Hall, NIMS, ICMR New Delhi. |
| September 17, 2019. | Workshop/Training for J-gate in the Conference Hall, NIMS for Scientists/Technical Staff, NIMS. The main purpose of this training programme is to provide hands-on experience to scientist and technical staff in retrieving information from this database thereby to promote maximum utilization of e-resources among scientists and technical staff in ICMR network across India. |
| September 17, 2019 | Third Budget Review Meeting at ICMR under the chairmanship of the Director General. |

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| September 25, 2019 | Meeting of the Technical Advisory Committee (TAC) for National Family Health Survey (NFHS-5) to discuss and finalize Template for National/State/UT/District Fact Sheet at DGHS Committee Room, A Wing, Nirman Bhawan, New Delhi. |
| September 26, 2019 | ICMR-NIMS 44th Foundation Day Celebration at NIMS Conference Hall. Invited Dr. Dhrmendra Singh Gangwar, Additional Secretary & FA, MOHFW to deliver a talk related on "Behavioural Insights for Health Research". |
| September 27, 2019 | Technical Advisory Committee (TAC) of the project of "Comparing Methods for Assigning Causes of Death by Verbal Autopsy" at NIMS. |
| September 28, 2019 | The Foundation Day Guest Lecture organised by The Gut Microbiota and Probiotic Science Foundation on "Role of Gut Microbiota and Probiotics in Cardiovascular Diseases and Metabolic Disorders" by Prof. K.K.Talwar, Chairman, Cardiology, Max Health Care, New Delhi at The Surya, New Delhi. |
| September 30, 2019. | Meeting of Sectoral Committee on Health & Gender on SDGs data related matters under the Chairmanship of DG (Statistics), MOHFW, R K Puram, New Delhi. |
| October 4-5, 2019 | First Expert Group Meeting under the Chairmanship of Dr. N.K. Mehra to review the annual progress of the on-going projects/Future projects carried on in the National Institute of Immunohematology, Mumbai. |
| October 22, 2019 | Annual Monitoring-cum-Expert committee meeting for the task force study entitled "Evaluation of prevalence, regional phenotypic variation, Co-morbidities, risk factors and the variations in response to different therapeutic modalities among Indian women with Polycystic ovary syndrome (PCOS): A Multicenter study across India. "at ICMR Head Quarters, New Delhi. |
| November 9, 2019 | Annual MINErVA Technical Advisory Group Meeting with collaboration of An Office of Registrar General of India (ORGI) & All India Institute of Medical Sciences-ND(AIIMS) at DELNET, Nelson Mandela Road, Vasant Kunj, New Delhi. |
| November 11, 2019 | Attended the Research Group Committee (RGC) meeting to discuss further actions on DBS study (under NFHS 4 & 5) at NIMS. |

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| November 12, 2019 | Co-Chair in the ICMR-NICF symposium on AI for HEALTH IN PARTNERSHIP WITH WHO-ITU for Launching of Artificial Intelligence (AI) for HEALTH in partnership with WHO-ITU on 12th Nov. 9.00 AM in ICMR. |
| November 13, 2019 | Participated in the Launch of CHIRON BEHRING Purified Chick Embryo Cell-culture (PCEC) Vaccine –to launch of its new Rabies Vaccine at Hotel Oberoi, New Delhi. |
| November 14, 2019 | Attended the Meeting of National Tobacco Control Programme (NTCP) for reviewing the proposal on "Building Capacities for using Evidence for Tobacco Control" at WHO Country Office, Nirman Bhawan, New Delhi. |
| November 17, 2019 | Attended the presentation of Secretary, DHR & DG, ICMR LIFETIME ACHIEVEMENT MEDAL for Outstanding Contribution in Health Care by Mr. Bill Gates, Co-Chair, Bill & Melinda Gates Foundation at ICMR Conference Hall, New Delhi. |
| November 19, 2019 | Visited Gorakhpur for attending the ICMR-RMRC pre-SAC Expert Committee Meeting. |
| November 20, 2019 | Participate in the Australia and India-Public Health Research Excellence Roundtable with Australian Minister for Education, The Hon Dan Tehan MP) (The Minister will be travelling with a delegation of approximately thirty Australian Vice-Chancellors and senior representatives from the Australian education sector). |
| January 10-11, 2020 | Visited ICMR-NIN, Hyderabad for attending the Meeting as Co-PI of CHELI project of ICMR-ICSSR entitled "Development and Validation of Comprehensive Healthy Eating and Living Index (CHELI) for adolescents. |
| January 11, 2020 | Meeting of the Advisory panel meeting for the India Human Development Survey (IHDS) Chaired by Dr Pronab Sen, Chair, IHDS advisory panel and former Chief Statistician of India at National Council of Applied Economic Research, New Delhi. |
| January 24, 2020 | Meeting with DG & Director, AIIMS to discuss the update on AIIMS-RGI SRS-VA work and road map with possible role of ICMR/DHR at Committee Room No.309, IInd Floor, ICMR headquarter, New Delhi. |
| January 27, 2020 | 8th TAC meeting at CDSA, Faridabad. 8th TAC meeting at CDSA, Faridabad. |

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| January 30, 2020 | Attended Workshop organised by SEBI Mission on spreading financial literacy Dr. Pramod Verma, SEBI will deliver a talk on SIP related to financial management at NIMS. |
| February 6, 2020 | Meeting of the Technical Resource Group (TRG) on HIV Surveillance and Estimation at 6th floor, Committee Room, NACO, Janpath, New Delhi. |
| February 7, 2020 | Expert committee meeting for the study on "Strengthen Research in Ayurveda by Utilizing CTRI platform and impart capacity building program in Research Methodology. |
| February 7, 2020 | As a Member of Core Committee of the Delhi Science & Technology, attended the first meeting of the core committee of the Delhi Science & Technology (S&T) at Board Room, IIT Delhi. |
| February 7, 2020 | Attended Lecture on Biomedical Data Science at Hall No.2, India Habitate Centre, Max Maular Marg, New Delhi |
| February 10, 2020 | Meeting with Dr. Santosh George, Director, CIIT, New Delhi. Regarding CURE India- Clubfoot regarding discussion on children born with clubfoot in India and our requirement for help in systematically maintaining statistics and records of children enrolled from treatment from designated clubfoot clinics across India). |
| February 13, 2020 | As a Chairman In-house review committee meeting to review a short term proposal entitled "Development of a Database of Clinical Study X-rays at NIRT, Chennai" under Dr. C Ponnuraja, NIRT, Chennai at Library, First Floor, ICMR headquarters, New Delhi. |
| February 20, 2020 | 2nd Ethical Committee Meeting for framing ethical guidelines for applications of AI in Healthcare at ICMR Headquarter. Office, New Delhi. |
| February 26, 2020 | Chief Guest in the collaborative workshop and will deliver inaugural address at National Workshop of NIN Hyderabad. |
| March 2, 2020 | Visited Hyderabad to attend the ICMR-ICSSR funded project meeting "Development and Validation of CHELI Scores for adolescents" in ICMR-NIN, Hyderabad. |
| March 5, 2020 | Attended the Training Programme for Administrative Staff of ICMR at NIMS Conference Hall. |
| March 5, 2020 | 43rd Annual Day Function of NIHFW. Dr Harsh Vardhan, Hon'ble Minister of Health and Family Welfare and Chairperson of the Governing Body of the Institute was the Chief Guest. |

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| **2. Dr. H.K. Chaturvedi** | |
| June 23, 2019 | Attended School Research Committee meeting as Ph.D. Supervisor at GGSIP University, Sector-16c, Dwarka, New Delhi. |
| July 24-26, 2019 | Attended three Day workshops as resource person on Multilevel Modelling in Health Research using STATA organized by National Institute of Medical Statistics, New Delhi. |
| August 22, 2019 | Attended the meeting for "Pre-dissemination discussion on Final Report & Factsheet - National Non-Communicable Diseases Monitoring Survey (NNMS) at MoHFW, New Delhi. |
| January 2, 2020. | Attended School Research Committee meeting as Ph.D. Supervisor at GGSIP University, Sector-16c, Dwarka, New Delhi-75. |
| February 10-12, 2020 | Attended three Day workshops as resource person on Infectious Disease Modelling organized by ICMR in collaboration with imperial college of London and National Institute of Medical Statistics, New Delhi. |
| **3. Dr. Damodar Sahu** | |
| April 4 - 5 2019 | Attended the Consultation Workshop for Operational Framework of Behavioral Surveillance Survey Lite (2019-20) at Board Room, Centre for Dental Education & Research (CDER), New Delhi, organised by NACO and AIIMS, New Delhi. |
| July 1, 2019 | Attend invited talk by Prof. Abhaya Indrayan, Founder Professor UCMC, New Delhi on the occasion of National Statistics day at ICMR-NIMS, New Delhi. |
| July 4, 2019 | Participate as a reviewer of the First Data-Q-Thon articles on data quality to review under NDQF project at Population council IHC office organized by PC, New Delhi. |
| July 11-13, 2019 | Invited as PI to attend workshop on "Review of data sets and data analysis - Hands on Workshop' during July 11-13, 2019 organized by ICMR-NARI at ICMR-NARI, Pune in connection with ARTIE project. |
| July 23, 2019 | Attend School of Research Committee of University School of Medicine and Paramedics Health Sciences as a supervisor of PhD student working under me to present progress of research work at GGSIP university, Dwarika, New Delhi. |
| July 24, 2019 | Organized and participate Launching of the National Data Quality Forum on "Challenges and Solutions to Improve Data quality in India by Secretary DHR &DG ICMR at ICMR New Delhi organized by ICMR-NIMS, New Delhi. |
| August 6, 2019 | Attend and present results of the district level PLHIV estimation under NACP (pilot study) the meeting of Technical Resource Group (TRG) on HIV Surveillance and Estimation, organized by NACO at NACO, MoHFW, New Delhi. |

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| August 27-30, 2019 | Participate in the Expert Consultation-cum-capacity Building workshop HIV Estimation 2019 at the Hotel LaLiT, New Delhi organized by NACO in collaboration with ICMR-NIMS, UNAIDS, India. |
| September 27, 2019 | Participate meeting to review various activities of NDQF project at Population council IHC office organized by PC, New Delhi. |
| September 30 & October 1, 2019 | Participated Expert consultation meeting of ARTIE project organized by ICMR-NARI at ICMR-NARI, Pune. |
| October, 18-19, 2019 | Participated and present research paper in International Seminar on Twenty-Five Years of National Family Health Survey (NFHS) in India: Lesson Learnt and Way Forward Date: 18-19th October, 2019 organized by Population Council and IIPS, Mumbai at India Habitat Centre (IHC), New Delhi. |
| October 22-24, 2019 | Participated Expert consultation and Review of report – Team Meeting' of ARTIE project organized by ICMR-NARI at ICMR-NARI, Pune. |
| November 25, 2019 | Participate Consultation on Data quality in Family Planning, Immunization and Nutrition at The Theatre, India Habitat Centre (IHC), New Delhi organized by Population Council, New Delhi. |
| November 26, 2019 | Organized and participate TAG meeting at ICMR-NIMS conference hall organized by ICMR-NIMS, New Delhi. |
| December 18, 2019 | Attend the workshop on "Research for Impact: Family Planning Situation in India, The Evidence Project at India Habitat Centre, New Delhi organized by Population Council, New Delhi. |
| January 2, 2020 | Attend School of Research Committee of University School of Medicine and Paramedics Health Sciences as a supervisor of PhD student working under me to present progress of research work at GGSIP university, Dwarika, New Delhi. |
| January 10, 2020 | Participated and present action plan of HSS project as a National Institute in consultative meeting towards action plan for National and Regional Institutes action plan under proposed MoU extension period April 2020-March 2022 organized by NACO at NACO conference Hall, NACO, New Delhi. |
| February 6, 2020 | Participated and present final HIV estimation 2019 in Technical Resource Group on Surveillances and Estimation for approval at NACO conference Hall, NACO, New Delhi. |
| February 13, 2020 | Attend as PI on meeting to discuss the outcome of the study titled "Impact Evaluation of Anti-Retroviral Therapy Under NACP in India, 2012-2017" before preparing the final report under the Chairmanship of SS&DG, NACO on 13th February 2020 at 4:00 PM at 6th Floor, Committee Room, NACO. |
| February 13, 2020 | ART-IE Investigators and Experts Team Meeting- Next Steps for manuscripts and dissemination 13th February 2020 6.00-7.30 pm at NACO. |

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| February 17, 2020 | Attend the talk and Release of Book 'Gandhi on Health' at ICMR Conference Hall, organized by ICMR, New Delhi |
| March 13, 2020 | Participate as a reviewer of the DataQThon articles on data quality to review under NDQF project at Population council IHC office organized by PC, New Delhi. |
| May 20-24 2019 | Participate as expert in the National Training of Trainers Workshop on Behavioural Surveillance Survey Lite 2019-20 at Country Inn & Suites, Gurgaon organized by NACO & AIIMS, New Delhi. |
| **4. Dr. Tulsi Adhikari** | |
| May 7- 9, 2019 | ICMR collaborative workshop with NIH USA to firm up the plans for Nipah clinical trial with m102.4 monoclonal antibodies. |
| February 3-7, 2020 | Attended a 5-day training on GIS at ESRI India. |
| February 10-12, 2020 | Attended a 3-days workshop on "Mathematical Modelling for Infectious Diseases" jointly organized by Division of ECD, ICMR-NIMS, New Delhi and ICMR-NIE, Chennai. |
| **5. Dr. Atul Juneja** | |
| May 2, 2019 | Meeting with Dr Chelpati Rao related to COD Project (video Call to Australia), NIMS New Delhi. |
| May 6, 2019 | Meeting with THSTI team regarding dissemination of E Module of CTRI through another forum, NIMS Delhi. |
| May 8, 2019 | Project on Traditional Medicine presented to an expert group at ICMR New Delhi. |
| May 27, 2019 | Attended Hindi Divas program celebrated at NIMS Delhi. |
| May 30 -June 1, 2020 | Meeting with Officials of Tribal Affairs and Health in conduct of the workshop for the RCH Project on Sharia Tribes at Gwalior. |
| June 3. 2020 | Presented a paper from New England J of Med decision making on significance test in multiple variables. |
| July 12-13, 2019 | Meeting with Regional Director Health Gwalior District regarding the RCH Project on Tribal Health. |
| July 24, 2019 | Attended the inauguration of formation of National Data Quality forum- collaborative venture of NIMS and Population Council at ICMR Hq. |
| August 1, 2019 | Dissemination workshop on RCH Project on Saharia Tribes- Presented the study design and participated in group discussion. |
| August 10, 2019 | Research Committee Meeting of DNB at BL Kapoor Memorial Hospital New Delhi. |
| August 13, 2019 | Research Committee Meeting of DNB at BL Kapoor Memorial Hospital New Delhi. |
| August 20, 2019 | Research Committee Meeting of DNB at Jaipur Golden Hospital New Delhi. |
| August 29, 2019 | Meeting with the members of Nepal Research Council regarding establishment of Clinical Trials Registry in Nepal at NIMS New Delhi. |

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| September 23, 2019 | Introductory meeting for the trainers from Nepal Health research Council at NIMS New Delhi<br>(Team was trained at NIMS from 23-27 August 2019) |
| September 26, 2019 | Participated in the annual day celebration of NIMS. Oration was delivered by Dr. D. Gangwar, Addl. Secretary & Financial Advisor MOHFW Government of India. |
| October 16, 2019 | ICMR Awards ceremony held at National Academy of Medical Sciences, New Delhi (participated through ZOOM). |
| October 17, 2019 | Nominated as the member of selection committee by the Director for the post of Research Officer (Ayurveda) in the project. |
| October 21, 2019 | Nominated as the member of selection committee by the Director for the post of Programmer in the project. |
| November 5-7, 2019 | Attended the Annual Conference of Indian Society for Medical Statistics held at AIIMS Patna. Chaired a session and presented a paper on CTRI. |
| November 14, 2019 | Research Committee Meeting of DNB at BL Kapoor Memorial Hospital New Delhi. |
| November 17, 2019 | Meeting on the project related to estimation of diabetes and Vit D deficiency through the data from NFHS survey for computing sample size. |
| November 18, 2019 | Nominated as the member of the screening committee for the evaluation of the papers for the candidates of NIMS being considered for promotion in Technical cadre at NIMS New Delhi. |
| January 2-4 , 2020 | Attended the annual conference of Society of Statistics and Computer Application held at University of Pune, Pune. |
| January 13, 2020 | Research Committee Meeting of DNB at BL Kapoor Memorial Hospital New Delhi. |
| January 15, 2020 | Meeting with CCRAS team headed by Dr. Srikanth, DDG, regarding the project sanctioned to NIMS on Leveraging Traditional Medicine regarding the designing of independent data set points for Ayurveda in CTRI. CCRAS is a partner for this project. |
| January 18, 2020 | Nominated for the meeting of Delhi S&T Cluster for formulation of the project in public utility at IIT, New Delhi. Meeting was chaired by Director, IIT, New Delhi. |
| January 28, 2020 | Meeting with CCRAS regarding the project on Leveraging Traditional Medicine regarding the designing of independent data set points for Ayurveda in CTRI for coding issues of the disease condition. |
| January 29, 2020 | Academic council Meeting for planning the workshop on Meta-Analysis at NIMS, New Delhi. |
| February 26, 2020 | Nominated to attend the meeting of Management and System Division Council at Bureau of Indian Standards (BIS), New Delhi. |
| **6. Dr. Geetha R. Menon** | |

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| August 22, 2019 | Pre-dissemination discussion on Final Report & Factsheet-National Non-Communicable Diseases Monitoring Survey (NNMS)-2017-18 and National Burden of Disease Estimates, 2015 in Nirman Bhavan. |
| August 28, 2019 | Technical Advisory Group meeting on ICMR's Task-Force study, entitled: "Classification of Indian pregnancies as late preterm, term and post-term based on adverse perinatal outcomes as function of gestational age/gestational length while adjusting for other confounders". |
| November 15, 2019 | Technical Advisory Committee meeting at NIHFW, Munirka. |
| November 20, 2019 | Zoom meeting to discuss NFHS-5 sample size calculation with ICMR-NARI. |
| November 29, 2019 | Scientific Advisory Committee meeting of ICMR-NIMS. |
| December 6, 2019 | Meeting in Institute for Economic Growth with Dr Indrani Gupta to discuss the activities of the proposed Health Economic Unit at ICMR-NIMS. |
| December 12, 2019 | Annual International course on Traffic Safety at IIT, Delhi. |
| December 20, 2019 | Meeting in National Health Systems Resource Centres with Dr Rajni Ved to discuss the activities of the proposed Health Economic Unit at ICMR-NIMS. |
| **7. Dr. Saritha Nair** | |
| April 16, 2019 | Cost Estimation and Investment Case for Malaria Elimination Leading to Eradication in India at ICMR-National Institute of Medical Statistics. |
| May 10,2019 | Discussion with Prof Anand Krishnan, AIIMS, on possible areas of collaboration between ICMR and AIIMS at ICMR-NIMS. |
| May 10, 2019 | Nodal Communication Officer's meeting with ICMR communication unit on by ZOOM. |
| May 13-14, 2019 | SPEAK India Project meeting at Claridges Hotel and ICMR HQs, New Delhi. |
| May 30, 2019 | Social Behavioural Health Forum Meeting at ICMR-NIMS. |
| May 31, 2019 | World No Tobacco day 2019 release of white paper on ENDS at ICMR HQ. |

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| June 14, 2019 | Third meeting of National Working Group for District level PLHIV Estimation under NACP at ICMR-NIMS. |
| July 1, 2019 | Talk "Dicey Clinical Decisions and Biostatistics" by Dr.Abhaya Indrayan, former Professor and Chair of the Department of Biostatistics and Medical Informatics at University College of Medical Sciences, Delhi on the occasion of National Statistics Day at ICMR-NIMS. |
| August 1, 2019 | Dissemination meeting of the Study on improving utilization of RCH services through male involvement among Saharia tribes, Gwalior, MP |
| August 6, 2019 | Meeting of T.echnical Resource Group on HIV Surveillance and Estimation at NACO office. |
| August 20-21, 2019 | Meeting to discuss 'Qualitative Data Analysis' for ART- IE study. |
| August 27-30, 2019 | Expert Consultation-Cum-Capacity Building Workshop, HIV Estimations 2019 at the LaLiT, New Delhi. |
| August 27, 2019 | Malaria Expert Group meeting to review projects on malaria using DBS collected under NFHS-4 and NFHS-5. |
| September 26, 2019 | Talk entitled, 'Behavioral Insights for Health Research' by Dr. Dharmendra Singh Gangwar, AS&FA, MOHFW on the occasion of 44th Foundation Day. |
| September 27, 2019 | Technical Advisory Committee (TAC) of the study, "Comparing Methods of Assigning Causes of Death" |
| September 30-October 1, 2019 | Training and meeting on 'qualitative. data analysis' for ART-IE study on at ICMR-NARI, Pune. |
| October 21, 2019 | First meeting of NWG for HIV estimation 2019 under NACP at the Conference room, ICMR-NIMS, New Delhi. |
| October 22-24, 2019 | Meeting to review the report' of ART-IE study at ICMR-NARI, Pune. |
| November 8, 2019 | Seminar on Integrity and Ethics in Clinical Research & Publications" in ICMR-NITM, Belagavi. |
| November 11, 2019 | Research Group Committee (RGC) meeting to discuss further actions on DBS study (under NFHS 4 & 5) at ICMR-NIMS. |
| December 20, 2019 | Second meeting of National Working Group on HIV Estimations 2019. |

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| February 2 2020 | Communications unit and Nodal communications Officers' meeting at ICMR HQ. |
| February 6, 2020 | Technical Resource Group meeting on Surveillances and Estimation for approval of HIV estimation 2019 at NACO Conference Hall, NACO, New Delhi. |
| February 13, 2020 | Review meeting under the Chairmanship of DG, NACO at NACO to review the project findings. |
| 16th January 2020 | Technical Advisory Committee meeting at NIHFW, Munirka. |
| **8. Dr B.K. Gulati** | |
| April 22, 2019 | Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |
| May 1, 2019 | Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |
| May 2, 2019 | Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |
| May 8, 2019 | MOU signed between NIMS and Population Council for setting up National Data Quality Forum, NIMS, New Delhi. |
| May 14, 2019 | Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |
| May 31, 2019 | Lecture entitled "Health Effects of Smoking" by Dr. K. Srinath Reddy, PHFI, New Delhi and release of White paper on ENDS on the occasion of World No Tobacco Day, ICMR Hqrs, New Delhi. |
| June 24-28, 2019 | Training Workshop on Medical Statistics, NIMS, New Delhi. |
| July 1, 2019 | Work plan review meeting of NIMS scientists, NIMS, New Delhi. |
| July 1, 2019 | Lecture entitled "Dicey Clinical Decisions & Biostatistics" by Dr. Abhaya Indrayan, New Delhi on the occasion of National Statistics Day, NIMS, New Delhi. |
| July 15, 2019 | Lecture entitled "An Introduction to Bootstrap Sampling Technique" by Ms. Shagun Khare, NIMS, New Delhi. |
| July 15, 2019 | Preparatory meeting for the launch of National Data Quality Forum, NIMS, New Delhi. |
| July 16, 2019 | Preparatory meeting for the launch of National Data Quality Forum, NIMS, New Delhi. |

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| July 17, 2019 | Preparatory meeting for the launch of National Data Quality Forum, NIMS, New Delhi. |
| July 22, 2019 | Preparatory meeting for the launch of National Data Quality Forum, NIMS, New Delhi. |
| July 23, 2019 | Preparatory meeting for the launch of National Data Quality Forum, NIMS, New Delhi. |
| July 24, 2019 | Launch of the National Data Quality Forum, ICMR Hqrs., New Delhi. |
| July 30, 2019 | National Data Quality Forum meeting at Population Council, New Delhi. |
| August 1, 2019 | Dissemination workshop of "Improvement in the Utilization of RCH services through Male Participation among the Saharia Tribes in Gwalior District, Madhya Pradesh", Office of Regional Director Health Services, Gwalior. |
| August 8, 2019 | Presentation on NVIVO, NIMS, New Delhi. |
| August 20, 2019 | Presentation on e-resources by Balani Infotech, New Delhi, NIMS, New Delhi, |
| September 5, 2019 | National Data Quality Forum meeting at Population Council, New Delhi. |
| September 16, 2019 | Preparatory meeting for NIMS's Foundation Day celebration and NIMS' SAC meeting, NIMS, New Delhi. |
| September 17, 2019 | Presentation on effective utilization of J-Gate, NIMS, New Delhi. |
| September 23, 2019 | Preparatory meeting for NIMS's Foundation Day celebration, NIMS, New Delhi. |
| September 24, 2019 | Presentation on STATCRAFT by Predictive Analytics Solution Pvt. Ltd., Bangalore, NIMS, New Delhi. |
| September 24, 2019 | National Data Quality Forum meeting at Population Council, New Delhi. |
| September 26, 2019 | NIMS's Foundation Day Celebration, Lecture entitled "Behavioural Insights for Health Research" by Dr. Dharmendra Singh Gangwar, NIMS, New Delhi. |
| September 27, 2019 | Technical Advisory Committee meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |

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| September 27, 2019 | National Data Quality Forum meeting, NIMS, New Delhi. |
| October 1, 2019 | Presentation on effective utilization of PROQUEST Search, NIMS, New Delhi. |
| October 9, 2019 | Preparatory meeting for NIMS's SAC meeting, NIMS, New Delhi. |
| October 15, 2019 | Presentation on effective utilization of Elsevier Empowering Smarter Research at Every Step, NIMS, New Delhi. |
| October 18, 2019 | International seminar on twenty-five years of National Family Health Survey (NFHS) in India: Lessons learnt and way forward, India Habitat Centre, New Delhi. |
| October 30, 2019 | Preparatory meeting for NIMS's SAC, NIMS, New Delhi. |
| October 31, 2019 | National Data Quality Forum's website training, NIMS, New Delhi. |
| November 8, 2019 | Preparatory meeting for NIMS's SAC meeting, NIMS, New Delhi. |
| November 11, 2019 | Preparatory meeting for NIMS's SAC meeting, NIMS, New Delhi. |
| November 13, 2019 | Preparatory meeting for NDQF's Technical Consultation and Technical Advisory Group meeting, NIMS, New Delhi. |
| November 14, 2019 | Preparatory meeting for NIMS's SAC meeting, NIMS, New Delhi. |
| November 21, 2019 | Preparatory meeting for NDQF's Technical Consultation and Technical Advisory Group meeting, NIMS, New Delhi. |
| November 25, 2019 | NDQF's Technical Consultation, India Habitat Centre, New Delhi. |
| November 26, 2019 | NDQF's Technical Advisory Group meeting, NIMS, New Delhi. |
| November 29, 2019 | NIMS' Scientific Advisory Committee meeting, NIMS, New Delhi. |
| January 3, 2020 | NIMS's website committee meeting, NIMS, New Delhi. |
| January 23, 2020 | National Data Quality Forum meeting, NIMS, New Delhi. |
| January 30, 2020 | Presentation on "Awareness on Investment" by Dr.Pramod Kumar Verma, NIMS, New Delhi. |

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| February 17, 2020 | Talk and release of book "Gandhi on Health" by Dr.Mark Lindley, AIIMS, New Delhi. |
| March 3, 2020 | National Data Quality Forum meeting, NIMS, New Delhi. |
| March 9, 2020 | National Data Quality Forum meeting, NIMS, New Delhi. |
| **9. Dr. Saurabh Sharma** | |
| April 22, 2019 | Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |
| May 1, 2019 | Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |
| May 2, 2019 | Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |
| 8 May 2019 | Project on Traditional Medicine presented to an expert group at ICMR New Delhi. |
| May 10, 2019 | Nodal Communication Officer's meeting with ICMR communication unit on by ZOOM. |
| May 14, 2019 | Progress review meeting of the study entitled "Comparing Methods of Assigning Causes of Death", NIMS, New Delhi. |
| May 31, 2019 | Lecture entitled "Health Effects of Smoking" by Dr. K. Srinath Reddy, PHFI, New Delhi and release of White paper on ENDS on the occasion of World No Tobacco Day, ICMR Hqrs, New Delhi. |
| June 24-28, 2019 | Training Workshop on Medical Statistics, NIMS, New Delhi. |
| July 1, 2019 | Work plan review meeting of NIMS scientists, NIMS, New Delhi. |
| July 1, 2019 | Lecture entitled "Dicey Clinical Decisions & Biostatistics" by Dr. Abhaya Indrayan, New Delhi on the occasion of National Statistics Day, NIMS, New Delhi. |
| July 15, 2019 | Lecture entitled "An Introduction to Bootstrap Sampling Technique" by Ms. Shagun Khare, NIMS, New Delhi. |
| July 30, 2019 | National Data Quality Forum meeting at Population Council, New Delhi. |
| August 8, 2019 | Presentation on NVIVO, NIMS, New Delhi. |
| September 26, 2019 | NIMS's Foundation Day Celebration, Lecture entitled "Behavioural Insights for Health Research" by Dr. Dharmendra Singh Gangwar, NIMS, New Delhi. |

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| 15 January 2020 | Meeting with CCRAS team headed by Dr Srikanth DDG, regarding the project sanctioned to NIMS on Leveraging Traditional Medicine regarding the designing of independent data set points for Ayurveda in CTRI. CCRAS is a partner for this project. |
| 28 January 2020 | Meeting with CCRAS regarding the project on Leveraging Traditional Medicine regarding the designing of independent data set points for Ayurveda in CTRI for coding issues of the disease condition. |
| 29 January 2020 | Academic council Meeting for planning the workshop on Meta-Analysis at NIMS new Delhi |
| February 2 2020 | Communications unit and Nodal communications Officers' meeting at ICMR HQ. |

## 5. Workshop/Meeting organized

| Date | Workshop/Meeting organized |
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| May 28, 2019 | One day Orientation on HIV estimations using spectrum software organized by NIMS-ICMR, New Delhi at CCM, AIIMS, New Delhi |
| June 14, 2019 | The third meeting of the National Working Group (NWG) on District-level PLHIV estimates under NACP at 3rd floor Conference Room, ICMR-NIMS organized by ICMR- NIMS & NACO, MoHFW, New Delhi |
| July 24-26, 2019 | Workshop on Multilevel modelling in health research using STATA, ICMR-NIMS, New Delhi |
| October 21, 2019 | First meeting of National Working Group on HIV Estimations 2019 under NACP at 3rd floor Conference Room, ICMR-NIMS organized by ICMR- NIMS & NACO, MoHFW, New Delhi |
| December 20, 2019 | Second meeting of National Working Group on HIV Estimations 2019 under NACP at 3rd floor Conference Room, ICMR-NIMS organized by ICMR- NIMS & NACO, MoHFW, New Delhi |
| January 23, 2020 | Small group NWG meeting to review India HIV Estimation 2019 at ICMR-NIMS, New Delhi |

## 6. Academic Activities

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| **1. Dr. H.K. Chaturvedi, Scientist G** | |
| July 23, 2019 | Presentation of Progress Report Ph.D work by Ms. Purnima S. Singh, 2015 batch in meeting of school research committee (SRC) of university school of medicine and para-medical health sciences, at GGS IP university, New Delhi |
| January 2, 2020 | Presentation of Progress Report Ph.D work by Ms. Purnima S. Singh, 2015 batch in meeting of school research committee (SRC) of university school of medicine and para-medical health sciences, at GGS IP university, New Delhi |
| **2. Dr. Damodar Sahu, Scientist F** | |
| July 23, 2019 | Presentation of Progress Report Mr. Sanjeev Kumar, Ph.D. Scholar, 2014 batch in meeting of school research committee (SRC) at GGS IP University, Dwarka, New Delhi |
| | Presentation of Progress Report Ph.D work by Mr. Sarvesh Kumar, 2015 batch in meeting of school research committee (SRC) of university school of medicine and para-medical health sciences, at GGS IP university, New Delhi |
| June-November 2019 | Supervisor of intern Mr. Kousfubh Sexana for a period of six months on Medical Statistics |
| January 2, 2020 | Presentation of Progress Report Ph.D work by Mr. SarveshKumar, 2015batchin meeting of school research committee (SRC) of university school of medicine and para-medical health sciences, at GGS IP university, New Delhi |
| April 2020 | Evaluation of Ph.D. synopsis on the subject "Estimation of Economic Burden Due to Road Traffic Accidents in Hilly Areas of Uttarakhand " for suitability for research topics from Banasthali Vidyapith, Rajasthan |

## 7. Statistical analysis and guidance provided to various Institutions

| Scientist Name | Name of the Institute to whom consultancy was provided |
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| Dr. Tulsi Adhikari | Provided statistical consultancy to ICMR HQ studies faculty, students of AIIMS, Safdarjung Hospital, Institute of Home Economics, Delhi University, Lady Hardinge Medical College. |
| Dr. Atul Juneja | Rendered consultancy to more than 30 faculty and students/Research Fellows of Dr. B.L. Kapoor Memorial Hospital and Jaipur Golden Hospital for statistical issues in their research work as members of their committees. Also advised on statistical issues in DNB project work of one student from Max Hospital Shalimar Bagh. |

## 8. Scientific Publications by the Scientists and Technical Officers


1. Adhikari, T., Juneja, A., Kaur, A., & Rao, M.V.V. (2019). Forecasting HIV prevalence in India and states using online search traffic data. *Arya Bhatta Journal of Mathematics and Informatics, 11*(1), 69-78.
2. Misra, A., Chauhan, S., Tanwar, P., Singh, S., Sharma, S., & Rai, S. (2018). Real-Time Compensation in Flow Cytometry: A Real Need of Time. *Indian Journal of Hematology and Blood Transfusion, 34*(3), 585-588.
3. Juneja, A., Gupta, J., Yadav, N., Sharma, S., Panchal, Y., Adhikari, T., & Rao, M. V. V. (2019). An overview of primary registries of WHO's international clinical trial registry platform. *Ayu, 40*(3), 141.
4. Bajpai, R., Chaturvedi, H. K., & Car, J. (2020). How varying CD4 criteria for treatment initiation was associated with mortality of HIV-patients? A retrospective analysis of electronic health records from Andhra Pradesh, India. *Journal of global health, 10*(1).
5. Bixby, H., Bentham J, […] Chaturvedi H.K. […], Geetha R. Menon Teber W.R. (2019) Rising rural body-mass index is the main driver of the global obesity epidemic in adults. *Nature, 569*(7755):260.
6. Dhillon, B.S., Chandiok, N., Sharma, S., & Rao, M.V.V. (2019) Analysis of caesarean section rates indications and complications in previous caesarean section at tertiary care teaching hospitals in India. *European Journal of Biomedical and Pharmaceutical sciences, 6* (7), 305-310.
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## 9. Review Journal articles

| Scientist Name | Journal |
|---|---|
| Dr. M.Vishnu Vardhana Rao | Indian Journal of Medical Research (IJMR) |
| Dr. H.K. Chaturvedi | Indian Journal of Medical Research (IJMR), International Health (INHE), American Journal of Public Health, BMC Journal of Infectious Disease, Plos ONE |
| Dr. Damodar Sahu | Indian Journal of Medical Research (IJMR), Indian Journal of Community Medicine (IJCM), Demographic India |
| Dr. Atul Juneja | Indian Journal Medical Research, Indian Journal Medical Sciences, Asia -Pacific Journal of Cancer prevention Research, Indian Journal of Cancer, |
| Dr. Tulsi Adhikari | Indian Journal Medical Research<br>Public Health Nutrition |
| Dr. Geetha R Menon | Indian Journal Medical Research, Indian Journal of Thoracic and Cardiovascular surgery, BMJ Open |

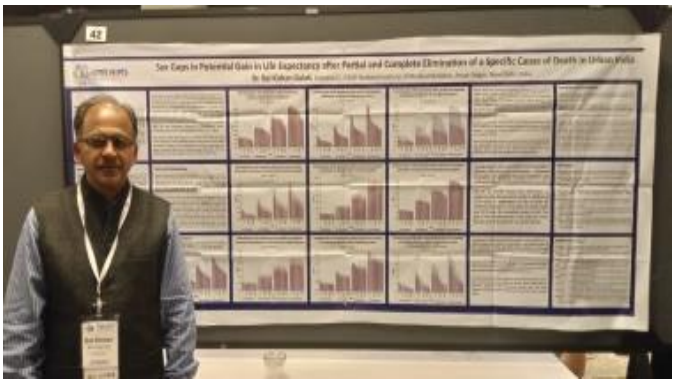
## 10. Training/Workshops Organized

| Date | Title of the workshop |
|---|---|
| 24-28 June 2019 | Summer training programme organized for M.Sc. (Statistics) Students from Kurukshetra University at ICMR-NIMS, New Delhi |
| | Dissemination workshop of "Improvement in the Utilization of RCH services through Male Participation among the Saharia Tribes in Gwalior District, Madhya Pradesh" was held on 1st August 2019 at office of Regional Director Health Services, Gwalior. |
| | Dr.A.K.Dixit, Regional Director Health, Gwalior; Dr. M.V. Vardhana Rao, Director, ICMR-NIMS; Dr.S.S.Bhushan, RDO, PI/Co-PIs of the study Along with CMHOs, DHOs, RJDO, DTOs, DMSEOs, DLOs, DPMOs of various divisions were present in the dissemination workshop. |
| | Launch of National Data Quality Forum by Prof. V.K. Paul, NITI Aayog and Prof. Balram Bhargava, Secretary DHR and DG, ICMR at ICMR-Hqrs on 24th July, 2019. |

| | |
|---|---|
| | Prof. K.S. James, Director, IIPS, Dr. H, Bekedam, WHO Representative to India, Prof. M.Hindin, Population Council, Dr.S.Shah, DG, NCAER and Dr. S. Krishnan, BMGF in a panel discussion at the Launch of NDQF. |
| | Participants of the Multilevel Modelling in Health Research using STATA, 24th -26th July 2019, ICMR-NIMS. |
| | 44th Foundation Day celebration by ICMR-NIMS on 26th September, 2019. Chief Guest Dr.Dharmendra Singh Gangwar, Additional Secretary and Financial Advisor, MoHFW, New Delhi delivered a lecture on 'Behavioural Insights for Health Research". |
| | Celebration of National Statistics Day by ICMR-NIMS on July 1, 2019. Prof.Abhaya Indrayan, Founder Prof. of Biostatistics, and Head (Retd.), Deptt. of Biostatistics and Medical Informatics, UCMS delivered a talk on "Dicey Clinical Decisions and Biostatistics". |

## 11. Certificates/awards/ degree/ diploma or any academic achievement during the period under report by Scientists/Technical Officers

| Name of the scientist | Details of the award |
|---|---|
| **Dr. M. Vishnu Vardhana Rao**<br> | Dr.Abhaya Indrayan Award for the year 2019 for the research paper entitled "A meta-analysis combining parallel and cross-over randomized controlled trials to assess impact of iodine fortified foods on urinary iodine concentration among children") at annual conference of NAMS at AIIMS Bhopal, October 11-3, 2019. |
| **Dr. Tulsi Adhikari**<br> | Best oral presentation for the research paper entitled "Levels and Factor of Male Participation in Maternity Health Care Services Utilisation- among Saharia Tribes in Gwalior district of Madhya Pradesh" at the "37th Annual Conference of Indian Society for Medical Statistics" held at AIIMS, Patna, Bihar, December 5-7, 2019. |

| Foreign Visit | |
|---|---|
| **Dr. M.Vishnu Vardhana Rao**<br> | Meeting of the 6th ITU/WHO Workshop and Focus Group on Artificial Intelligence for Health (FG-AI4H) in Zanzibar, Tanzania during September 2-5, 2019. |
| **Dr. B.K. Gulati**<br>  | Presented the research paper entitled "Sex gaps in potential gain in life expectancy after partial and complete elimination of a specific cause of death in urban India" at the 2019 Annual Meeting of Population Association of America, Austin, Texas, USA, April 10-13, 2019. |

## 12. List of Scientific Advisory Committee Members

| Sr. No | Name | Designation |
|---|---|---|
| 1. | **Dr. Padam Singh,**<br>Former Addl. DG, ICMR & Director ICMR-NIMS<br>New Delhi. Mobile: 9868110538<br>Email:dr.padamsingh2013@gmail.com | Chairman |
| 2. | **Prof.J.P. Muliyil,**<br>Former Principal,<br>Christian Medical College,<br>Bagayam, Vellore-632002. Mobile:0984287300<br>Email:jpmuliyil@gmal.com | Co-Chairman |
| 3. | **Prof. D.K. Subbakrishna,**<br>Ex. Prof. & Head,<br>Department of Biostatistics,<br>National Institute of Mental Health &<br>Neuro Sciences (NIMHANS), Bangalore-560029.<br>Mobile:09986031633<br>Email:drsubbakrishna50@yahoo.com | Member |
| 4. | **Prof. R.M. Pandey,**<br>Professor, Deptt. of Biostatistics,<br>AIIMS, New Delhi-29. Mobile:9811912117<br>Email:rmpandey@yahoo.com | Member |
| 5. | **Dr. Nivedita Gupta,**<br>Chief Director (Statistics),<br>Ministry of Health & Family Welfare,<br>Nirman Bhawan, New Delhi-110011.<br>Email: cdstat@nic.in | Member |
| 6. | **Prof. C.M. Pandey,**<br>Professor & Head,<br>Deptt. of Biostatistics & Health Information,<br>Sanjay Gandhi Post Graduate<br>Institute of Medical Science (SGPGI),<br>Lucknow-226014. Mobile:09450097977<br>Email:cmpandeylko@yahoo.com | Member |
| 7. | **Dr. Rajani R. Ved,**<br>Executive Director<br>National Health Systems Resource Centre (NHSRC),<br>NIHFW Campus, Baba Gangnath Marg,<br>Munirka, New Delhi 110067. Mobile:9810333771<br>Email:rajani.ved@gmail.com | Member |

| | | |
|---|---|---|
| 8. | **Dr. P.L. Joshi,**<br>Ex- Director,<br>NVBDCP, New Delhi. Mobile:9899043305<br>Email:doctorjoshi00@gmail.com | Member |
| 9. | **Dr. Indrani Gupta,**<br>Prof. & HOD,<br>Health Policy Research,<br>Institute of Economic Growth,<br>Delhi University Enclave,<br>Delhi University, Delhi-110007. Mobile:9818141001<br>Mobile:indrani@iegindia.org | Member |
| 10. | **Shri. Ramkesh,**<br>Registrar General,<br>Census Commissioner of India,<br>(Representative of RGI Office)<br>Email:rgi.rgi@censusindia.org | Member |
| 11. | **Dr. Samiran Panda,**<br>Head, Division of ECD,<br>Indian Council of Medical Research,<br>Ansari Nagar,<br>New Delhi-110029. | Member |
| 12. | **Dr. M. Vishnu Vardhana Rao,**<br>Director,<br>ICMR-National Institute of Medical Statistics,<br>Ansari Nagar, New Delhi. Mobile:09849425258<br>Email:dr_vishnurao@yahoo.com<br>nims.director@icmr.gov.in | Member Secretary |

## 13. Members of the Ethics Committee

| Sr. No. | Name | Designation |
|---|---|---|
| 1. | Prof. Y.K. Gupta, Ex-Prof. & Head, Deptt. Of Pharmacology, Ansari Nagar, New Delhi-110029. | Chairman |
| 2. | Prof. 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. | Mr.Hitender Vats, K-98, Saritha Vihar, New Delhi-110076. | Member |
| 7. | Dr.M.Vishnu Vardhana Rao, Director, ICMR-NIMS, Ansari Nagar, New Delhi. | Member |
| 8. | Dr. Saurabh Sharma, Scientist B, ICMR-NIMS, Ansari Nagar, New Delhi-110029. | Member Secretary |

# 14. Staff list

## 14.1 Scientific Staff

1. Dr. M. Vishnu Vardhana Rao, Director
2. Sh. B.S. Dhillon, Scientist 'G' (ICMR)
3. Dr. H.K. Chaturvedi, Scientist 'G'/HOO
4. Dr. S.K. Benara, Scientist 'F' (Retired)
5. Dr. Anil Kumar, Scientist 'F'
6. Dr. Damodar Sahu, Scientist 'F'
7. Dr. Tulsi Adhikhari, Scientist 'E'
8. Dr. Atul Juneja, Scientist 'E'
9. Dr. Geetha .R. Menon, Scientist 'E'
10. Dr. Saritha Nair, Scientist 'E'
11. Dr. Jiten Kumar Singh, Scientist 'D'
12. Dr. B.K. Gulati, Scientist 'D'
13. Dr. Lucky Singh, Scientist 'D'
14. Mr. Bhagirath Lal, Scientist 'B'
15. Dr. Saurabh Sharma, Scientist `B'

## 14.2 Technical Staff

1. Mr. Vinay Kumar, Principal Technical Officer
2. Mr. K.L. Badolia, Sr. Technical Officer (2)
3. Mr. Shiv Kumar, Sr. Technical Officer (3)
4. Mr. S.K. Bara, Sr. Technical Officer (3)
5. Mr. Rajendra Singh, Principal Technical Officer
6. Ms. Indira Rani, Sr. Technician-III
7. Mr. Ajay Kumar, Tech. Officer
8. Mr. Gurmeet Singh Rana, Sr. Tech. Officer (3)
9. Mr. Parmatma Mahato, Sr. Tech. Officer (3)
10. Ms. Sunita, Sr. Tech. Officer (2)
11. Mr. Charan Singh, Sr. Tech. Officer (2)
12. Ms. Madhu Mehra, Sr. Tech. Officer (C)
13. Mr. Subhash Gautam, Technical Officer (B)
14. Dr. Jeetendra Yadav, Tech. Officer (B)
15. Mr. Prashant Tapase, Sr. Tech. Officer (2)
16. Ms. Prabila Toppo, Sr. Tech. Officer (C)
17. Ms.Kapil Gautam, Sr. Tech. Officer (C)
18. Mr.Yatendra Kumar, Tech. Officer (A)
19. Mrs. Ashpinder Kaur, Tech. Officer (A)
20. Mr. Ganesh Prasad Jena, Tech. Officer (A)
21. Mr.Thandi Mal, Tech. Officer (A)
22. Mr. Raj Kumar Yadav, Sr. Technician - II

## 14.3 Administrative/Accounts/Store

1. Mrs. Neha Govind, Accounts Officer (Transferred to HQ)
2. Mr R.K. Bawa Administrative. Officer ICMR Hqrs./NIMS
3. Ms.Usha Gulati, P.S
4. Ms.Shalini Bhatia, Assistant
5. Mr.Mukesh Kumar Kaushik, Assistant/SO (I/c) Accounts
6. Ms.Kusum Luthra, Assistant/SO (I/c) Admn.
7. Mr. B.M. Malhotra, Assistant
8. Mr. B.P. Singh, Assistant
9. Ms. Satvinder Kaur, P.A.
10. Ms. Deepika, UDC
11. Mr. Gaurav Mudgil, UDC
12. Ms. Pooja Verma, UDC New appointment
13. Mr. Tinku Kataria, UDC
14. Mr. Desh Bandhu, Sr. Driver
15. Mr. Kishan Kumar, Driver
16. Mr.Dharmvir Singh, MTS
17. Mr.Gopi Chand, MTS
18. Mr.Jagili Sabar, MTS
19. Mr.Gyan Chand, MTS
20. Ms.Rajmala, MTS
21. Mr.Neeraj Kumar, MTS