ICMR | NIMS
INDIAN COUNCIL OF MEDICAL RESEARCH | NATIONAL INSTITUTE OF MEDICAL STATISTICS

ANNUAL REPORT
2020-21

ICMR-National Institute of Medical Statistics
Ansari Nagar, New Delhi-110029

ICMR- National Institute of Medical Statistics

Mandate

ICMR-National Institute of Medical Statistics supports excellence in the development, application and dissemination of statistical sciences through the technical consultation and the statistical service, research, education, publications, dissemination and advocacy. Our members serve in government and academia, advancing research and promoting sound statistical practice to inform public policy and improve human welfare.

ABOUT

It is one of the permanent institutes of Indian Council of Medical Research (ICMR), New Delhi and has been known as National Institute of Medical Statistics (NIMS) from 9th November 2005. The erstwhile Institute for Research in Medical Statistics (IRMS) came into existence in the year 1977 with the mandate to provide technical expertise on research methodology, programme evaluation, mathematical modelling, data analysis etc. It also provides technical assistance to institutes throughout India.

The tremendous involvement in the areas of medical statistics, bio-medical and bio-behavioral research, surveillance of communicable and non-communicable diseases, epidemiology, nutrition research, reproductive and child health and cancer research necessitated the renaming of the IRMS as NIMS.

From the
Director's Desk

I take immense pleasure in presenting the Annual Report of our Institute - the ICMR-National Institute of Medical Statistics (NIMS) - for the year 2020-21. Statistics plays an important role in formulating national programmes and policies. It is the backbone of any scientific research. It helps in interpreting complicated data in a simple and understandable way. Statistical data has been successfully used in the preparation of advocacy material for all important national health and nutrition programmes. 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, the institute, is perhaps one of its kind in the country. The thrust areas of the Institute include research, education, training and dissemination of statistical science. With the changing times from hypothesis driven to data driven research, the Institute has been consistently adopting cutting-edge statistical methods ranging from Big Data Analytics to Artificial Intelligence, from Multi-variate Data Analysis to Meta Analysis.

The Institute has been working on 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 32000 trials registered on its portal till 31-03-2021. The institute is in the process of developing dedicated module in CTRI for capturing Ayurveda trials details. The Institute has organised several webinars to sensitise and capacitate researchers in the registration process.

ICMR-NIMS continues to act as the nodal institute for developing national and sub-national level estimates of HIV prevalence and burden in India since 2003 using various internationally accepted modelling methods for NACO (MoHFW).

I am glad to state that during these unprecedented times of COVID-19, the scientists contributed to the country's fight against the pandemic as members in several scientific and administrative committees constituted by the Secretary DHR and DG, ICMR. Also, we have spearheaded four COVID-19 related multi-centric projects on various subjects. We have also diversified our research activities by taking up studies on the health issues of tribal population.

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. I am happy to inform that the "National Guidelines for Data Quality in Surveys" was prepared by ICMR-NIMS.

Our scientists continue to publish their work in national and international peer reviewed journals. Our staff 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.

It is also to place on record that the Institute is setting up Big Data & Artificial Intelligence Centre to analyse large volumes of data, using deep learning and machine learning techniques. As part of the capacity building activities, we have been conducting workshops on the application of different statistical methods and statistical software for students, researchers and medical personnel from all over the country.

On behalf of the ICMR-NIMS family, I thank the members and 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.

I express my sincere thanks to Prof. Balram Bhargava, Secretary, Department of Health Research (DHR) & Director General, Indian Council of Medical Research, for his continued guidance and encouragement. Our sincere thanks to Dr. Samiran Panda, Head ECD and Director ICMR-NARI, Pune for his constant advise and help. The dedicated sprit and commitment of my staff enabled the institute to register noteworthy progress despite the unprecedented COVID-19 situation in the country. Their contributions are acknowledged with thanks.

Contents

1. COMPLETED PROJECTS

Total :10

1.1 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. Jeetendra Yadav, T.O.- B
	Mr. Prasant Tapase, Sr TO-1
	Dr Harpreet Kaur, Scientist F, ICMR Hqrs.
	Dr. Manjeet Singh Chalga, Scientist C, ICMR Hqrs.
Period:	June 2019-November 2020
Funding agency:	ICMR
Budget:	INR 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 outcomes 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

This study is based on three rounds of the National Family Health Survey (NFHS) data, the Indian version of the Demographic and Health Survey (DHS) which were canvassed during 1998–99 (NFHS-2), 2005–06 (NFHS-3) and 2015–16 (NFHS-4). Multivariable multilevel logistic regression was used to analyse factors associated with stunting/wasting/underweight at two and three levels, individual (level 1), nested within village (level 2), and village nested within districts (level 3), was fitted to assess factors affecting stunting/wasting/underweight among children. The outcome variable in this analysis is whether children suffered from stunting/wasting/underweight or not and it is binary (yes/no) nature. Bayesian spatio-temporal modelling was used to analyse the malnutrition trends across 36 spatial units (29 states and 7 union territories) in India. Stunting/wasting/underweight risk was modelled with covariates of space, time and space-time interaction using Bernardinelli et al. (1995) which is given as follows:

$$\eta_i = \alpha + s_i + u_i + \gamma * time_t + \delta_i * time_t$$

Where, η_i : Poisson log-linear link function,

s_i : spatially structured random effect,

u_i : spatially unstructured random effect,

γ: Overall mean time trend,

and δ_i : spatio-temporal interaction random effect.

All these model parameters were obtained from MCMC iterations using OpenBUGS software and analysed to observe spatial clustering, area specific temporal trends, and hotspots or high-risk areas for stunting, wasting and underweight children for the tribal population of India.

Geographical variation in malnutrition

Moran's, I Scatter plot, LISA (Local Indicators of Spatial Association) cluster maps and LISA Significance maps, all these plots are drawn for stunting, wasting and underweight children from NFHS -4 malnutrition data for tribal population of India.

All the model parameters were analysed for 20,000 samples after burn-in of 20,000 iterations. Posterior summaries are obtained as i) Posterior mean, ii) Posterior Standard Deviation and iii) 95% Credible Intervals (val2.5pc and val97.5pc represent the lower and upper limit of the 95% credible interval respectively). MCMC error was obtained to check for convergence of individual parameters

According to the results obtained by the Bayesian spatio-temporal model. Geographical similarity or spatial clustering was observed in stunting for following states:

Andhra Pradesh, Arunachal Pradesh, Bihar, Chandigarh, Dadra & Nagra Haveli, Daman & Diu, Goa, Gujrat, Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala, Karnataka, Meghalaya, Mizoram, Delhi, Puducherry, Punjab, Rajasthan, Sikkim, Telangana, Tripura, Uttar Pradesh, Uttarakhand, West Bengal and Odisha.

For wasting in tribal population of India areas like Assam, Bihar, Daman & Diu, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Meghalaya, Nagaland, Puducherry, Rajasthan, Tamil Nadu, Sikkim, Telangana, Uttarakhand and Odisha exhibited geographical similarity or spatial clustering.

Areas like Arunachal Pradesh, Assam, Bihar, Dadra & Nagar Haveli, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Manipur, Puducherry, Rajasthan, Tamil Nadu, Tripura, Uttarakhand, West Bengal and Odisha were identified as statistically significant in terms of purely spatially structured random effect for underweight tribal population.

Decreasing mean time trend was observed for all variables (stunting, wasting and underweight) under study for India from NFHS-2 to NFHS-4.

Results

Profile of respondent

Large number of children were breastfed for 12-23 months, whereas, less number of non-tribal children were breastfed for 24 months and above as compared to tribal children. Majority of children were of average size at the time of birth. Large number of tribal children was of small birth size in NFHS-2 (29.2 percent), which decreased over time (12.7 percent in NFHS-4). The births which took place at home declined over the three survey periods (63.3 percent during 1998-99 to 18.4 percent during 2015-16). More tribal children were delivered at home than non-tribal children. Immunization coverage has been improved over the time (31.2, 33.9 and 47.3 percent during NFHS-2, 3 and 4 respectively). Full immunization was more among non-tribal children than tribal. Children with birth order four and above declined from 26 percent in NFHS-2 to 13.4 percent in NFHS-4. More tribal children were found to have a birth interval of more than two years than non-tribal children. Data shows that more than three-fourth of children in all the three NFHS surveys were wanted, which increased over time period (77.2 percent in NFHS-2 to 90 percent in NFHS-4). More non-tribal children were found to be unwanted. More than half of mothers were less than 24 years of age at the time of birth, which declined over the three survey rounds. During NFHS-2 and 3, the majority of mothers were illiterate, whereas during NFHS-4 almost 60 percent of the mothers were found to have at least middle schooling. More non-tribal mothers were educated than mothers of tribal children. Work status of mothers has declined over the period of three rounds of NFHS survey. It was also seen that more tribal mothers were engaged in economic activity than non-tribal mothers. Data on the body mass index (BMI) of mothers shows that low BMI among mothers declined over time. Data regarding mother's exposure to mass media shows that over the time exposure to mass media among mothers has increased for both tribal and non-tribal

mothers. Mothers who experienced physical violence were found to be more among tribals than non-tribals. Emotional and sexual violence also declined in the two rounds of NFHS, and was found to be more among tribal mothers than non-tribal mothers.

Data indicates that the majority (three-fourth) of children in the surveys belonged to Hindu religion and around 15 percent were Muslims. More tribal children belonged to the poorest and poorer wealth quintile than non-tribal children in all the three rounds of NFHS survey. Unsafe fuel was mostly used in tribal households. Use of unsafe drinking water and unsafe toilet facilities has reduced over time. Less number of tribal households used safe drinking water and toilet facilities than non-tribal households. More than 70 percent of households were in rural areas. It was clearly seen that more tribals were staying in rural areas than non-tribals. Region wise distribution shows that tribes were more in central, north-east and west regions.

Data on the distribution of tribal and non-tribal children (0-35 months) across States in India for NFHS-2, 3 and 4 indicates that there were almost 10 percent of tribal children in all the three rounds of NFHS survey. It was observed that States like Bihar, Haryana, Himachal Pradesh, Kerala, Delhi, Punjab, Tamil Nadu and Uttar Pradesh had less than five percent of tribal children. On the other hand, states like Arunachal Pradesh, Meghalaya, Mizoram and Nagaland had a large number of tribal children. In Jammu and Kashmir there were only around four percent tribal children during NFHS-2, whereas, in NFHS-3 and 4 it increased up to more than 20 percent.

Prevalence of malnutrition

It was opined that around 44 percent of children (0-35 months) were stunted during NFHS-2 and NFHS-3, whereas, during NFHS-4 it declined upto 36 percent. With regard to wasting, it was seen that 15.7 percent of children were found to be wasted in NFHS-2, moreover, it increased up to 22.8 and 23.3 percent during NFHS-3 and NFHS-4. Underweight declined over the three surveys. During NFHS-2 46.7 percent of children were underweight, it declined to 40.4 percent in NFHS-3 and 33.6 percent in NFHS-4. Large number of children who were delivered at home were found to be malnourished as compared to children who were delivered at any institution. Malnutrition was found to be less among children whose mothers were educated than those children whose mothers were not/less educated. More children staying in rural areas were undernourished as compared to those staying in urban areas. Children staying in the households that used unsafe fuel for cooking, unsafe toilet facilities and unsafe drinking water facilities were more undernourished than others.

Almost half of the tribal children were stunted in NFHS-2 and NFHS-3, whereas, the percentage of stunted tribal children declined to 41 percent in NFHS-4. Wasting among tribal children increased from 21.8 percent in NFHS-2, to 31.5 percent and 30.2 percent in NFHS-3 and NFHS-4. Underweight was found to be among 55.8 percent of tribal children during NFHS-2, it declined to 52.6 percent in NFHS-3 and 43.3 percent during NFHS-4.

It was evident from the analysis that tribal children, irrespective of their sex were more malnourished than non-tribal children. Malnutrition was high among tribal children who were delivered at home, who were of small birth size, whose mothers BMI was low, belonged to the poorest wealth quintile and resided in rural areas. Undernutrition was also comparatively higher among tribal children whose mothers were engaged in any economic activity than those children whose mothers were not working. Those tribal children whose mothers were exposed to mass media and received 4+ ANC were less undernourished than their counterparts.

Determinants of malnutrition

Adjusted multilevel logistic regression models were fitted to understand the association of selected demographic, socioeconomic and contextual factors, by exploiting the hierarchical nature of the survey data. The data suggests that more than one-third of the children under three years were stunted and underweight, while about one-fourth of them were wasted in India, with substantial differentials across the socioeconomic and demographic factors in 2015-2016. For instance, the burden of stunting among tribal children varied by the SES factors, as it was relatively higher among tribal children who

were male, more than one year of age, small birth size, whose mother's BMI was low and those who belonged to the poorest wealth quintiles. These results were consistent with previous studies which also found that higher malnutrition among Scheduled Tribe/Scheduled Caste children was possibly caused due to their lower socioeconomic status, low parental education and inadequate use of health care services (Van de Poel and Speybroeck, 2010). Multivariate analysis confirmed that age and sex composition of children, birth size, birth interval, maternal education and maternal BMI had statistically significant associations with the risk of wasting among tribal children in India. The likelihood of underweight among tribal children was positively associated with age, being a male child, small birth size, birth interval of more than two years, uneducated/ poorly educated mothers, low maternal BMI, and belonging to the northern geographical region of India.

The adjusted multilevel logistic regression model indicated that the risk of stunted non-tribal children had a statistically significant and positive association with age, being a male child, larger breastfeeding duration, small birth size, birth interval of more than two years, uneducated/poorly educated mothers, low maternal BMI, limited mass media exposure, poor household wealth status, urban residence, and belonging to the eastern/central/western/southern geographical regions of India. The odds of childhood wasting among non-tribals had a statistically significant and positive association with being a male child, less than one year of age, less than six months of breastfeeding, small birth size, uneducated/ poorly educated mothers, low BMI of mother, unsafe toilet facilities, and residing in the western regions of India. Other studies have also observed that household wealth, poverty, water, sanitation and hygiene, education, food systems, all have vital effects on child malnutrition (Arunkumar and Hidhayathulla, 2015; IFPRI, 2014; Singh, Alagarajan and Ladusingh, 2015; Bawdekar and Ladusingh, 2008). In a recent study, it was found that the socioeconomic inequality in undernutrition was associated

with several factors including height and education of mother, availability of safe drinking water, toilet facility and birth order of child (Singh et al., 2019). Age and sex composition of children, breastfeeding status, birth size, birth interval, mother's education, BMI of mothers, household wealth status, type of residence and regions were found to be significant predictors of underweight among non-tribal children.

Identification of Hotspots at District level

Moran's I statistic is a litmus test for presence of spatial autocorrelation. It gives us green signal for conducting spatial modelling or spatial regression analysis. Local indicators of spatial autocorrelation (LISA) technique enable us to identify the individual areas which have significant contribution in spatial autocorrelation and the makes the detection spatial clusters.

Below are the LISA Cluster Maps for identifying spatial clusters for stunting, wasting and underweight children for tribal population of India at district level.
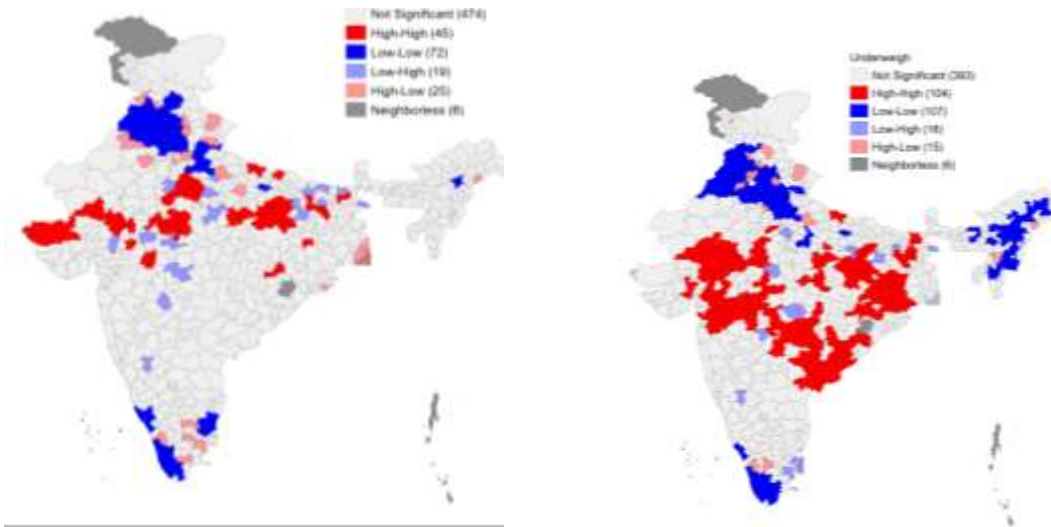
Stunting   **Underweight**
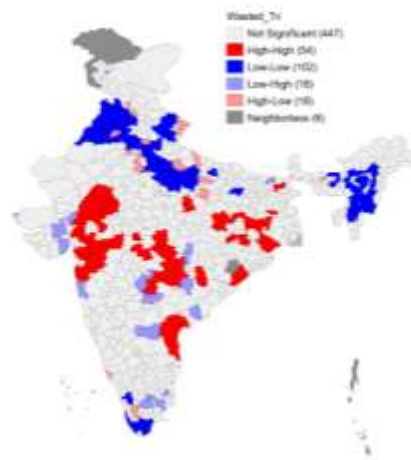
Wasting

Above maps clearly indicate the patterns of spatial clustering across all districts of India for stunting, wasting and underweight children in tribal population of India.

Conclusion and policy implications

The present study suggests that the burden of childhood undernutrition varied significantly across the social, economic, demographic and contextual factors in India. Maternal education status, wealth status, extended birth intervals and maternal body mass index (BMI) were significantly associated with anthropometric deprivation of children in India. Variance partitioning effects indicate that village/community (PSU) level nutritional interventions could help address the issue of childhood undernutrition, rather than treating districts as a homogenous unit for nutritional programme implementation. Investing in maternal education, improving nutritional status of mothers, focussing upon healthy birth spacing to increase the size of birth interval, six months of exclusive breastfeeding and more may also go a long way in improving childhood nutritional status in India. The policy implication for children in general and tribal children in particular lies in directing concerted efforts and investment towards strengthening mother's education, healthy spacing between births, at least six months of exclusive breastfeeding, and promoting the health and nutritional status of women and mothers to support the birth, growth and development of healthy and potentially productive children.

The finding underscores the fact that there persist substantial socioeconomic and contextual heterogeneities in the likelihood of nutritional deprivation among the tribal children deserves strategic policy and programme intervention. The variance partitioning in the incidence of childhood undernutrition (stunting, wasting and underweight) indicated relatively larger heterogeneity at the village/community (PSU) followed by the district level across India. This suggests that local village/community specific programmatic intervention within the districts shall be a prudent strategy for improvement of nutritional status of children. On size fit to all approaches, taking the district as a planning unit for targeting policy implementation for nutritional transformation may not be a pragmatic decision. The attenuating heterogeneities in the burden of childhood undernutrition across villages/communities, and between districts, suggest that the ongoing largescale sanitation programmes have ameliorated the disease environment at the macro level. This, in turn, underscores the fact that the role of individual and household level factors including household wealth, maternal education, healthy birth spacing between two children, and improvement in the maternal nutritional status can go a long way towards reducing the burden of anthropometric failure, particularly among children from tribal communities.

The finding underscores the fact that there persist substantial socioeconomic and contextual heterogeneities in the likelihood of nutritional deprivation among tribal children, which deserve strategic policy and programme interventions. It is noteworthy that the National Food Security Act (NFSA) 2013 promulgated a special focus on

vulnerable groups such as the tribal population with specific entitlements to support household food security through provision of subsidised food grains, nutritional support to children (free of charge) through local *anganwadi* centres (six months to six years of age), mid-day meals in school up to class VIII or within the age group of six to fourteen years. In addition, nutritional support for pregnant women and lactating mothers through local *anganwadi* centres has been provisioned (GoI, 2013). The findings from the present study underscore the need to devise targeted policy interventions to ameliorate nutritional deprivation among children, particularly from the tribal population with the most deprived socioeconomic characteristics. This calls for efforts to ensure universal access to the Public Distribution System (PDS) and Integrated Child Development Services (ICDS), especially among the socioeconomically disadvantaged tribal populations. A one size fits all approach to all tribal children, irrespective of their socioeconomic position, may not be the most efficient, and could instead be counterproductive.

1.2 Evaluation of the Impact of Antiretroviral Therapy under National AIDS Control Program in India [The ART Impact Evaluation- India Study (ARTIE-India)]

Principal Investigator:	Dr Damodar Sahu, Scientist F
Co-PI:	Dr Saritha Nair, Scientist E
Period:	June 2018-August 31,2020
Funding Agency:	NACO, MOHFW, New Delhi
Budget:	Rs 57.54 lakhs

The "Evaluation of Impact of Antiretroviral Therapy under National AIDS Control Programme in India [The ART Impact Evaluation- India Study (ARTIE-India)] is a collaborated study where NARI-ICMR, Pune is lead coordinating unit and NIMS-ICMR is one of the RP – Regional Partner 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:

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 Centers in India at National and Regional level.

To assess the implementation of the ART programme with reference to the clinical and programmatic goals of ART program under NACP.

Key summary findings from the study:

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.

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.

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.

Three research papers jointly with all partner institutes were submitted, accepted and presented in virtual mode at the international AIDS conference 2020. The title of papers are:

1. Tuberculosis reduces survival benefits of antiretroviral treatment - findings from India's free antiretroviral treatment program, 2012-17

2. Early initiation of antiretroviral treatment improves retention of persons living with HIV in large scale treatment programs - The Indian experience 2012–2017

3. Viral suppression in India's free-ART program clinics exceeds 90% - a survey among beneficiary communities in four regions

The Final report and key recommendations from ART Evaluation study are:

Prevention of Lost to Follow Up (LFU) - Trace the patients who miss ART appointment immediately, through automation and judicious human resource management, to prevent LFU and missed visits

Interventions for reducing waiting period at ARTC - Revision of salary structures, retention of competent staff, Data digitization, differentiated service delivery approach, identifying special pharmacies in public-private partnership mode

Interventions for ageing PLHIV cohort - screening of common non-communicable diseases using single-window-care strategy

Timely Linkage to ART Centres – It is essential to link the PLHIV to ARTCs as early as possible with the "Treat All" approach, to ensure timely ART initiation after diagnosis. IEC material with findings from this study and other studies related to benefits of ART on HIV transmission should be developed and used to increase awareness

Interventions to improve quality of service delivery - special attention to PLHIV with lower CD4 counts, improve provider-beneficiary ratio, strengthen counselling services at ARTC specifically related to ART adherence, improve infrastructure in ARTC

Data Management and Use of Digital Technology – data cleaning and quality checks every quarter, Unification of datasets, indicator variables, and data quality assurance, identifying key variables related to impact and linking them with dates, digital records with automated notifications for achievement / non-achievement of treatment and care indicators

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

Principal Investigator:	Dr. Saurabh Sharma, Scientist B
Co- P. Investigator:	Dr. Anju Pradhan, Scientist F, ICMR Hqrs.
Co – Investigator:	Dr. Geetha Menon, Scientist E
Period:	2019-2020
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 New-born Action Plan (INAP) has been developed in line with the WHO Every New-born 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 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.

Results

The study characteristics of the included articles are described in Table 1. Out of the 18 retrieved articles 6 were case control studies, 5 cohort studies, 4 cross sectional studies and the remaining 3 were secondary data analysis based on national level health surveys.

The sample size of the studies ranged from 128 to 5353 considering the outcome variable as perinatal deaths or stillbirth. Stillbirth was the key outcome variable in 12 studies while 6 studies reported on perinatal deaths. The study findings revealed that the most important clinical factors for perinatal mortality in India include maternal anemia, age at parity, birth order of more than three, complications during pregnancy including preeclampsia, obstructed labour and intrapartum hemorrhage in particular and fetal factors primarily low birth weight and preterm birth.

Conclusion

This systematic review found that maternal age, parity, higher birth order and maternal anaemia were major risk factors of perinatal mortality in India. Complications during pregnancy like antepartum haemorrhage, preeclampsia, obstructed labour, preterm labour were also documented as risk factors similar to those by other published studies. Fetal factors like gestational age and low birth weight were documented as risk factors for perinatal deaths. Furthermore, there is also a need to standardize the definitions used both for stillbirth and the risk factors for better interpretation of the results and improvement in the external validity of the studies and also pooled analysis of all their results especially in countries where large scale multicentric nationalized survey results and studies are unavailable. The results of this review will help in informing policy and further streamlining future thrust areas of research and assist policy makers in planning, developing, and implementing public health interventions which provide adequate antenatal and obstetric care services. This will ultimately lead to improvement in maternal health and reducing perinatal mortality at both the individual and community levels.

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

Principal Investigator:	Dr. Bal Kishan 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

Introduction

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. The cause of death pattern gives a clear idea about the mortality situation in the study population. The causes of death patterns are different for males and females. It is very important to look into the role of each cause in influencing 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 current study aims to estimate the gain in life expectancy by age after partial and complete elimination of ten leading causes of deaths *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) in India and selected states by constructing multiple decrement life tables and cause-eliminated life tables. The analysis will also focus on infectious diseases which is one of the national health programme's elimination targets.

Data and Methodology

The study analysed the secondary data of Medical Certification of Causes of Death (MCCD) for the year 2017 available under the domain of the Registrar General of India (RGI).

Constructed the life tables for all cause-specific deaths for both males and females for India and selected states separately. Also constructed the life tables for cause-deleted partial (25%, 50%, 75%) and complete (100%) elimination of ten leading cause of death groups. The calculated life expectancy at birth for India in 2017 is 73.4 years for males and 75.8 years for females compared to SRS life expectancy at birth of 71.5 years for males and 73.8 years for females in 2014-18. Among males, life expectancy at birth is highest in West Bengal (75.6 years) and lowest in Chhattisgarh (67.6 years), compared to highest in Delhi (80.8 years) and lowest in Uttar Pradesh (71.1 years) among females.

Results

The results show that partial (25%) elimination of diseases of the circulatory system contribute maximum gain in life expectancy at birth in males (2.43 years) in Andhra Pradesh and in females (2.45 years) in Haryana; followed by diseases of the respiratory system in males (1.26 years) in Jharkhand and in females (1.26 years) in Uttar Pradesh; certain infectious and parasitic diseases in males (0.87 years) in Uttar Pradesh and in females (0.82 years) in Delhi; and neoplasms in males (0.62 years) and in females (0.50 years) both in Kerala.

Partial (50%) elimination of diseases of the circulatory system lead to maximum gain in life expectancy at birth in males (5.46 years) in Andhra Pradesh and in females (5.57 years) in Haryana; followed by diseases of the respiratory system in males (2.72 years) in Jharkhand and in females (2.68 years) in Uttar Pradesh; certain infectious and parasitic diseases in males (1.80 years) in Uttar Pradesh and in females (1.69 years) in Delhi; and neoplasms in males (1.27 years) and in females (1.02 years) both in Kerala.

Partial (75%) elimination of diseases of the circulatory system lead to maximum gain in life expectancy at birth in males (9.36 years) in Andhra Pradesh and in females (9.69 years) in Haryana; followed by diseases of the respiratory system in males (4.42 years) in Jharkhand and in females (4.29 years) in Uttar Pradesh; certain infectious and parasitic diseases in males (2.77 years) in Uttar Pradesh and in females (2.61 years) in Delhi; and neoplasms in males (1.97 years) and in females (1.56 years) both in Kerala.

Complete (100%) elimination of diseases of the circulatory system lead to maximum gain in life expectancy at birth in males (14.64 years) and in females (15.49 years) both in Haryana; followed by diseases of the respiratory system in males (6.45 years) in Jharkhand and in females (6.17 years) in Uttar Pradesh; certain infectious and parasitic diseases in males (3.82 years) in Uttar Pradesh and in females (3.58 years) in Delhi; neoplasms in males (2.71 years) and in females (2.11 years) both in Kerala; diseases of blood & blood forming organs & certain disorders involving the immune mechanism in males (2.58 years) and in females (1.94 years) both in Jharkhand; endocrine, nutritional and metabolic diseases in males (2.02 years) in Odisha and in females (2.81 years) in Kerala; diseases of the digestive system in males (1.95 years) in Punjab and in females (1.25 years) in Uttar Pradesh; injury, poisoning and certain other consequences of external causes in males (1.91 years) in Karnataka and in females (2.02 years) in Telangana;

diseases of the genitourinary system in males (1.42 years) in Andhra Pradesh and in females (1.56 years) in Punjab; and diseases of the nervous system in males (0.81 years) and in females (1.06 years) both in Jharkhand.

It is worthy to note that partial as well as complete elimination of the circulatory diseases leads to maximum gain in life expectancy at birth in males and females in India and selected states.

Conclusion

As per study findings, the maximum benefit in terms of gained years would be obtained after implementing the intervention programmes for reducing mortality from diseases of the circulatory system. It is generally accepted that the main risk factors for circulatory diseases can be influenced by lifestyle changes with focus on both behavioural and dietary habits. These findings may have implications for practical decision making in setting up health goals, allocating resources and launching tailor-made health care programmes. The reduction in mortality due to the causes and its effect on the changes in life expectancy at birth is a useful way to evaluate the impact of interventions on population health and setting priorities for health research.

Translation Potential

The study found that diseases of the circulatory system are the largest contributor to disease burden and are a major public health problem leading to premature deaths and morbidity across all selected states of India which is similar to the findings of GBD 2016 India State-Level Disease Burden Initiative. The National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS), launched in 2010, aims to prevent and control disease burden through early screening, behavioural change, and capacity building for human resources and infrastructure. As of March 2017, non-communicable diseases (NCD) units were established in all states and union territories, implementation of these and other efforts across the country needs more time to show progress towards achieving national and global targets for non-communicable diseases, including cardiovascular diseases.

HIV Surveillance and Estimation

1.5 District level HIV Estimates 2017 under National AIDS Control Programme (NACP)

Principal Investigator:	Dr Damodar Sahu, Scientist F
Co-PI:	Dr Saritha Nair, Scientist E
	Dr Kh. Jitenkumar Singh, Scientist D
	Dr Anil Kumar, Scientist F
Period:	April 2018-March 31, 2021
Funding agency:	NACO, MOHFW, New Delhi
Budget:	55.16 Lakhs
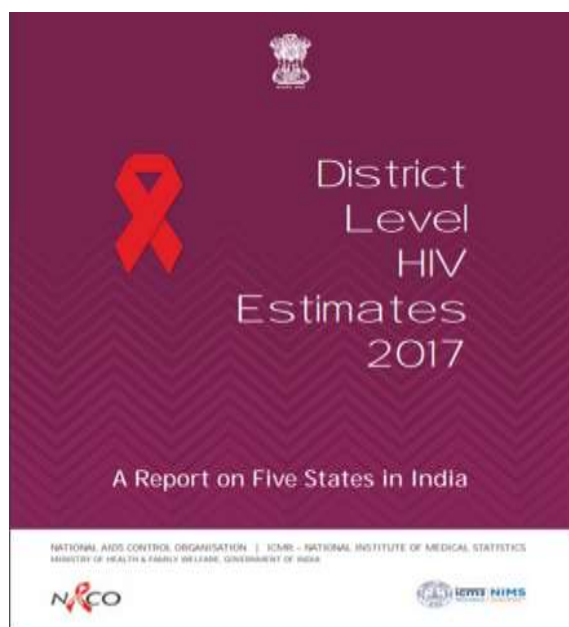
Background:

The biennial HIV Estimation exercise is carried out in India by ICMR-NIMS in collaboration with National AIDS Control Organization (NACO), Ministry of Health and Family Welfare (MOHFW), GOI. The 2017 HIV Estimation round provided updates on the status of HIV epidemic in India at the national and State/UT level. The district level HIV estimates on key indicators have been generated to respond to the needs of the National AIDS Control Programme (NACP) of providing more nuanced epidemiological information on the HIV epidemic at the district level. The aim was to analyse the granular HIV epidemic data to inform the decentralized programme planning, prioritization and resource allocation. Therefore, under the 2017 HIV estimation round, a pilot exercise of district level HIV estimates was undertaken in five States of Gujarat, Maharashtra, Mizoram, Tamil Nadu and Uttar Pradesh.

Objective:

To generate the results on the key five indicators of HIV Prevalence, People Living With HIV(PLHIV), Annual New HIV Infections, AIDS Related Deaths (ARDs) and Prevention of Mother to Child Transmission (PMTCT) need at district level.

Methodology:

The primary step in the process of generating district-level HIV estimates was to select a suitable method for India. Five methods were tested by the National Working Group (NWG) on HIV Estimations. Each method and key indicator result available was reviewed in a series of NWG meetings. A checklist was prepared based on a set of criteria to assess the strengths and weaknesses of each method, and key indicator results that could be generated and to aid in the decision-making process of selecting the best method.

The following five methods were considered under the pilot project

Spectrum based methods

· District specific models (and then aggregation)

· Sub-epidemic creation in State model

· Disaggregation method using direct incidence input method Workbook

· Disaggregation of State PLHIV estimates

· Population and prevalence-based estimates

On the approval of the NWG, spectrum based disaggregated method was recommended and found to be robust scientific method and most suitable for district level HIV Estimates. The Spectrum software had also been used to generate HIV estimates at the national and state levels and this resolved the issue of comparability of the estimates across various geographic locations. The Spectrum model-based HIV district-level estimation was as data intensive as most of the other methods tested.

The Spectrum 5.63 version which had been used to generate HIV estimates under the 2017 round for national and State/UT levels, was also used to generate district estimates for the five States included in the pilot exercise under this round, for consistency and comparability.

The process of generating district level HIV Estimates

· The collation of all the district wise data sets

· Referring to the finally approved and validated State/ UT Spectrum file

· To update the epidemic configuration in the EPP component of AIM

· Defining sub-populations

· Defining the population size, the proportion of males and turnover

· To define the proportion of the population that was male.

· Defining the population turnover

- Inputting the HIV prevalence data from HSS data, a key data source in modelling work

- Inputting the ANC HIV positivity data and curve-fitting

- Calibration of the general population prevalence curve considering NFHS data the results generated were presented to the experts in the NWG meetings for the recommendations and guidance on further steps. The TRG approved the methods and the final results for the district level HIV burden estimates in 5 States.

Key findings

The district level HIV estimates provided clear indication on the areas where adult HIV prevalence and number of people living with HIV is large. They also provided insight about areas where annual new HIV infections, annual AIDS related deaths, and need for services to prevent mother to child transmission of HIV (PMTCT) are higher. This information will contribute to prioritization and scale-up of HIV prevention, diagnosis, and treatment services in the concerned districts.

In Gujarat State, the top five districts estimated to have the largest number of PLHIV are Surat, Ahmedabad, Kheda, Sabarkantha and Bhavnagar. Districts of Kheda, Surat, Ahmedabad, Mehsana, Bhavnagar and Sabarkantha showed the highest number of annual new HIV infections and annual AIDS-related deaths. The need for PMTCT services were also observed to be relatively higher in these districts.

In Maharashtra State, the districts estimated to have the largest number of PLHIV were Mumbai Suburban, Pune, Thane and Palghar and Solapur. In Maharashtra, the districts of Solapur, Akola, Mumbai Suburban, Buldhana and Dhule were estimated to have the largest number of annual new HIV infections. The number of annual AIDS related deaths were high in Mumbai Suburban, Pune, Thane and Palghar, Solapur and Sangli.

In Mizoram State, Aizawl, Champai, Lunglei, Mamit and Kolasib were the five districts with the largest number of estimated PLHIV. These five districts – along with Serchhip showed the largest number of estimated annual new HIV infections, annual AIDS-related deaths and need for PMTCT services.

In Tamil Nadu State, the districts with the highest number of PLHIV were Salem, Vellore, Chennai, Villupuram and Madurai. Districts in the State accounting for the largest number of annual new HIV infections were Salem, Viluppuram, Chennai, Madurai and Coimbatore.

In Uttar Pradesh State, Lucknow, Gorakhpur, Kanpur Nagar, Basti and Aligarh districts had the largest number of PLHIV. Aligarh, Ambedkar Nagar, Lucknow, Kanpur Nagar and Sultanpur were the top five districts with the largest number of annual new HIV infections. The districts of Lucknow, Gorakhpur, Kanpur Nagar, Basti and Aligarh had

the highest number of estimated annual AIDS-related deaths. PMTCT need was also estimated to be higher in these districts, as compared to others in the State

The technical report for the District HIV Estimates 2017 was virtually disseminated in 2020 and available on the NACO website.

1.6 District level HIV burden estimation in India (2019) under National AIDS control Programme (NACP)

Principal Investigator:	Dr. Damodar Sahu, Scientist F
Co- Principal Investigators:	Dr. Saritha Nair, Scientist-E,
	Dr. Kh Jitenkumar Singh, Scientist-D
	Dr. Anil Kumar, Scientist- F
Period:	1 year (April 1, 2020- March 31, 2021)
Funding agency:	NACO, MoHFW, New Delhi
Budget:	Rs 38.54 Lakhs
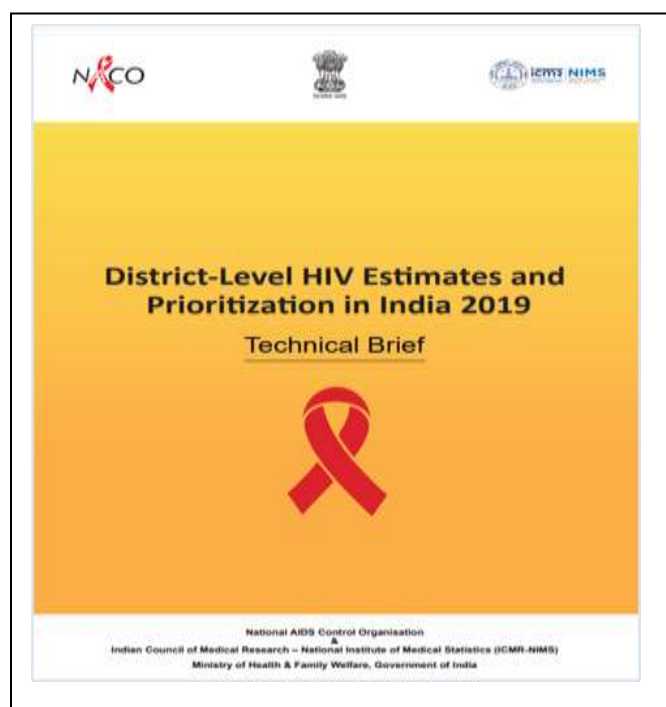
Background:

Indian Council of Medical Research- National Institute of Medical Statistics (ICMR-NIMS) undertakes HIV burden estimations periodically in collaboration with National AIDS Control Organisation (NACO), Ministry of Health and Family Welfare (MoHFW), Government of India. The estimates not only provide an update on the latest status of HIV/AIDS epidemic but also contribute to evidence-led national AIDS response.

Since 1998, HIV burden estimations under the National AIDS Control Programme (NACP) have been providing critical epidemiological data by State/ Union Territory (UT). This is done through a robust institutional structure that includes State AIDS Control Societies, National and Regional Institutes of Surveillance and Epidemiology, independent experts, and multi-lateral/bilateral partners under the guidance of NACO's Technical Resource Group (TRG) of HIV Surveillance and Estimation. The National AIDS Control Programme of India has a strong decentralized sub-national level focus. To be able to augment these efforts and inform more nuanced geographic prioritization in high burden areas or where the new infections may be increasing or not declining as rapidly in line with the national targets in the National Strategic Plan 2017-24, a need was felt to have more granular epidemiological information available via district level HIV estimates on key indicators to reach 'the last mile' in AIDS response.

In view of the augmented bottom-up decentralized planning, the district-level HIV burden estimation was first piloted for five States in the 2017 round. Based on the pilot, the Spectrum-based sub-epidemic disaggregation method for district-level HIV burden estimation was approved by NACO's Technical Resource Group (Surveillance and Estimation). The district-level HIV burden estimations (2019) was undertaken as per the approved method for 735 districts of India using the 2019 State/UT models.

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

Method:

 The UNAIDS Global Reference Group on HIV Estimations, Modelling and Projections recommended software spectrum version 5.8 was used in the 2019 district level HIV burden estimations. The spectrum based sub-epidemic disaggregation method approved by NACO's Technical Resource Group (Surveillance and Estimation) was the adopted methodology in district level HIV burden estimates.

Data:

We used the 2019 round estimate spectrum file as base and the epidemic configuration of each State/UT was updated and considered each district as sub epidemic and within each sub epidemic sub populations of general population and HRG population was created. The general population and the HRG population size data was collated for each district based on the data availability. The epidemiological data for the sub populations were borrowed to the neighbouring districts, in case of available population size data but no epidemiological data. Population size of each subpopulation was added in each sub epidemic. Data from HIV Sentinel Surveillance from antenatal clinics and data from routine HIV testing among pregnant women was used to inform the epidemic curve. For HRG population the prevalence data available form HIV Sentinel Surveillance (HSS), Integrated Biological and Behavioural Surveillance (IBBS) and Integrated Biological and Behavioural Surveillance (IBBA) was used to inform epidemic curve. EPP classic curve was used in curve fitting. Relative burden of HIV for each district was calculated based on the district wide sub population summary. The process of district level HIV burden estimation in India 2019 is given below:

Process:

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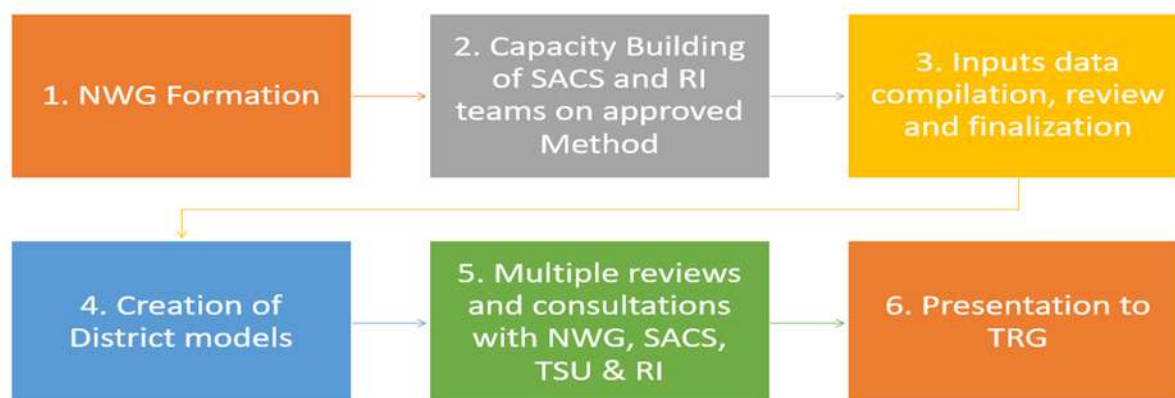
The data compilation and data collation were done for all the states/UTs and subsequently reviewed and discussed for key data issues by all stakeholders. Data was inputted in the spectrum, curve fitting done and state models for each state was created.

The three rounds of the National Working Group (NWG) meeting was held and progress reviewed and guidance sought for the key data related problems with the experts. The decisions taken during the NWG meetings were incorporated into the data sets and corrections made accordingly. The revised documents are being shared with the states for their review and feedback following NWG.

There were few state specific comments from the panel of experts and to discuss the same review meeting with Regional Institutes, SACS & TSUs on district level HIV estimations 2019 was organized from February 2-4 & 9-11, 2021. The final state specific results were presented to stakeholders for final review and validation with the MLL data.

The district-level HIV burden estimates 2019 for 725 districts of India and programmatic implications (district prioritizations) were presented to the technical resource group of Surveillance and Estimation for approval on 26th March 2021 and it was approved with recommendations. The technical report dissemination took place on 1st December, 2021.

Summary Findings

District-level HIV Burden Estimates (2019) corroborates the diversity of HIV/AIDS epidemic in India. The adult HIV prevalence in the districts of the country ranges between <0.10% and 4.00%. The number of people living with HIV (PLHIV) in the districts ranges between <100 and 57,000, with around 90% of infections in 360 districts. The annual new HIV infections (among people aged 15+ years) in the districts range between <50 and 2,600, with around 90% of the new infections in 340 districts. The annual

prevention of mother-to-child transmission (PMTCT) needs in the districts ranges between <10 and 450, with 90% of the total PMTCT need in 400 districts.

The wide diversity of HIV/AIDS epidemic in the country signifies the need for programme management and monitoring considerations. While the epidemic is extremely diverse, there are some districts that are relatively more affected, in terms of either the prevalence or the PLHIV size, than the rest and thus need to be assigned a differentiated priority level.

There are 299 moderate and high priority districts in the country that comprise 84% of the PLHIV size, 76% of the new infections and 80% of the PMTCT need. Saturating these districts with a spectrum of HIV prevention–testing –treatment–retention services will provide maximum returns on the investments. However, attainment of the 2025 and 2030 prevention–testing–treatment and elimination of mother-to-child transmission (EMTCT) goals under NACP will require suitable coverage of the remaining districts also.

The current district-level HIV burden estimation, the first round providing pan-India estimates, is a natural evolution of the robust strategic information and its uses at the granular level under the programme. The subsequent rounds will further benefit from triangulation, analysis and local intelligence, especially district-level personnel, which will thus provide useful lessons on what worked and what needs improvement.

1.7 Estimation of Probability of HIV related Mortality on ART by CD4 counts among PLHIV

Principal Investigator:	Dr. Damodar Sahu, Scientist F
Period:	1 year (April 1, 2020- March, 2021)
Funding agency:	NACO, MoHFW
Budget:	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:

IMS PLUS DATASET

IMS total records received 27,21,571	Records excluded: 2,59,725

IMS total records received
27,21,571

Records excluded: 2,59,725
- Patient type P, T and value other than N — 29,354
- Pre ART no which has word delete: — 30,745
- Records which were blank and had only pre ART no : — 124
- Duplicate records — 1788
- Registration date 0 or before 2004: — 74, 204
- ARTC code missing:: — 566
- Records other than 396 ARTCs: — 1,22,944

Records selected for 396 ARTCs
24,61,846

Records excluded: — 2,59,725
- Patient type P, T and value other than N — 29,354
- Pre ART no which has word delete: — 30,745
- Records which were blank and had only pre ART no : — 124
- Duplicate records — 1788
- Registration date 0 or before 2004: — 74, 204
- ARTC code missing: : — 566
- Records other than 396 ARTCs: — 1,22,944

Note 1243899 MLL records could be merged

IMS Plus (MLL data merged)
13,50,578

Records excluded: 516111
- Status other than alive, death & LFU: — 6287
- Last date missing records were excluded: — 1,26,420
- Last visit date was less than either registration date or ART start date records were excluded: — 6167
- Duplicate records: — 1788
- Pre-Evaluation 2010-12: — 377237

Final IMS Plus dataset for survival mortality analysis
(Only alive, death and LFU)
Records for analysis 2012-17
8,34,467
Adult-7,83,981, Children-50,486

Key Findings:

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 carried out for the entire cohort data i.e., study evaluation period 2012-2017.

Overall mortality rate was higher among PLHIV male and transgender compared women, also higher among older age group (60+). It was found that overall mortality was low among PLHIV (both adult and children) those on ART compare to PLHIV who never initiated ART. Among those who never initiated ART, mortality was high among PLHIV having TB co-infection (53.3%), with CD4 count <= 200 cells/mm² (around 59%).

Survival probability of adult PLHIV those on ART was 0.89, 0.85, 0.81, 0.77, 0.82 after 1 year, 2 years, 3 years, 4 years and 5 years respectively compared to HIV children at the end of 2 years, 3 years, 4 years and 5 years after initiating ART, survival probability was 0.93, 0.90, 0.87 and 0.81 respectively. The probability of surviving was higher among women compared to men irrespective on ART status. It was also observed that survival probability decreases with increased age whereas survival probability increases with increased CD4 count among both on ART or not on ART, but survival probability low among those not on ART.

COVID-19 related projects

1.8 Mental Health and social stigma among healthcare personnel involved in the management of COVID-19 patients in India- Data Management, Analysis and reporting unit

Principal Investigator:	Dr. Geetha R Menon, Scientist E
Co–Investigators:	Dr. Sumit Aggarwal, Scientist C, ICMR Hqrs.
	Dr Ravinder Singh, Scientist C
	Dr. Kh Jitenkumar Singh, Scientist D
	Dr. Jeetendra Yadav, Technical Officer II
Overall Coordination:	Dr M Vishnu Vardhana Rao, Director
Period:	September 2020-April 2021
Funding agency:	ICMR
Budget:	INR 6,55,584

Background:

COVID-19 has inundated the entire world disrupting the lives of millions of people. The pandemic has stressed the healthcare system of India impacting the psychological status and functioning of health care workers. The aim of this study was to determine the burnout levels and factors associated with the risk of psychological distress among healthcare workers (HCW) engaged in the management of COVID 19 in India. It was imperative to understand the mental health status, social stigma and coping strategies from the perspective of different healthcare personnel in India that would provide ways to mitigate the current circumstances and help build resilience in the management of future unpredictable and inevitable situations. It was expected that this understanding would help in formulating, designing and implementing need based intervention strategies for the healthcare personnel for coping with these psychological factors as well as practical challenges.

Objectives:

1. To assess the occurrence of psychological distress, including depression, burnout, anxiety and other associated mental health outcomes among healthcare personnel (doctors, nurses, laboratory technicians, etc.) engaged in COVID-19 management

2. To gain insight on the experiences with regard to stigma faced by the health care providers, challenges in work and family relationships and individual challenges (sleep, eating patterns etc)

3. To explore and understand the coping mechanisms adopted by the healthcare personnel

4. To explore the perception and expectations of healthcare personnel on interventions that could mitigate the stigma associated with the COVID-19.

Methodology:

Study population

The study group consisted of doctors, nurses, ambulance emergency response teams, lab personnel, X-ray technicians and others who were directly involved in patient care in COVID designated hospitals, from facilities involved in triaging services and referrals to the COVID designated hospitals or labs processing the COVID samples. In addition to healthcare workers the study included the accredited social health activist (ASHA) and community health workers involved in case identification, contact tracing, prevention and control measures for COVID 19. The health care workers were further stratified as those employed in private and public facilities.

Study Design

The study was a mixed methods design (Embedded Correlational Model) in which a qualitative component is embedded within a quantitative framework. The quantitative component provided the distribution of persons at risk of psychological distress, including burnout, anxiety and the qualitative component provided answers to the extent of social stigma, perceptions and coping mechanisms of health care providers.

Sampling strategy

The quantitative component was undertaken as a cross-sectional survey of all health care personnel who met the inclusion exclusion criteria. Assuming a prevalence of psychological morbidity of 50% among the health care providers, a minimum sample size to determine the proportion of mental health problems with an alpha error of 5% with 15% non-compliance was 452. Accounting for a design effect of 2.0 for possible clustering in view of including health personnel from the same facility the minimum sample size required was 450X2= 900 at a national level from ten study sites. To ensure equal participation of all types of health workers it was decided to include 14 doctors, 14 nurses, 14 aux. nurses, 14 laboratory staff, 14 support staff and 14 wards boys plus 3 ASHA workers and 3 CHWs per centre. Assuming that about 20% of the health workers in each state who would be engaged in COVID-19 management belong to private health facilities, this sample was divided as 180 health personnel from private facilities and 720 personnel from public health facilities all over India.

Data collection Instruments used in the study were:

Quantitative component:

I. Semi-structured proforma to cover basic demographic details and COVID-19 exposure
II. Burnout questionnaire (ICMR- NIOH)
III. General Health Questionnaire -5
The GHQ score of 2 or more indicated risk of psychological distress and these HCWs were advised for further psychiatric evaluation.

Qualitative Component:

An in-depth Interview Guide was used to collect qualitative data that covered the following areas: Impact on work life 2) Impact of family 3) Impact of wellbeing 4) Coping 5) Suggestions to mitigate stigma.

Telephonic interviews were conducted for both the quantitative as well as qualitative component of the study to gather data from the selected hospitals after gaining the essential ethical approval from the concerned authority in the health facility. Due to the safety measures taken within the scope of COVID-19, individual, in-depth interviews were conducted telephonically based on the mutual convenience of the investigator and the participants; an appointment was arranged for a telephonic interview. Consent forms and information sheets were then read out.

Results:

Quantitative: Findings from the study showed that more female workers (56.1%) were at risk of psychological distress than males especially in Kerala and Maharashtra. Doctors and nurses had significantly higher GHQ >=2 as compared to nonmedical HCWs. More than 65% of the HCWs from Delhi, Tamil Nadu, and Meghalaya reported higher risk of psychological distress involved in isolation of COVID cases, caring of patients, those in the intensive care units, those involved in contact tracing and in transporting COVID patients were at significantly higher risk of psychological distress than other workers. Delhi reported the highest emotional score followed by Meghalaya and Tamil Nadu. More than 35% of the HCWs felt sleepless and had loss of appetite, felt frustrated and worried constantly about their work. The mean depersonalization score for those with GHQ>=2 was higher (7.25) as compared to those with GHQ <2 (6.10) which indicate that there was more burnout among those HCWs whose GHQ score was >=2. Those HCWs with a higher emotional exhaustion score of more than 15 were more at risk of psychological distress (GHQ>=2). Delhi reported the highest emotional score followed by Meghalaya and Tamil Nadu.

Qualitative: The psychosocial impact of COVID 19 on health workers has been worrisome. The impact on work life has been with regard to changing work load, erratic

working hours, challenges with using the PPE and the need to be away from family for long periods. The impact on family has a big toll especially on women who cannot function effectively as caregivers leaving psychological trauma especially as they need to stay away from home and cannot care for their children, balance their work and home life commitments as well as the contact fear of infecting their loved ones. The impact on self has led to disruption in sleep, eating and lack of time for oneself with no physical exercise but adjusting with the little time they have through prayer, listening to music. The strategies of coping have been through family support, peer support, organisational support and focussing on positive incentives.

Public health impact:

The study showed that positive facilitators for coping include appreciation from society, health authorities and the feeling of being useful despite risk. There was a need for psychological support services, a strong and vigilant health system to respond to the challenges that HCWs face and provide them with what they require such as health insurance, incentives and support to balance work and family was largely expressed. The role of media to promote right information and prevent misinformation as well the need for strong community engagement and engagement of health workers in sensitization of communities through positive approaches was recommended.

1.9 Factors related to COVID-19 Stigma: A Mixed Methods Study

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Co-PI:	Dr S. Aggarwal, Scientist C, ICMR-Hqrs.
Overall Coordinator:	Dr. M V V Rao, Director, ICMR-NIMS
Co–Investigator:	Damodar Sahu, Scientist F,
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	Dr. Saurabh Sharma, Scientist B;
	Dr. Jeetendra Yadav, Technical Officer II
Site PIs:	Dr S. Sahay, Scientist G, ICMR-NARI;
	Dr V Diwan, Scientist E, ICMR-NIREH,
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	Dr B. Mishra, Scientist C, ICMR-RMRCBB,
	Dr G. Yadav, Technical Officer, ICMR-RMRCGKP,
	Dr K Rekha, Scientist E, ICMR-RMRCD,
	Dr A. Joshi, Assistant Professor, TISS, Mumbai;
Funding agency:	ICMR
Period:	July 2020-March 2021
Budget:	Rs 9,43,800

Introduction:

Covid-19 pandemic resulted in social stigma and discrimination towards individuals perceived to be infected or more vulnerable. Lesser-known facts on SARS COV-2, myths and misinformation circulated over print, electronic and social media harboured an environment of fear and stigma. Few studies in India have explored the experiences of stigma among COVID-19 positive individuals, the perceptions of stigma attitudes prevalent in the community or the factors associated with it. This study provides insight into the stigma associated with the COVID-19 and suggests the potential strategies for mitigation of such stigmatization.

Methodology:

 A mixed methods study to understand the factors related to COVID-19 Stigma was undertaken by ICMR-National Institute of Medical Statistics, New Delhi in collaboration with six ICMR institutes (ICMR-NARI, Pune; ICMR-NIRT, Chennai; ICMR-NIREH, Bhopal; ICMR-RMRC Bhubaneswar; ICMR-RMRC Dibrugarh & ICMR-RMRC Gorakhpur) located across India and Tata Institute of Social Science, Mumbai in 18 districts in 7 states, namely, Delhi, Uttar Pradesh, Madhya Pradesh, Odisha, Tamil Nadu, Maharashtra, Assam. After obtaining informed consent, data were collected telephonically from individuals who recovered from COVID-19 and individuals from the community (who were not infected till the time of the data collection) during August

2020-February 2021. Two scales to assess stigma viz experiences (13 statements) among COVID-19 recovered individuals as well as perceptions of the community on stigma attitudes towards COVID-19 (6 statements) were developed and translated into 5 languages (Hindi, Marathi, Odiya, Assamese, Tamil). Data using structured interview schedule elicited information on socio demographic characteristics, COVID-19 knowledge and risk perceptions, stigma (experiences as well as perceptions of the community on stigma attitudes towards COVID-19 using three-point Likert scales (scored as 0-disagree, 1-can't say and 2-agree)) from 2281 respondents (1978 from the community & 303 recovered from COVID-19) in quantitative survey. In-depth information using interview guides on experiences of stigma by the COVID-19 recovered individuals and perception of prevailing stigma attitudes in the community were collected from 221 respondents (83 COVID-19 recovered and 138 communities). Data obtained through quantitative data was entered into the CS Pro package and exported to SPSS for analysis. The scores from the individual statements were added to compute composite stigma scores. Stigma score ranged from 0 to 26 for COVID-19 recovered Stigma experience scale and 0 to 12 for community perceptions of stigma attitudes towards COVID-19 individuals. This composite stigma score was categorised based on tertiles (two points that divide an ordered distribution into three parts, each containing a third of the population) i.e. mild (less than first tertile distribution stigma score), moderate (between first and second tertile distribution stigma score) and severe stigma (more than and equal to second tertile distribution stigma score). Univariate and bivariate data analysis were carried out to identify the factors associated with COVID-19 stigma. In-depth interviews conducted in respective regional languages were audio recorded with permission of the respondent, transcribed to regional language and translated to English and typed. Word files were then imported to NVivo software and thematic analysis was conducted.

Results:

Findings of the quantitative study showed that more than 60 percentage of the study participants were aware of the correct cause, modes of transmission and preventive measures of COVID-19. Majority (80.5%) COVID-recovered participants from study sites reported to have experienced at least one form of stigma and 51.3% of respondents from the community reported severe stigma attitudes towards those diagnosed with COVID-19. The experience of stigma varied across the study sites. Fear of infection and lack of adequate knowledge were observed to be associated with stigma. In-depth analysis suggests that stigma, in few cases, resulted in non-disclosure of COVID-19 status and delayed treatment, mental distress such as feeling sad, hopeless and isolated, reduced social network as a result of social boycott post recovery and loss of income due to termination from job. Study highlights the need for timely interventions to mitigate stigma by increasing awareness on the modes of transmission and measures of prevention of COVID-19 and misconceptions of risk that promote stigma through visual, print and social media. Additionally, psychosocial intervention strategies through trained counsellors should be provided for those quarantined, infected as well as recovered for better coping and acceptance in the community.

Negative implications of stigma in prevention strategies particularly, delay in testing and treatment seeking is noted in the in-depth interviews and has to be addressed along with the epidemiological interventions. Creating awareness among individuals and communities through print and social media on the modes of transmission of the COVID-19 and reiteration on ways of prevention while taking care of those infected in families or staying in proximity (neighbourhoods) may help reduce stigma. Study emphasizes psychosocial intervention strategies through trained counsellors for those quarantined, those infected as well as those recovered for better coping and acceptance in the community.

1.10 Impact of COVID-19 on maternal and child health services through the public health system in India.

Principal Investigator:	Dr. M Vishnu Vardhana Rao, Director
Co-PI:	Dr S. Aggarwal, Scientist C, ICMR Hqrs.
	Dr Saurabh Sharma, Scientist-B
Co–Investigators:	Dr. Anil Kumar, Scientist-F
	Dr. Damodar Sahu, Scientist-F
	Dr. Tulsi Adhikari, Scientist-E
	Dr. Saritha Nair, Scientist-E
	Dr Atul Juneja Scientist-E
	Dr. Kh Jitenkumar Singh, Scientist D
	Dr. Lucky Singh, Scientist D
Site-PI:	Dr. Rajni Kant, ICMR-RMRC-GKP.
	Dr. Ragini Kulkarni, Sc-E, ICMR-NIRRH
	Dr. Dinesh Kumar, Scientist E, ICMR-NIRTH
	Dr. K Rekha, Scientist E, ICMR-RMRCD
	Dr. B. Mishra, Scientist C, ICMR-RMRCBB
	Dr. Gaurav Dwivedi, Sc-C, ICMR-RMRC-GKP.
	Dr. Raja Srishwan, Sc-C, ICMR-NIN.
Period:	July 2020-March 2021
Funding agency:	ICMR
Budget:	INR 5,00,000

Background:

The National health Policy of India emphasises on universal health coverage with specific targets for reduction of both maternal and infant mortality in India by the year 2025. The impact of COVID-19 on maternal and child health services is yet to be ascertained in India, however experience from even developed countries have shown disruption of essential health services especially health services for the pregnant mothers and new-born. The study aims to assess the impact of the ongoing COVID-19 epidemic on the Maternal and Child health service in India. Although outreach services for MCH care have been restricted, the Government of India has taken measures to ensure that beneficiaries visit peripheral facilities on particular dates as informed to them telephonically or through ASHAs. It would be important to assess the likely impact of these measures on the demand and uptake of MCH services amidst the fear and panic induced by COVID-19 and further guide policymakers to address the gaps.

Objectives

1. Assess trends of antenatal care visits, maternal and paediatric admissions, institutional deliveries, emergency obstetric care, abortion care, new born care and postnatal care at the health care facility level during COVID-19 epidemic.
2. Assess trends of childhood immunization during the COVID-19 outbreak.
3. Assess and understand the health seeking behaviour of women with respect to MCH services during the COVID-19 epidemic.
4. Assess the challenges and response strategies of the health system delivering MCH services during the COVID-19 epidemic.

Methodology:

The immediate impact assessment was done via a two-pronged strategy.

1. Rapid assessment survey with structured tools (questionnaires) through telephonic interviews of both the health care workers and MCH beneficiaries.

2. Analysing the data available through the Health Management Information System (HMIS).

Rapid assessment surveys (RAS) were carried out to gather information on antenatal care visits, maternal and paediatric admissions, institutional deliveries and newborn care at the health care facility level, childhood immunization, health seeking behaviour among beneficiaries of MCH services and challenges and response mechanisms of the health care workers delivering MCH services during COVID-19 epidemic. RAS is a formative exercise and does not fulfil high standards of scientific study design, but will cover different groups of respondents and is likely to yield sufficient insights for effective planning and implementation. The country was divided into 6 zones, viz, North, South, East, West, North East and Central and from each zone three districts were selected. The comparison between red and green zones will provide useful information for impact assessment and highlight the differences as well as similarities of the impact on MCH services.

 Health Management Information System (HMIS):

The country was divided into 6 zones, viz, North, South, East, West, North East and Central and from each zone six districts were selected. Further, these districts will be categorised according to the COVID-19 case load, as red zone and green zone. Thus, all the districts in the HMIS will have two category tags, viz, Geographical Zone and Covid-19. Under each zone, one district will also be selected based on the NITI Aayog strategy on Transformation of Aspirational districts initiative (TADI) list to further understand the impact on low performing districts.

For assessing the short-term impact, three time periods will be considered: Pre-COVID with January, February 2020 as baseline; During COVID March, April, May, June 2020.

For the immediate impact assessment Pre-COVID and during COVID periods were considered with comparative analysis of yearly trends.

Results:

This study intends to document the impact of COVID-19 on maternal and child health services from both the demand and supply perspectives. A total of 540 MCH beneficiaries and 18 gynaecologists, 18 paediatricians, 17 District Immunization Officers and 108 frontline health workers (i.e., 90 ASHA workers and 90 ANMs) were interviewed. The overall response rates for MCH beneficiaries and health care workers were 66% and 88% respectively. COVID-19 has had an impact on both institutional level services as well as outreach services and the effect seem more on the institutional level services. The present analysis clearly shows that the ANC registration in 2020 witnessed a decline in the month of March and April in all seven states compared to 2019 which might be due to the lockdown restrictions which lead to both interruption in health care delivery services as well as decreased demand due to fear of COVID-19 among the beneficiaries. The major challenges faced by the beneficiaries were related to lack of transport facilities during the lockdown, interrupted hospital-based services both in public and private health facilities, and disrupted outreach services like routine antenatal care and supplementary nutrition.

Similar findings have been reported by studies from India and globally [15,21,22,27,28]. Studies have highlighted the need to explore alternative measures that target community-based MCH services rather than just a healthcare-oriented approach in situations of restricted mobility during the lockdown and lack of transport to reach the health facilities. A study in Kenya suggests adopting a midwifery model for delivering MCH services during COVID-19, in which midwifery centres are located close to the community[31].

As reported by health officials, the supply-side challenges were mainly linked to lack of infrastructural preparedness for outbreak situations and a shortage of human resources at health facilities. The quarantining of medical staff further lead to the shortage of staff at health facilities. The frontline workers of ASHA/ANM were diverted in COVID-19 duties, which reduced referral cases by ANM/ ASHA. Another big challenge in delivering MCH services was conversion of hospitals into COVID-19 centres due to which delivery of MCH services was further affected.

Conclusion/Recommendations:

Our study has implications for both practice and policy. To minimize the impact of disease outbreaks on maternal and child health services and future preparedness, the following recommendations may be considered based on the findings of this study. The recommendations are further categorized based on institutional and outreach services.

Outreach Services:

i.   Home-based ANC and PNC services with the option of teleconsultation and follow-up by the grass-root level worker (ANM/ASHA) in designated

containment zones by the grass-root level workers (ANM/ASHA) and a minimum of two home-based visits in non-containment zones.;

ii. Mobile teams for delivering ANC services, essential medicines.; in designated containment zones by the grass-root level workers.;

iii. iii.. Continuation of Immunization services in non-containment zones and planning of additional immunization sessions in areas previously demarcated as containment zones to cover missed immunizations.

Institutional Services:

To strengthen hospital-based services, the following recommendations were suggested

i. Each district should have a dedicated tertiary-level MCH care hospital wing. In case a district hospital has been converted into a dedicated COVID hospital, the sub-divisional hospital should be upgraded as the MCH care hospital with functional SNCU, or the adjoining district hospital may cater to the MCH care.

ii. Rationalization of staff posting with dedicated staff for MCH care hospital.;

iii. A dedicated referral mechanism in each district for emergency services which identifies and coordinates functional tertiary care centres delivering MCH services during the outbreak.;

iv. Allocation of ambulances for MCH services in every district and COVID suspected pregnant women to be given the highest priority during referrals.

Programmatic recommendations included;

i. Dedicated MCH Nodal officer to be appointed during an epidemic situation who may not be assigned any other duty during the outbreak;

ii. Public transport during lockdowns/curfew may be improved by preparing a plan in consultation with the public transport department and health department to ensure transport facilities for health staff and MCH beneficiaries.;

iii. iii Develop a mechanism to ensure functioning of the private health facilities catering to MCH services.

iv. These recommendations are geared towards effectively strengthening MCH services during a pandemic and averting preventable maternal and new-born deaths.

2. ONGOING PROJECTS
Total:5

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
	Dr. Tulsi Adhikari, Scientist E
Member Secretary:	Dr. Saurabh Sharma, Scientist B
Period:	July 2007 onwards
Funding agency:	ICMR

Background and Objectives:

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 National Institute of Medical Statistics, Indian Council of Medical Research.

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:

- IPD Sharing Implementation
  Developed and implemented individual participant data sharing commitment statements into CTRI portal.

- Modified Ayurveda Data Set Items – Development of Customised Ayurveda datasets in CTRI in progress.

- Results Disclosure
  Implementation of Result Disclosure requirements in the registrant domain

Total number of trials registered in CTRI till March 2021 are 32470.

Future Plans:

1. Implementation of Result Disclosure requirements in the public domain

2. Dissemination workshops to be conducted for awareness.

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

Principal Investigator:	Dr. M Vishnu Vardhana Rao, Director
Co- P. Investigator:	Dr. Atul Juneja, Scientist E
	Dr. Tulsi Adhikari, Scientist E
	Dr. Saurabh Sharma, Scientist B
Period:	2019 (1 Yr 7 Months)
Funding agency:	ICMR
Budget:	23 lakhs

Background:

In view of the tremendous potential of Traditional Medicine (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.

Objective:

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.

Results:

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.

Intervention/comparator section has also been modified as per detailing of the Ayurveda trials. All Ayurveda trials registered since 2008 were screened and worked upon. Subsequently the intervention/comparator section was divided into three subsections i.e., Drug, Procedure and Lifestyle and was finalized in consultation with experts from CCRAS.

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

Principal Investigator:	Dr. M Vishnu Vardhana Rao, Director
Co- P. Investigator:	Dr. Damodar Sahu, Scientist F
	Dr. Saritha Nair, Scientist E
	Dr. Ravendra Kumar Sharma, Scientist E
	Dr. Bal Kishan Gulati, Scientist D
Period:	3 years (August 1, 2019 - September 30, 2022)
Funding agency:	Population Council, India
Budget:	Rs. 1,22,93,000

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 institutionalization 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 utilization, and sustaining the dialogue

The following activities were conducted during April 1, 2020-March 31,2021

- Due to COVID-19 pandemic there was a lockdown during the period from 25th March, 2020 to 31st May, 2020. During the lockdown period, weekly skype

meetings with the team at Population Council were held every Monday starting from 6th April, 2020 in which progress of the project were discussed and future activities were planned. In addition to these, several rounds of online discussion with faculties from IIPS, JNU, CDS, ISI and IIT were conducted. Besides these, virtual meetings were organized with the team to discuss and take stock of the NDQF activities.

- A total of 132 documents relating to the data quality assessment framework were downloaded and reviewed to check its suitability for developing data quality guidelines for NDQF.
- **Data quality guideline**: Different sections of the "National data quality guidelines for surveys" were drafted. The guideline aims to educate the data producers and users on best practices and strategies to set up institutionalized and project-specific data quality assurance mechanisms and systems to ensure data quality in surveys. In the guideline, key aspects of survey quality assurance activities and their implementation have been divided into three phases - Preparatory, Data collection and Post data collection phase. The document also would provide technological tips and checklist to ensure data quality at each stage of survey.

- **Webinars:** To sustain and deepen interest on importance of data quality among producers and users of data, 10 webinars were conducted where experts were invited to share their experiences on importance of maintaining quality in various domains of survey, including phone surveys, anthropometric data, health and malnutrition and administrative data.

- Besides webinars, 2 blogs and 3 infographics were also developed.
- NDQF has collaborated with the Health Management Information System (HMIS) division, MOHFW, to improve the quality of HMIS data recording and reporting. ICMR-NIMS, in collaboration with Population Council team, developed an automated outlier detection tool using web-based application.
- The first steering committee (SC) meeting was held on October, 13, 2020 in virtual mode and was chaired by Prof. (Dr.) Balram Bhargava, Secretary, DHR and DG, ICMR.
- The second meeting of the Technical Advisory Group (TAG) was in virtual mode on February, 26, 2021 and was chaired by Dr.Pronab Sen, Director, IGC India.

		NDQF Webinars				
S. No.	Webinar Title	Description	Panelists	Date	Total Registrants	Attendees
1	Improving Data Quality in Surveys through Systems and Algorithms	This webinar led by the Data on Demand Team at IDInsight was centred on systems and innovations for improving data quality in field surveys	Christy Lazicky; Mansi Jain; Moderator - Nidhi Khurana	April 17, 2020	325	213
2	Webinar: Standardization Methods and New Tools for Improving Data Quality for Anthropometry	Focused on the methods and tools for assuring data quality in measuring nutrition status, which is one of the salient themes for NDQF. The session, also highlighted the new developments in anthropometry and shared insights for improving data quality, drawing on the Comprehensive National Nutrition Survey (CNNS) experience.	Robert Johnston; Prof. Arvind Pandey; Moderator - Nidhi Khurana	May 15, 2020	261	166
3	Panel Discussion: Collecting High Quality Data in Phone Surveys During a Pandemic	Focused on the data quality aspects of phone surveys, where research organizations who have been at the forefront of using phone surveys to collect data during COVID-19 shared incisive insights on assuring quality in an engaging panel discussion.	Panel 1 - Krishanu Chakraborthy; Swetha Totapally; Tithee Mukhopadhyay; Samiran Panda; Dr. Santanu Pramanik; Panel 2 - Priya Das; Aarya Venugopal; Aditeshwar Seth; Shruti Yeramilli; Moderator - Dr. Suneeta Krishnan	May 21, 2020	787	501

4	Ensuring Ethics and Science in Phone-Based Surveys: What are the Lessons Learnt?	In this session, experts discussed both the science and the ethics of phone-based surveys, and provided valuable insights on how to ensure that both are not compromised.	Dr. Vasantha Muthuswamy; Dr. Shalini Bharat; Dr. Sankay Kumar; Dr. Rajib Acharya; Dr Niranjan Saggurti; Moderator- Dr. Suneeta Krishnan	July 2, 2020	395	215
5	Webinar: A Technological Solution for Health and Malnutrition Management	This session focused on the importance of data through the journey of a large-scale health and malnutrition solution. The webinar explored the critical data-centric issues, including quality, faced right from the concept stage and shared the strategy followed to address them.	Mr Ashish Srivastava; Dr. M Vishnu Vardhana Rao; Moderator - Dr. Sowmya Ramesh	July 16, 2020	258	125
6	Enhancing Quality of Family Planning Data in Surveys - In Covid & Non-Covid Times	Our panelists, two well-known family planning data practitioners talked about promising strategies to enhance quality of family planning data in surveys.	Mr. Tanmay Mahapatra; Mr. Blake Zachary; Moderator - Ms. Priya Nanda	Aug 27, 2020	290	170
7	Counting it right? A Dialogue on Quality of Death Registration and Causes of Death Data in India	The best source for data on births, deaths and causes of death is the civil registration system (CRS), which if complete, can provide important information for actions. This livewire dialogue focused on the issues of quality of death registration and causes of death data in India.	Dr. Faujdar Ram; Dr. Olga Joos; Dr. Rakhi Dandona; Moderator - Dr. Neeta Goel	Sep 24, 2020	236	118

8	Uttar Pradesh HMIS: An Integrated Data System to Enhance Use of Data for Decision Making	Moving beyond the regular HMIS system, the Government of Uttar Pradesh had developed an integrated health data system to enhance data availability and quality, and further its usage to provide local-level solutions. This effort has also provided an opportunity to the government to bring multiple data sources under a single umbrella and thereby enabling comprehensive triangulation of input, process and output indicators to take strategic decisions for improving health outcomes.	Mr. Huzaifa Bilal; Dr. Ravi Prakash; Mr. Bk Jain; Moderator - Dr. Vikas Yadav	Nov 5, 2020	400	214
9	Measuring dietary intake using 24-hour recall method in the current times: Accuracy, Validity and Quality	This webinar revolved around the challenges in measuring 24-hour dietary recall, and innovations in the field to improve the quality of such data in India.	Dr. Subhadra Mandalika; Dr. Avula Laxmaiah; Dr. Prema Ramachandran; Moderator - Dr. M Vishnu Vardhana Rao	Nov 30, 2020	504	250
10	Just because I was born dead, do I not matter?	With still births occurring every 16 seconds this discussion focused on the gaps in the availability of relevant data and how the quality of data has posed challenges in understanding the true	Dr. Rakhi Dandona; Dr. Neelam Agarwal; Ms. Seema Sindwani Anand; Ms. Susannah Hopkins Leisher; Dr. Vivek Singh; Moderator - Dr. Saritha Nair	Dec 17, 2020	236	110

		burden of stillbirths and facilitate further action.				

2.3. National Clinical Registry for COVID- 19

Principal Investigator:	Dr. M Vishnu Vardhana Rao, Director
Co – Principal Investigator:	Dr. Damodar Sahu, Scientist-F
	Dr. Geetha R Menon, Scientist E
	Dr. Ravendra Kumar Sharma, Scientist E
Period:	2 years
Funding agency:	ICMR
Sanctioned Budget:	INR 15,60,71, 100

Background:

COVID-19 is a novel disease about which the scientific community is constantly learning more about the virus and the condition. As the medical profession treats more and more cases of COVID 19, more information about the symptomatology and course of sickness emerges. However, there are currently no specific management guidelines for the condition; clinical therapy regimens are constantly evolving. Antiviral methods are now being studied in a number of clinical trials. Similarly, experiments are underway to improve COVID 19 supportive management. Clinical data and experience from throughout the world have aided in the development of these COVID-19 solutions. However, there are so many unknown factors about the new coronavirus SARS-CoV-2 and the illness it causes that proper understanding and therapy of the disease is difficult. A comprehensive, systematically collected database covering different regions of the country will allow both researchers and policy makers to make relevant hypotheses, gain important insights into COVID 19, and trends in the pandemic process. Factors associated with morbidity and mortality can be identified and adjusted accordingly to pandemic progress.

Objectives:

The overall aim of the proposed clinical registry is to develop a national COVID19 registry that collects high quality real-time data for evidence-based decision making in clinical practice, public health programs, and policies. The main objective of the registry is to develop a digital COVID19 registry to collect data on clinical and laboratory characteristics, treatment, and outcomes from inpatients with COVID19 in India. To study the frequency, clinical and laboratory characteristics, treatments and outcomes of COVID19-related multisystem inflammatory disease in children and adolescents by analyzing the national COVID19 registry.

Methods:

Study Design: A clinical registry with staggered clinical site entries according to a standardized training and proficiency process, with future data collection from several locations. A multicenter pan-Indian study using 15 registry nodal institutes and about 50 satellite hospitals (hospitals for primary data collection). We may increase the number of

satellite centers as needed, and figure-1 shows the location of selected nodal institutes and satellite hospitals.

Selection Criteria: Hospitalization, patients of all ages and genders confirmed by COVID 19.

Data Entry Software: A digital platform for collecting data is developed by the ICMR-National Institute of Medical Statistics (ICMR-NIMS) using the PHP language and mysqul on the back end.

Figure 1: Map showing the geographical locations of the participating centres

Progress:

The study began in late September 2020, and by March 2021, 11 nodal agencies and 40

satellite hospitals were actively involved in the enrollment of COVID 19 patients. In March 2021, 11,428 Covid19 patients (aged 20+) were hospitalized and 10,153 were completed, i.e. the results were known, and were usually discharged after treatment. Of the 10,153 patients (aged 20+) with known results (death or discharge), approximately 37% were 60+, an additional 37% were in age group 40-59, and approximately a quarter were in age group 20-39 years. About 65% of the included patients were males. Approximately 42% of hospitalized COIVD19 patients needed oxygen to supplement their oxygen. Most patients (≥89%) were successfully discharged after treatment, but about 11% died during treatment in hospitals (Table 1).

Table 1: Summary of patients enrolled (patients with outcome up to 31st March 2021)

Variables	Frequency	Percent
Age Group		
20-39 yrs	2594	25.5
40-59 yrs	3791	37.3
60+ yrs	3768	37.1
Gender		
Male	6557	64.6
Female	3596	35.4
Supplementary Oxygen		
No	5858	57.7
Yes	4295	42.3
Final Outcome		
Discharged	9068	89.3
Death	1085	10.7
Total	10153	100.0

Approximately 87% of patients admitted with COVID-19 had some symptoms prior to admission. The most common symptoms reported was a history of fever (62%), followed by a dry cough (38%) and shortness of breath (37%). Over 10% of patients also reported symptoms like sore throat, myalgia, and cough with sputum, and 5-10% patients reported headache, loss taste, weakness of limbs, loss smell and chills (Figure 2).

Figure 2: Symptoms at time of hospitalization
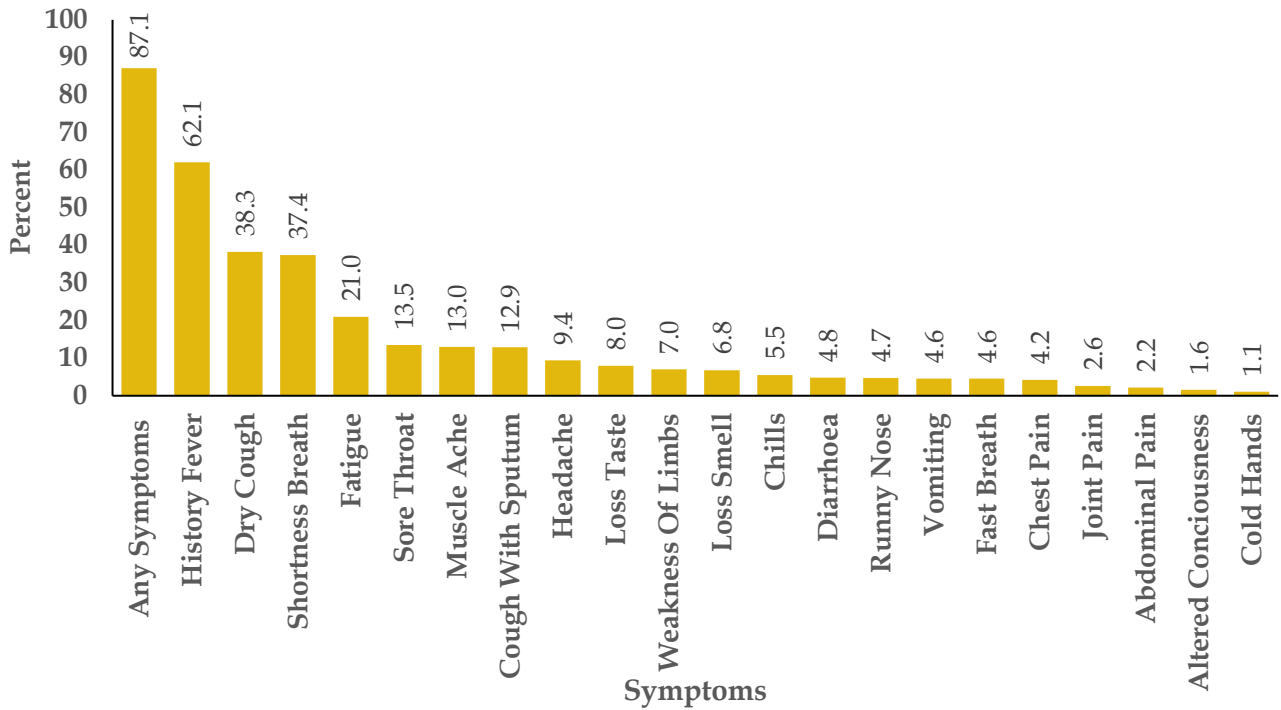
About 57% of patients with COVID19 also reported all types of comorbidity on admission. The most commonly reported comorbidity was hypertension (35%), followed by diabetes (27%). About 7% of patients also reported suffering from chronic heart disease. About 2% of patients also had asthma and chronic lung disease (Figure 3).
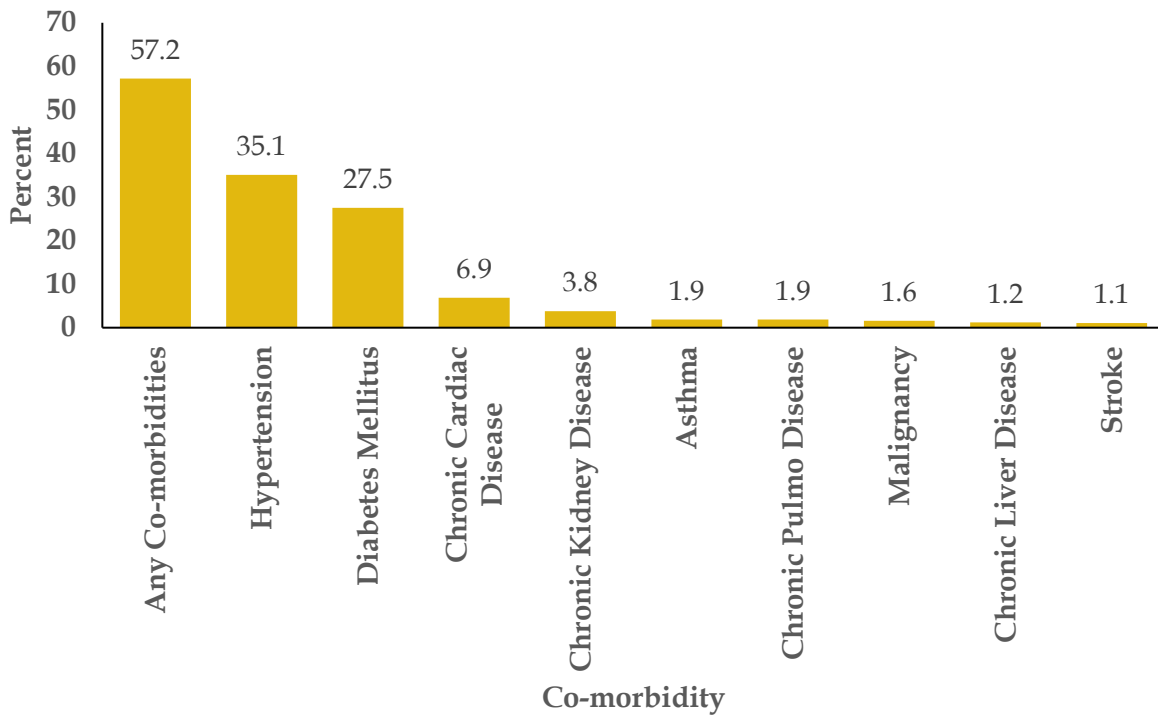

Figure 3: Co-morbidities at time of hospitalization

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

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
	Dr. Lucky Singh, Scientist D
	Dr. Saurabh Sharma, Scientist B
Period:	3 years (June 13, 2019 – June 12, 2022)
Funding agency:	ICMR
Budget:	INR. 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, stillbirth 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.

During the reporting year, the following major activities were undertaken : (i) Review of literature pertaining to interventions on reducing use of smokeless tobacco (SLT) and

arecanut; (ii) Revision of the in-depth interview guidelines and consent form to include questions related to difficulties posed by COVID-19 and its impact on use of SLT and arecanut; (iii) Conduct of in-depth interviews through phone (iv) Transcribing and translation of the interviews conducted in Manipuri, (v) Drafting of intervention manual; (v) Completion of qualitative data collection (social mapping, Key informant interviews, In-depth interviews and organised two Focus Group Discussions). Preliminary analysis of qualitative data shows that:

- SLT/ areca nut use (mostly zarda paan and Kom Kwa) among married women was quite common and seems to be culturally accepted.
- Paan and SLT products are openly sold and easily available. There seems to be no strict implementation of any prohibition or control from the government or any regulatory authority.
- Serving paan (with or without tobacco) in festivals, feasts and functions is very common and most of the attendees consume it. Serving of paan in such functions is considered a tradition/customary/culture and is expected.
- Most of the informants mentioned that Christian population in the villages do not consume tobacco products due to religious prohibition and if practiced, the consumption among Christians are very low as compared to other religious communities.
- Women are aware that use of SLT and areca nut has harmful effects but lacks clarity.
- No awareness programs regarding the use of SLT/areca nut were conducted in the villages

Image 1: Sharing of Education material during FDG Keikhu Kabui Village

Image 2: Focus group discussion in Changangai Kabui village, Imphal West District

2.5 Financial Inclusion and Health Outcomes Among Women in India

Principal Investigator:	Dr. Sanjukta Sarkar, DHR Young Scientist
Co-Investigator:	Dr. Saritha Nair, Scientist E
Period:	3 years (March 2020 - March, 2023)
Funding agency:	DHR
Budget:	INR. 28,00,000

Background:

Although there is research documenting and supporting the value of women's financial inclusion measures as a means of support to women's health (Hamad & Fernald, 2015; Kim et al., 2017; Mohindra et al., 2008; Orton et al., 2016; Schuler & Hashemi, 1994; Steele et al., 1998) for other countries, we find that there is a dearth of research on how lack of access to formal finance sources affects health care access, health services utilization, healthcare financing strategies as well as out of pocket expenditure incurred on health by Indian women.

Research Objective:

a. To assess the levels, patterns and factors associated with gender disparity in financial inclusion in India

b. To examine the relationship between financial inclusion and health financing strategies including out of pocket expenditure among women

c. To understand the pathways through which financial inclusion/exclusion affects reproductive, communicable and non-communicable health outcomes

d. To provide a comparison of India with other BRICS nations to highlight gender disparity in financial inclusion and health

Data:

World Bank Global Findex Database (2017), NFHS-4 (2015-2016)

Methods:

The first part of our analysis deals with identifying the determinants of financial inclusion in India using the World Bank's Global Findex database, 2017. We employ probit regressions for all our empirical analyses. The second part of our analysis deals with understanding the gender gap in financial inclusion in India using the World Bank's

Global Findex database, 2017. We use treatment effects estimation using matching/weighting methods.

Progress:

The first part of our analysis shows that being more educated, having higher income and being employed lead to greater account ownership, account usage and financial resilience and lesser informal credit and informal savings. Women however use their accounts less as well as undertake greater informal savings as compared to men. Older people use more financial services only up to a certain age due to a generational effect. They tend to resort to more informal sources of credit and savings as age increases. As the Indian financial ecosystem evolves, broad needs must be recognised by any form of financial inclusion and the effect of such inclusion must be studied, including not only policy mandates, but also broader metrics. Studying such metrics would not only deepen our understanding of the effects of financial inclusion from a policy point of view, but also address important questions about how to achieve it.

The second part of our analysis indicates that women lag significantly behind men in terms of formal saving for undertaking any business and preparing for old age. They also are less likely than men to borrow formally for starting a business or taking a loan for medical reasons. Finally, women who save formally are still less likely to come up with emergency funds at short notice as compared to men who save formally. As the Indian financial ecosystem evolves, our research suggests that any type of financial inclusion must recognize the needs of women and the impact of such inclusion must be studied in order to better understand how financial products can reach women better and help make an impact.

3. Invited Talks/Lecture delivered by the Institute scientists and technical officers

Date	Speaker and details of the lecture
1. **Dr. M. Vishnu Vardhana Rao**	
30th Janu 2020	Delivered a lecture on SIP, Mutual Fund, Ponzi scheme, etc Securities and Exchange Board of India (SEBI)
7th Feb 2020	Delivered a Lectured on Biomedical Data Science at Hall No.2, India Habitat Centre, Max Mueller Marg, New Delhi
2. **Dr HK Chaturvedi**	
6th Feb, 2021	Virtually attended and presented a paper on "Technology and innovation in dengue disease management" in the Asian School of Business International Conference (ASBIC) at New Delhi.
3. **Dr Tulsi Adhikari**	
17th -18th Mar 2021	Delivered lecture on "Outcome Measures effect measures and measures of heterogeneity" In the Workshop on Introduction to Systematic reviews and meta Analysis in Health research at ICMR-NIMS, New Delhi
4. **Dr Atul Juneja**	
14th Sep 2020	Invited for the technical group meeting on Rapid Assessment Survey to evaluate the role of Tobacco and Alcohol in outcome of patients with Covid -19 at ICMR
3rd Nov 2020	Delivered lecture on Statistical methodology in Medical Research to DNB candidates in Obs.& Gynaecology of all colleges in country (VC)
31st Dec 2020	Delivered lecture on Statistical methodology in Medical Research to DNB candidates in Obs.& Gynaecology of all colleges in country (VC)

20th Jan 2021	Delivered lecture on Descriptive Statistics to the newly inducted scientific officers of Central Council for Research in Homoeopathy (VC)
26th Feb 2021	Delivered talk on CTRI and impact and publication publications during a webinar organised by CCRH for its various medical colleges in India (VC).
17th -18th Mar 2021	Delivered lecture on "Study Design" In the Workshop on Introduction to Systematic reviews and meta Analysis in Health research at ICMR-NIMS, New Delhi
5. Dr Geetha R.Menon	
15th Sep 2020	Delivered a virtual talk on Burden of Disease in the Global Health Module of Health Management in INTERNATIONAL INSTITUTE OF HEALTH MANAGEMENT RESEARCH, New Delhi
2nd Nov, 2020	Delivered an online lecture on Importance of biostatistics in medical research in the Online Training Program on Biostatistics for Medical Professionals organised by Science Tech Institute, Lucknow
5th Nov 2020	Delivered a virtual lecture on Systematic Review and Meta-analysis in the Online Training Program on Biostatistics for Medical Professionals organised by Science Tech Institute, Lucknow
30th Jan 2021	Delivered a virtual lecture on Biostatistics in Medical Research at LLRM Medical College, Meerut
Mar 17-18,2021	Delivered lectures on various topics on Meta-Analysis and systematic reviews in the Workshop on Introduction to Systematic reviews and meta-Analysis in Health research at ICMR-NIMS, New Delhi
6. Dr Saritha Nair	
18th Aug2020	Delivered lecture on qualitative data collection for an ongoing training programme virtually
7. Dr Saurabh Sharma	

17th – 18th Mar 2021	Delivered lecture on "Getting Started with Rayyan QCRI" In the Workshop on Introduction to Systematic reviews and meta-Analysis in Health research at ICMR-NIMS, New Delhi
8. Dr Jeetendra Yadav	
22nd – 25th Apr, 2020	Jeetendra Yadav presented an online paper entitled "Socioeconomic Inequality in Households Financial Burden Associated with Non-Communicable Diseases in India during the last one Decade: 2004-2014." At the Population Association of America (PAA, 2020), online conference during 22-25 April, 2020
28th -30th Nov, 2020.	Presented an online paper entitled "Households Financial Burden due to Mental Illness in India." At 41st Annual Conference of Indian Association for the Study of Population (IASP) online conference during 28-30 November, 2020.
18th – 20th Mar 2021	Presented online paper entitled "Mental Health Status and Psychological Impact of the Covid-19 Pandemic on Frontline Nurses During the COVID-19 Pandemic Outbreak in India" At International Institute for Population Sciences, International Seminar 2021 on Pandemic and Population Dynamics during 18-20 March 2021
25th – 27th Feb 2021	Presented online paper entitled "Role of Social Network on Life Satisfaction of The Urban Elderly in Delhi, India: A Structural Equation Modelling" At International Hybrid Webinar on Impact of COVID19 on the Health and Lifestyle of People Worldwide in Honour of Dr P. Mohanachandran Nair, Prof. and Head, Dept of Demography 25-27 February 2021

4. Scientific Meetings /Conferences/Training/Workshops attended by the Institute scientists and technical officers

Date	Title of the meeting
1. **Dr. M. Vishnu Vardhana Rao**	
May-2020	Attended a Zoom meetings as an Invitee to discuss ICMR NTF (OR) projects.
20th May, 2020	Attended a meeting of Special Meeting of the Empowered Group 1 of NITI AAYOG through Zoom
12th June, 2020	Technical Advisory Committee (TAC) for the National Family Health Survey (NFHS) -5through Video Conferencing.
29th June, 2020	Participated in the Webinar on Statistics Day of Ministry of Statistics & Programme Implementation. (India has been celebrating the Statistics Day on 29th June every year since 2007, the birth anniversary of late Prof. P.C. Mahalanobis, in recognition of his valuable contribution in the field of official statistics and to popularize the use of Statistics in everyday life.)
6th July, 2020	Book release Webinar on 'Socio Economic Impact Assessment of Genetically Modified Crops – Global Implications Based on Case-Studies from India' has been published by Springer.(The book launched by the eminent Indian agricultural economist and Member of NITI Aayog, Professor Ramesh Chand, with Special Remarks by Dr. Renu Swarup, Secretary, Department of Biotechnology
16th -17th Jul, 2020	National AIDS Control Organization & ICMR-National Institute of Medical Statistics Ministry of Health & Family Welfare Government of India's Meet On-boarding and Sensitization of Regional Institutes of Surveillance and Estimation, State AIDS Control Societies and Technical Support Units for HIV Estimations (2O19) Platform: Virtual Platform.
31st July, 2020.	Dr M. Vishnu Vardhana Rao, Director, ICMR- NIMS: Attended the Webinar Meeting to test module, MSD-Management Systems Divisons Council at Bureau of Indian

5th Aug, 2020	Dr M. Vishnu Vardhana Rao, Director, ICMR- NIMS: Meeting regarding the data base preparation on NIMS Zoom to discuss the data base forms and entering and retrieval on August, 5, 2020.
6th Aug, 2020	Dr M. Vishnu Vardhana Rao, Director, ICMR- NIMS: Attended the National Clinical Registry of COVID 19 – VC.
11th Aug, 2020	Dr M. Vishnu Vardhana Rao, Director, ICMR- NIMS: Attended the NDQF review meeting and Clinical Trial Meeting at NIMS
8th Oct, 2020	Dr. M. Vishnu Vardhana Rao, Director Attended sixth meeting of the Technical Advisory Committee (TAC) of NFHS-5
13th Oct, 2020	Attended Steering committee meeting of NDQF was held under the chairman ship of Secretary DHR & DG ICMR,Prof. Balram Bhargava
21st – 22nd Oct, 2020	Dr. M. Vishnu Vardhana Rao, Director Attended meeting of TAG Meeting on District level HIV Burden Estimations 2019 as a chairman of the committee.
4th Dec, 2020	Attended the 23rd Hepatitis Day Program on behalf of the Directorate of Family Welfare, Govt. of Delhi and Institute of Liver & Biliary Sciences (ILBS) virtually This event is to reinforce our continued commitment to public awareness about viral hepatitis; its prevention, treatment and elimination. The theme for this year's Hepatitis Day is contemporary: "Viral Hepatitis in COVID Times".
1st Jan, 2021	Chairman in the ICMR Expert Committee Meeting to evaluate the research project entitled "To expand and implement the Finance Software so as automate all manual processes of Finance Division of ICMR and its Institute of ICMR.
7th-8th, Jan, 2020	Expert Member of the Expert Group Meeting at ICMR-RMRC, N.E. Region, Dibrugarh through Video Conferencing & Chair the Meeting at ICMR-RMRC
12th, Jan, 2021	Attended the High-Level Panel Discussion of Vaccine Development, procurement, distribution and deployment: The Role of Tata organized by Chairman, Centre for the Digital Future NASSCOM. January12,2021
14-15, Jan, 2021	Attended Second Meeting of National working Group (NWG) on District level HIV estimations (2019).
18th Jan, 2021	Attended Orientation Session on HMIS 2.0 Portal to NDQF Team at Red Cross Building, New Delhi.

9th Feb, 2021	Attended Webinar Meeting of Dr. H.M. Bhatia Oration Award - 2021 of ICMR-National Institute of Immunohaematology, Mumbai. (Director: Dr. Manisha Madkaikar, Director, NIH). Prof. (Dr.) Balram Bhargava, Secretary, DHR, DG, ICMR will delivering the oration this year on "India's fight against Covid-Role of ICMR". Lt. (Gen. (Dr.) Velu Nair will be the Chief Guest for this function
18th Feb, 2021	Attended the Virtual Celebration of 9th Foundation Day Oration 2021 of ICMR-NICED, Kolkata at ICMR-NICED-II Building from 10:30 am onward. Prof. Dr. Balram Bhargava, Secretary DHR and DG, ICMR is the Guest of Honours. In this occasion ICMR_NICE on Topic of the oration – Geographical sprint of an altered SARD-CoV2-2 coronavirus, but with some limps
26th Mar, 2021	Attended NACO's Technical Resource Group (TRG) Meeting on Surveillance and Estimation at the 6th Floor Committee Room, NACO
26th Mar, 2021	2nd meeting of the Expert Committee (EC) to provide no objection for conducting human intervention studies on novel or non-specified food ingredients/products by FSSAI , New Delhi
30th Mar, 2021	Attended DG, ICMR invitation - Publishing Webinar - Tips from the Editors – through Video conferencing of ICMR
	ICMR International Symposium & Workshop on "one Health in India: Research Informing Biosafety
2. **Dr HK Chaturvedi**	
31st Aug, 2020	School Research Committee (SRC) meeting (virtually) of University School of Medicine & Para Medical Health Science, GGSIP University New Delhi.
17th Feb, 2021	School Research Committee (SRC) meeting of University School of Medicine & Para Medical Health Science, GGSIP University, New Delhi.
3. **Dr. Damodar Sahu**	
7th Apr, 2020	Interactive discussion: Presenter: Nidhi Khurana Global Evidence on what works to improve data quality in routine health information systems in resource limited settings – learning's and context (Virtual)
9th Apr, 2020	Meeting to review current status and discuss for deliverable under the Action Plan under HIV Estimations for the years 2020-21 (April 1, 2020 -March 31 2021) organized by NACO (Virtual)

18th – 9th Apr, 2020	Participate the Expert, Community and Stakeholder Consultation on HIV Surveillance 2O2O-21 on Virtual Platform organized NACO & All India Institute of Medical Sciences, MOHFW, New Delhi
20th Aug, 2020	Review meeting with Population Council to assess the progress at ICMR-NIMS conference hall, New Delhi (Physical-Virtual)
28th Aug, 2020	Discussion with Dr. Nandita Saikia on report "Data quality in HMIS/ routine data system in India" under NDQF project (Virtual)
21st Sep, 2020	Review progress activities of NDQF project and finalization content of data quality guideline at Population council IHC office organized by PC, New Delhi. (Physical-Virtual)
13th Oct, 2020	Steering committee meeting of NATIONAL DATA QUALITY FORUM project organized by ICMR-NIMS at Conference Room, ICMR Chair: Prof. (Dr.) Balram Bhargava, Secretary, DHR & DG, ICMR(Virtual)
14th Oct, 2020	Review meeting of Technical Working Group on HIV Surveillance and Epidemiology (Virtual)
11th Nov, 2020	Discuss with Dr. US Mishra on report "Develop a data quality guidance document of do's and don'ts while comparing the indicators between survey and administrative data" under NDQF Project (Virtual)
28th -30th Nov, 2020	41st Annual Conference of IASP on Demographic and Health Aspects of COVID 19 Pandemic Organized jointly with National Institute of Health and Family Welfare (NIHFW), New Delhi Using online platform Dates
14th – 15th, Dec, 2020	Two-day Regional Pre-Surveillance of HIV Sentinel Surveillance round (HSS Plus 2021) Meeting organized by CCM in collaboration with NACO Online virtual platform
18th Dec, 2020	Discuss with Dr. LK Dwivedi on report "Review Quality assurance protocols for Health and Demographic surveys" under NDQF project (Virtual)
21st Dec, 2020	Participate TAG meeting of IIPS review research work on data quality (Virtual)
24th-28th Dec, 2020	Attend as expert the 5 days confidential workshop on "Test Development Workshop for UGC-NET 2021 -Population Studies" UGC-NET 2021 from 24 December – 28 December 2020
7th Jan, 2021	Discuss domains of collaboration with HMIS to improve quality of HMIS data recording and reporting with HIMS department Official engaged in HIMS data at MoHFW, New Delhi (Physical)

8th Jan, 2021	Meeting with IIIT-D team to develop a tool for data labelling data quality in survey data in NDQF project at ICMR-NIMS, New Delhi (Physical)
18th Jan, 2021	Attended the orientation old and new version of HMIS 2.0 portal, discussion on areas of collaboration with HMIS team, data quality solutions to be offered by NDQF team at HMIS division, red cross building, New Delhi (Physical)
20th Jan, 2021	Meeting to discuss Data quality issues in national sample survey conducted by NSO organized by ADG Mr. Maneria , NSO at Field Operational Division, Karkardoma Court.
20th -21st Jan, 2021	Second Meeting of Technical Working Group (TWG) of Surveillance and Epidemiology under NACP" on 21th and 22nd January 2021 from 2.00 pm to 5.30pm pm organized NACO
25th – 29th Jan, 2021	UNAIDS Regional Virtual Workshop: 25- 28 January, 2021 (Asia-Pacific) on HIV estimates organized by UNAIDS Geneva
30th Jan, 2021	Webinar: CKF's 55th Poverty Discourse on Measuring Multidimensional Poverty in Urban India: Issues and Challenges
1st Feb, 2021	HMIS work progress meeting and next steps (Physical)
26th Feb, 2021	NDQF Technical Advisory Group (TAG) meeting to review work progress in the project and recommendation for the next step activities at ICMR-NIMS (Physical-Virtual)
18th – 20th Mar, 2021	IPS International Seminar 2021 on Pandemic and Population Dynamics
26th Mar, 2021	Present in TRG for HIV Surveillance and Estimation meeting for approval of District level HIV Estimates 2019 for 735 districts
4. Dr Tulsi Adhikari	
21st May, 2020	National Data Quality Forum Webinar on "Panel Discussion: Collecting high quality data in phone surveys during a pandemic"
27th – 28th Aug, 2020	Training workshop on the project " Impact of COVID-19 on Maternal and Child health services through the public health system in India" at NIMS
6th Oct, 2020	Meeting with CCRAS in connection with the development of customized data set items for capturing the Ayurveda specific Trials in CTRI (VC)
10th Oct, 2020	Status update meeting of WHO's International Clinical Trials Registry Platform, presentation of CTRI status (Online)

24th Jul, 2020 – 10th Jan, 2021	Attended all the meetings of the project " Impact of COVID-19 on Maternal and Child health services through the public health system in India"
Jul 2020-Feb 2021	Attended all the meetings of the project " Impact of COVID-19 on Maternal and Child health services through the public health system in India"
	Attended all the meetings of the project " Impact of COVID-19 on Maternal and Child health services through the public health system in India"
28th Jan, 2021	Meeting to monitor the health of frontline workers who have been administered covid vaccine in the state of Punjab, ICMR-NIMS, New Delhi
8th Mar, 2021	Lecture on "Well-being and work life balance - caring for self and others" by Dr. Aparna Joshi, Tata Institute of Social Science, Mumbai on the occasion of International Women's Day
12th Mar, 2021	Expert Committee Meeting of projects under thematic areas of Therapeutics under ITRC and presented the "Pre-Project for finalizing multi-centric study on all oral shorter treatment regimen with newer drugs for MDR TB under Dr. M V V Rao, Director , NIMS
5. **Dr Atul Juneja**	
18th Jul, 2020	Meeting with all participating centres on project " Impact of COVID-19 on Maternal and Child health services through the public health system in India" (VC)
24th July, 2020	Internal Meeting on project " Impact of COVID-19 on Maternal and Child health services through the public health system in India" (VC)
27th July, 2020	Meeting on project on National Covid Registry related to software development and data capture
6th Aug, 2020	Meeting of the National Covid Registry under chairmanship of DG ICMR and Director AIIMS
22nd Aug, 2020	Meeting of the DNB Committee at BLK Hospital New Delhi
27th – 28th Aug, 2020	Training workshop on the project " Impact of COVID-19 on Maternal and Child health services through the public health system in India" at NIMS
31st Aug, 2020	Meeting of the National Covid Registry related to data capture forms

3rd Sep, 2020	Training Meeting on Stigma Project with all participating centers at NIMS
24th & 30th Sep, 202,	Internal Meeting on CTRI with Director to discuss issues in Health condition and standardisation of queries
2nd Oct, 2020	Attended the web meeting on Gandhi's perspective in relevance to health –organised by ICMR (web meeting)
6th Oct, 2020	Collaborative with CCRAS on project on development of module for capture of Ayurveda Trials in CTRI (VC)
10th Oct, 2020	ICTRP meeting for presentation of CTRI status (VC)
15th Oct, 2020	Progress Review meeting on project " Impact of COVID-19 on Maternal and Child health services through the public health system in India" at NIMS
25th Oct, 2020	Meeting of Executive Committee of Indian Society of Information Theory and Application as Executive member (VC)
28th Oct, 2020	Meeting of the DNB Committee at Jaipur Golden Hospital New Delhi
29th Oct, 2020	Meeting of Executive Committee of Indian Society of Information Theory and Application as Executive member (Online))
30th Oct, 2020	Meeting of the DNB Committee at BL Kapoor memorial Hospital New Delhi
4th Nov, 2020	Meeting of the DNB Committee at Jaipur Golden Hospital New Delhi
25th Nov, 2020	Meeting of the DNB Committee at Jaipur Golden Hospital New Delhi
27th Nov, 2020	Meeting of the management Systems Division of BIS as member (VC)
3rd Dec, 2020	Meeting of Interdisciplinary Technical Review Committee (ITRC) for examination of the applications/claims on Patent & Proprietary ASU&H medicines/ Classical ASU&H medicines with new indication or Re-purposing of licensed P&P, ASU&H medicines on COVID-19
18th Dec, 2020	Meeting of Interdisciplinary Technical Review Committee (ITRC) for examination of the applications/claims on Patent & Proprietary

	ASU&H medicines/ Classical ASU&H medicines with new indication or Re-purposing of licensed P&P, ASU&H medicines on COVID-19 as member
22nd Dec, 2020	Chaired a session on the Webinar organised on Mathematics Day –Birth Anniversary Prof Ramanujam, organised by MD University Rohtak
3rd Feb, 2021	Meeting of Interdisciplinary Technical Review Committee (ITRC) for examination of the applications/claims on Patent & Proprietary ASU&H medicines/ Classical ASU&H medicines with new indication or Re-purposing of licensed P&P, ASU&H medicines on COVID-19 as member
24th Feb, 2021	Meeting with all participating centres on project " Impact of COVID-19 on Maternal and Child health services through the public health system in India" (VC)
4th Mar, 2021	Meeting on project on AYurveda at CCRAS
15th Mar, 2021	Meeting of Interdisciplinary Technical Review Committee (ITRC) for examination of the applications/claims on Patent & Proprietary ASU&H medicines/ Classical ASU&H medicines with new indication or Re-purposing of licensed P&P, ASU&H medicines on COVID-19 as member
16th Mar, 2021	Meeting of the management Systems Division of BIS as member at BIS new Delhi
6. **Dr. Geetha R Menon**	
4th May, 2020	Meeting to discuss the Mental health and social stigma for COVID-19 proposal with the site PIs
18th May, 2020	Investigators meeting for the Mental health and social stigma for COVID-19 project
24th May, 2020	ICMR-CECHR meeting for the project Mental Health and Social Stigma Among Healthcare Personnel Involved in the Management of COVID-19 Patients in India"
23rd Jul, 2020	Discussion on the findings of the Community Epilepsy Trial at ICMR HQ-Virtual
14th Aug, 2020	Technical Advisory Group meeting to discuss the progress of the Hydroxychloroquine study

5th Oct, 2020	First Meeting of the NTAGI for vaccine cost effectiveness analysis
14th Dec, 2020	Training programme of site PIs for the Mental Health and Social Stigma Among Healthcare Personnel Involved in the Management of COVID-19 Patients in India project
18th Dec, 2020	Technical Advisory Group meeting to discuss the progress of the Hydroxychloroquine study
22nd Dec, 2020	Meeting of the working group of 100 HMT of COVID patient's database
21st Jan, 2021	Meeting with the sites PIs to finalise the HCQ manuscript
3rd Feb, 2021	COVID Clinical Research Group (CRG) meeting to review the new proposal on Acute Cardiac Emergencies: Trends In Admissions And Management Strategies, Post COVID-19"
15th Feb, 2021	Meeting of the PIs for Mental Health and Social Stigma Among Healthcare Personnel Involved in the Management of COVID-19 Patients in India project
22nd Feb, 2021	16th virtual Meeting of COVID-19 WG and Second Meeting of VCEA WG-NTAGI
Sep -Mar 2021	Attended internal meetings related to National COVID Registry Project
Apr 2020-Mar 2021	Attended all Swachh Bharat meetings
Apr 2020-Mar 2021	Attended all Academic council meetings of ICMR-NIMS
7. Dr Bal Kishan Gulati	
April 6, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum (NDQF)
May 15, 2020	National Data Quality Forum Second Webinar entitled "Analysis of effect of Training and Standardization on anthropometric data quality"
May 21, 2020	Virtual meeting of ICMR-NIMS NDQF team, Population Council and Dr. L.K. Dwivedi, IIPS regarding National Data Quality Forum
May 21, 2020	National Data Quality Forum Third Webinar entitled "Panel Discussion: Collecting high quality data in phone surveys during a pandemic"

May 22, 2020	Virtual meeting of ICMR-NIMS NDQF team, Population Council and Dr. Nandita Saikia, JNU regarding National Data Quality Forum
May 22, 2020	Virtual meeting of ICMR-NIMS NDQF team, Population Council and Dr. U.S. Mishra, CDS regarding National Data Quality Forum
July 24, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study"
August 6, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "National Clinical Registry for Covid-19"
August 7, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum and presentation entitled "Global evidence on what works to improve data quality in routine health information systems in resource limited settings – learnings in context"
August 21, 2020	Virtual meeting of ICMR-NIMS scientists to finalise the annual report of NIMS for 2019-20 for sending it to ICMR Hqrs.
August 21, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study"
August 24, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
August 24, 2020	Virtual meeting of ICMR-NIMS NDQF team regarding National Data Quality Forum
August 27, 2020	National Data Quality Forum Sixth Webinar entitled "Enhancing quality of family planning data in surveys – in Covid and non-Covid times"
August 30, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "National Clinical Registry for Covid-19"
August 31, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum

September 7, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
September 7, 2020	Virtual meeting of ICMR-NIMS scientists regarding NIMS Foundation Day and PP Talwar Oration
September 14, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
September 18, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study"
September 21, 2020	Meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum, Population Council, New Delhi
September 24, 2020	National Data Quality Forum Seventh Webinar entitled "Counting it right? A dialogue on quality of death registration and causes of death data in India"
September 25, 2020	Virtual meeting of ICMR-NIMS scientists to finalise the Key Performance Indicator report for 2019-20 for sending it to ICMR Hqrs.
October 1, 2020	Meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum, ICMR-NIMS, New Delhi
October 3, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "National Clinical Registry for Covid-19"
October 6, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "National Clinical Registry for Covid-19"
October 7, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
October 9, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study"
October 12, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum

October 13, 2020	Virtual 1st meeting of Steering Committee of ICMR-NIMS National Data Quality Forum
October 14, 2020	Virtual meeting of ICMR-NIMS scientists, technical staff and scientists of collaborating centres regarding research project entitled "National Clinical Registry for Covid-19"
October 14, 2020	Virtual meeting of ICMR-NIMS scientists and technical staff regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study"
October 26, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
November 5, 2020	National Data Quality Forum Eighth Webinar entitled "Uttar Pradesh HMIS: An integrated data system to enhance use of data for decision making"
November 6, 2020	Virtual meeting of ICMR-NIMS NDQF team, Population Council and Dr. U.S. Mishra, CDS regarding National Data Quality Forum
November 9, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
November 12, 2020	Virtual meeting of ICMR-NIMS NDQF team regarding National Data Quality Forum
November 18, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
November 20, 2020	Preparatory meeting for ICMR-NIMS Scientific Advisory Committee, ICMR-NIMS, New Delhi
November 30, 2020	National Data Quality Forum Ninth Webinar entitled "Measuring dietary intake using 24 hours recall method in the current times: Accuracy, Validity and Quality"
December 2, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
December 2, 2020	Preparatory meeting for ICMR-NIMS Scientific Advisory Committee, ICMR-NIMS, New Delhi
December 7, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum

December 7, 2020	Preparatory meeting for ICMR-NIMS Scientific Advisory Committee, ICMR-NIMS, New Delhi
December 8, 2020	Preparatory meeting for ICMR-NIMS Scientific Advisory Committee, ICMR-NIMS, New Delhi
December 9, 2020	Preparatory meeting for ICMR-NIMS Scientific Advisory Committee, ICMR-NIMS, New Delhi
December 10, 2020	Preparatory meeting for ICMR-NIMS Scientific Advisory Committee, ICMR-NIMS, New Delhi
December 11, 2020	Pre-Scientific Advisory Committee Meeting of ICMR-NIMS, New Delhi
December 14, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
December 14, 2020	Preparatory meeting for ICMR-NIMS Scientific Advisory Committee, ICMR-NIMS, New Delhi
December 15, 2020	Preparatory meeting for ICMR-NIMS Scientific Advisory Committee, ICMR-NIMS, New Delhi
December 16, 2020	Scientific Advisory Committee Meeting of ICMR-NIMS, New Delhi
December 17, 2020	National Data Quality Forum Tenth Webinar entitled "Just because I was born dead, do I not matter"
December 21, 2020	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
December 22, 2020	Meeting of ICMR-NIMS NDQF team regarding National Data Quality Forum, ICMR-NIMS, New Delhi
December 23, 2020	Virtual meeting to finalise minutes of ICMR-NIMS Scientific Advisory Committee Meeting
January 4, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
January 4, 2021	Meeting of ICMR-NIMS NDQF team regarding National Data Quality Forum, ICMR-NIMS, New Delhi

January 5, 2021	Meeting regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study", ICMR-NIMS, New Delhi
January 6, 2021	Virtual Meeting of scientists of ICMR-NIMS and collaborating centres regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study"
January 6, 2021	Meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum, ICMR-NIMS, New Delhi
January 8, 2021	Virtual meeting of ICMR-NIMS NDQF team, Population Council and IIIT-Delhi regarding National Data Quality Forum
January 8, 2021	Meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum, Population Council, New Delhi
January 11, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
January 11, 2021	Virtual meeting of ICMR-NIMS NDQF team, Population Council and ISI, Delhi regarding National Data Quality Forum
January 18, 2021	Meeting of ICMR-NIMS NDQF team, Population Council and HMIS Division regarding National Data Quality Forum, HMIS Division, MoHFW, New Delhi
January 22, 2021	Meeting regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study", ICMR-NIMS, New Delhi
January 27, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
January 28, 2021	Meeting to monitor the health of frontline workers who have been administered covid vaccine in the state of Punjab, ICMR-NIMS, New Delhi
January 29, 2021	Virtual Meeting of scientists of ICMR-NIMS and collaborating centres regarding research project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study"
February 1, 2021	Meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum

February 8, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
February 10, 2021	Virtual meeting to discuss the protocols for Covaxin Bharat Biotech Covid-19 Vaccine under the chairmanship of Additional Secretary (MA), MoHFW, New Delhi
February 15, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
February 17, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
February 22, 2021	Meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum, Population Council, New Delhi
February 24, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
February 25, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
February 26, 2021	Virtual and in-person 2nd meeting of Technical Advisory Group of National Data Quality Forum, ICMR-NIMS, New Delhi
March 3, 2021	Meeting of ICMR-NIMS NDQF team regarding National Data Quality Forum, ICMR-NIMS, New Delhi
March 8, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
March 8, 2021	Virtual talk entitled "Well-being and work life balance – caring for self and others" by Dr. Aparna Joshi, Tata Institute of Social Science, Mumbai on the occasion of International Women's Day
March 9, 2021	Virtual Dr. H.M. Bhatia Memorial Oration 2021 entitled "India's Fight Against Covid – Role of ICMR" by Prof. (Dr.) Balram Bhargava, Secretary DHR and DG, ICMR
March 17-18, 2021	Two-day online workshop on Introduction to Systematic Reviews and Meta-Analysis in Health Research, ICMR-NIMS, New Delhi
March 30, 2021	ICMR-Elsevier Live Webinar: Publishing Webinar – Tips from the Editors

March 31, 2021	Virtual meeting of ICMR-NIMS NDQF team and Population Council regarding National Data Quality Forum
8. Dr. Lucky Singh	
30th Mar, 2021	Attended webinar on "Publishing Webinar – Tips from the Editors." Jointly organized by ICMR – Elsevier on 30th March, 2021.
Aug. 31 to Sep. 3, 2020	Attended webinar on "The COVID-19 Pandemic and Sexual & Reproductive Health in Africa" from (Aug. 31 to Sept. 3, 2020) organized by International Union for the Scientific Study of Population (IUSSP).
30th Jul, 2020	Attended international symposium on "Novel ideas in Science and Ethics of Vaccines against Covid pandemic" Jointly organized by Global Health Security Network, Indian Council of Medical Research (ICMR), and London School of Hygiene & Tropical Medicine on 30th July, 2020.
20th May, 2020	Attended webinar on "Innovations in Mathematical Modeling for Describing Epidemics and Providing Time-Sensitive Recommendations: Experiences from HCV, HIV and COVID-19." By Dr. Arni Rao, director of the Laboratory for Theory and Mathematical Modeling in the Medical College of Georgia, on 20th May, 2020 hosted by The Centers for Disease Control and Prevention.
Jun 2020- Mar2021	Attended all meetings related to the project "Impact of COVID-19 on Maternal and Child health services through the public health system in India".
27th – 28th Aug 2020	Training workshop on the project " Impact of COVID-19 on Maternal and Child health services through the public health system in India" at NIMS.
9. Dr. Saurabh Sharma	
27th Jul 2020	Meeting on project on National Covid Registry related to software development and data capture
6th Aug 2020	Meeting of the National Covid Registry under chairmanship of DG ICMR and Director AIIMS
27th – 28th Aug 2020	Training workshop on the project " Impact of COVID-19 on Maternal and Child health services through the public health system in India" at NIMS.

10th Feb, 2021	Virtual meeting to discuss the protocols for Covaxin Bharat Biotech Covid-19 Vaccine under the chairmanship of Additional Secretary (MA), MoHFW, New Delhi
Jun 2020- Mar2021	Attended all meetings related to the project "Impact of COVID-19 on Maternal and Child health services through the public health system in India".
Jun 2020- Jun 2021	Attended meetings related to the project entitled "Factors Related to Covid-19 Stigma: A Mixed Methods Study".
Apr2020-Mar2021	Attended all academic council meetings of ICMR-NIMS
Apr 2020-Mar 2021	Attended all Institutional Ethics Committee meetings of ICMR-NIMS

5. Meeting organized by ICMR-NIMS

Date	Meeting Organized
Project Meetings: HIV Surveillance and Estimation	
16-17, Jul, 2020	On boarding and sensitization workshop of regional institutes of surveillance and estimation, State AIDS control Society and Technical support Units on District HIV Estimation 2019, Organized by ICMR-NIMS & NACO (Virtual)
19- 20, Oct, 2020	Internal meeting with SACS, TSUs and regional institutes on District HIV Estimation 2019, Organized by ICMR-NIMS & NACO (Virtual)
21-22 Oct, 2020	The first meeting of the National Working Group (NWG) on District-Level PLHIV estimates Organized by ICMR-NIMS & NACO (Virtual)
14-15, Jan, 2021	The second meeting of the National Working Group (NWG) on District-Level PLHIV estimates Organized by ICMR-NIMS & NACO (Virtual)
2-4 Feb & 9-11 Feb, 2021	Review meeting with Regional Institutes, SACS & TSUs on District level HIV Estimations 2019 Organized by ICMR-NIMS & NACO (Virtual)
Project Meetings: National Data Quality Forum (NDQF)	
13th Oct, 2020	Steering Committee (SC) meeting of NDQF project Chaired Secretary and DG, ICMR at ICMR (Physical-Virtual)
26th Feb, 2021	NDQF Technical Advisory Group (TAG) meeting to review work progress in the project and recommendation for the next step activities at ICMR-NIMS (Physical-Virtual)
Project Meetings: Factors Related to Covid-19 Stigma: A Mixed Methods Study	
29th May, 2020	1st Meeting of PIs and experts: Factors Related to Covid-19 Stigma: A Mixed Methods Study
11, Jun, 2020	2nd Meeting of PIs and experts: Factors Related to Covid-19 Stigma: A Mixed Methods Study
19th, Jun, 2020	3rd Meeting of PIs and experts: Factors Related to Covid-19 Stigma: A Mixed Methods Study

23rd, Jul, 2020	4th Meeting of PIs and experts: Factors Related to Covid-19 Stigma: A Mixed Methods Study
21st Aug, 2020	5th Meeting of PIs and Team: Factors Related to Covid-19 Stigma: A Mixed Methods Study
2nd Sep 2020	Orientation Workshop for Study Tools and Data Management
9th Oct, 2020	6th Meeting of PIs and Team: Factors Related to Covid-19 Stigma: A Mixed Methods Study
6th Jan, 2021	7th Meeting of PIs and Team: Factors Related to Covid-19 Stigma: A Mixed Methods Study

6. Ph.D. guidance

Scientist	Details
Dr. H.K. Chaturvedi, Scientist-G	Presentation of Progress Report of PhD work by Ms. Poornima Suryanath Singh, 2015 batch in meeting of School Research Committee meeting of the University School of Medicine and Para-medical Health Sciences, at GGS IP University, New Delhi
Dr. Damodar Sahu, Scientist F	Mr. Sanjeev Kumar Singh (Roll No.: 93059060114, Batch 2014) Awarded Doctor of Philosophy (PhD) Title: "Coverage and determinants of childhood vaccination under national immunization program in Mumbai slums: A cross-sectional study" Guru Gobind Singh Indraprastha University
Dr. Damodar Sahu, Scientist F	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

7. Statistical consultancy

Scientist	Details
Dr. Tulsi Adhikari, Scientist E	Institute of Home Economics, Safdarjung Hospital
Dr. Atul Juneja, Scientist E	Advised DNB students of ICMR-NIOP & Dr. B L Kapoor Memorial Hospital & Scientists of CCRAS & CCRH on statistical issues in their research.
Dr. Geetha Menon, Scientist E	Provided guidance on PhD thesis on Systematic review for a student in Jamia Milia Islamia University. Provided guidance on PhD thesis for a nursing student in Holy Family Hospital.

8. Scientific Publications by the scientists and technical staff

1. Yadav J, Allarakha S, Menon G R, John D, Nair S. Socioeconomic Impact of Hospitalization Expenditure for Treatment of Noncommunicable Diseases in India: A Repeated Cross-Sectional Analysis of National Sample Survey Data, 2004 to 2018. Value in Health Regional Issues. 2021; 24(C):199–213.

2. Tulsi Adhikari, Jeetendra Yadav, Niharika Tripathi, Himanshu Tolani, Harpreet Kaur and M. Vishnu Vardhana Rao, Do tribal children experience elevated risk of poor nutritional status in India? A multilevel analysis, Journal of Biosocial Science (2020), page 1 of 26 doi:10.1017/S0021932020000474

3. Reeta Rasaily [1], .., ICMR-HBMYI Study Group(...Anil Kumar, Atul Juneja, Tulsi Adhikari); ICMR -HBMYI Study Group. Effect of home-based newborn care on neonatal and infant mortality: a cluster randomised trial in India. BMJ Blob Health. 5(9). 2020. doi: 10.1136/bmjgh-2017-000680

4. Anita Pal, Madhusudan J. V and Jeetendra Yadav "Gender Differential in Disability among School Going Children and its Impact on School Enrolment in India" Education India Journal: A Quarterly Refereed Journal of Dialogues on Education, ISSN 2278-2435, Vol. 9, Issue-2, May-2020. Page 21-36.

5. Jeetendra Yadav, and Nilima. "Geographic variation and factors associated with anemia among under-fives in India: A multilevel approach." Clinical Epidemiology and Global Health (2020). https://doi.org/10.1016/j.cegh.2020.09.008

6. Jeetendra Yadav, Geetha R Menon, Malvika Mitra, Shaziya Allarakha, Denny John. Burden and cost of communicable, maternal, perinatal and nutrition deficiency diseases in India. Journal of Public Health. 2020 Sep 24

7. Jeetendra Yadav, Chander Shekher, and Kusum Bharati. Variation and determinants of early initiation of breastfeeding in high and low neonatal mortality settings in India. Journal of Biosocial Science. 2021 Mar 8:1-8.

8. Jeetendra Yadav, Geetha Menon, Amit Agarwal & Denny John, Burden of injuries and its associated hospitalization expenditure in India. International journal of injury control and safety promotion. 2021 Jan 21:1-9.

9. Jeetendra Yadav, Geetha R. Menon and Denny John, Disease-Specific Out-of-Pocket Payments, Catastrophic Health Expenditure and Impoverishment Effects in India:

An Analysis of National Health Survey Data. Applied Health Economics and Health Policy. 2021 Feb 22:1-4.

10. Bal Kishan Gulati, Sharma S, Vardhana Rao MV (2021). Analyzing the changes in certain infectious and parasitic diseases in the urban population of India by using Medical Certification of Cause of Death Data. Indian Journal of Community Medicine 46; 20-3. [10.4103/ijcm.IJCM_77_20].

11. Garg P, Menon GR, Das BR, Khadapkar R, Garg M. Diagnosis of Tubercular Anal Fistula Reply. DISEASES OF THE COLON & RECTUM. 2020 Apr 1;63(4): E45-.

12. NCD Risk Factor Collaboration (NCD-RisC) .... Geetha R. Menon…[...]. Repositioning of the global epicentre of non-optimal cholesterol. Nature 582, 73–77 (2020). https://doi.org/10.1038/s41586-020-2338-.

13. Suraweera W, Warrell D, Whitaker R, Menon G, Rodrigues R, Fu SH, Begum R, Sati P, Piyasena K, Bhatia M, Brown P. Trends in snakebite deaths in India from 2000 to 2019 in a nationally representative mortality study. Elife. 2020 Jul 7;9: e54076.

14. Garg P, Kaur B, Singla K, Menon GR, Yagnik VD. A simple protocol to effectively manage anal fistulas with no obvious internal opening. Clinical and experimental gastroenterology. 2021; 14:33.

15. Florez WA, García-Ballestas E, Deora H, Agrawal A, Martinez-Perez R, Galwankar S, Keni R, Menon GR, Joaquim A, Moscote-Salazar LR. Intracranial hypertension in patients with aneurysmal subarachnoid hemorrhage: a systematic review and meta-analysis. Neurosurgical review. 2021 Feb;44(1):203-11.

16. Dhiman V, Menon GR, Kaur S, Mishra A, John D, Vishnu MV, Tiwari RR, Dhaliwal RS. A Systematic Review and Meta-analysis of Prevalence of Epilepsy, Dementia, Headache, and Parkinson Disease in India. Neurology India. 2021 Mar 1;69(2):294.

17. Bajpai Ram, Chaturvedi HK (2021) Towards a more nuanced interpretation of statistical significance in biomedical research. Asian Journal of Oncology, 2021; DOI: https://doi.org/10.1055/s-0041-1727066

18. Maria LC Iurilli, Bin Zhou, James E Bennett, [..], Chaturvedi HK, Geetha R. Menon [..], Sarah Filippi. (2021) Heterogeneous contributions of change in population distribution of body mass index to change in obesity and underweight. *eLife* 2021;10: e60060 DOI: 10.7554/eLife.60060

19. Mathur P, Kulothungan V, Leburu S, Krishnan A, Chaturvedi HK, Salve HR, et al. (2021) National noncommunicable disease monitoring survey (NNMS) in India: Estimating risk factor prevalence in adult population. PLoS ONE 16(3): e0246712. https://doi.org/10.1371/journal.pone.0246712

20. Singh PS, Chaturvedi HK (2021) Temporal variation and geospatial clustering of dengue in Delhi, India 2015–2018. *BMJ Open* 2021; 11: e043848. http://dx.doi.org/10.1136/bmjopen-2020-043848

21. Kaur J., Kaura T., Sharma A., […], Chaturvedi H.K., Sharma S.K. (2021) Surveillance-based estimation of the malaria disease burden in a low endemic state of Punjab, India, targeted for malaria elimination, *Transactions of The Royal Society of Tropical Medicine and Hygiene*, 2021; trab005, https://doi.org/10.1093/trstmh/trab005

22. Martinez A.R., Bin Zhou B., [..], Chaturvedi H.K., […], Geetha R. Menon., [...], Zuziak M. (2020) Height and body-mass index trajectories of school-aged children and adolescents from 1985 to 2019 in 200 countries and territories: a pooled analysis of 2181 population-based studies with 65 million participants. *The Lancet, 2020, 396(10261):1511-24.* November 2020; https://doi.org/10.1016/s0140-6736(20)31859-6.

23. Chaturvedi, H.K., Bajpai, R., Tiwari, P. (2020) Determination of cut-off and correlates of delay in treatment-seeking of febrile illness: a retrospective analysis. *BMC Public Health*, *20:572.* https://doi.org/10.1186/s12889-020-08660-2.

24. Kumar, A., Chaturvedi, H.K., Mohanty, A.K. *et al.* (2020) Surveillance based estimation of burden of malaria in India, 2015–2016. *Malaria Journal,* 2020, 19:156 https://doi.org/10.1186/s12936-020-03223-7.

25. Singh PS, Chaturvedi HK (2021) Technology and innovation in dengue disease management. Proceedings of Asian School of Business International Conference (ASBIC),2021

26. Singh, Kh.Jitenkumar, Haobijam N, Nair S, Devi AS, Singh SR, Hijam M, Alee NT, Sharma S, Deepani V, Singh L, Rao MV (2021). Smokeless tobacco uses among women in northeastern states, India: A study of spatial clustering and its determinants using National Family Health Survey-4 data. Clinical Epidemiology and Global Health. 2021 Aug 4:10084.

27. Joshi A, Nair S, Tamanna S, Babre T and Kallianpur R.2021. The Psychosocial Impact. In Rajni Kant ed. COVID-19 Pandemic (History, Science and Society). Publication Division. Ministry of Information and Broadcasting. Government of India and Indian Council of Medical Research. ISBN:978-93-5409-175-9. S&T-ENG-OP-020-2021-22.

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of key indicators 2010-2017: Evidence for prioritising HIV/AIDS programme in India. *The Indian Journal of Medical Research*, *151*(6), 562. doi:10.4103/ijmr

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35. Vijit D. D Sahu, (2021) Variation in Tribe-Specific Mortality Indicators of Child Health in India: Emphasizing Tribe-Specific Action Plan, Indian Paediatric, Vol. 58, JANUARY 15, 2021.

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39. Pranab Chatterjee, Tanu Anand, Kh. Jitenkumar Singh, Reeta Rasaily, Ravinder Singh, Santasabuj Das, Harpreet Singh, Ira Praharaj, Raman R. Gangakhedkar, Balram Bhargava† & Samiran Panda (2020). Healthcare workers & SARS-CoV-2 infection in India: A case-control investigation in the time of COVID-19. Indian J Med Res, DOI: 10.4103/ijmr.IJMR_2234_20

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45. Rao MV, Maulik M, Juneja A, Adhikari T, Sharma S, Gupta J, Panchal Y, Yadav N. Clinical Trials Registry – India: A decadal perspective. Indian J Pharmacol 2020; 52:272-82

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9. Training/Workshops Organized

Date	Title of the workshop
17th -18th Mar, 2021	Online Workshop on Introduction to Systematic Reviews and Meta-Analysis in health research

10. Certificates/awards/ degree/ diploma or any academic achievement by scientists/technical staff

Name of the scientist	Details of the award
Dr. H. K. Chaturvedi, Scientist G	Best paper Award: Singh PS, Chaturvedi HK (2021) Technology and innovation in dengue disease management. Presented in the Asian School of Business International Conference (ASBIC), 2021.

11. Scientific Advisory Committee

Sr. No	Name	Designation
1.	Dr. Padam Singh, Former Addl. DG, ICMR & Director ICMR-NIMS New Delhi.	Chairman
2.	Prof.JP Muliyil, Former Principal, Christian Medical College, Bagayam, Vellore-632002.	Co-Chairman
3.	Prof. D.K. Subbakrishna, Ex. Prof. & Head, Department of Biostatistics, National Institute of Mental Health & Neuro Sciences (NIMHANS), Bangalore-560029.	Member
4.	Prof. R.M. Pandey, Professor, Deptt. of Biostatistics, AIIMS, New Delhi-29.	Member
5.	Dr. Nivedita Gupta, Chief Director (Statistics), Ministry of Health & Family Welfare, Nirman Bhawan, New Delhi-110011.	Member
6.	Prof. C.M. Pandey, Professor & Head, Deptt. of Biostatistics & Health Information, Sanjay Gandhi Post Graduate Institute of Medical Science (SGPGI), Lucknow-226014.	Member
7.	Dr. Rajani R. Ved, Executive Director National Health Systems Resource Centre (NHSRC), NIHFW Campus, Baba Gangnath Marg, Munirka, New Delhi 110067.	Member
8.	Dr. PL Joshi, Ex- Director, NVBDCP, New Delhi	Member

9.	Dr. Indrani Gupta, Prof. & HOD, Health Policy Research, Institute of Economic Growth, Delhi University Enclave, Delhi University, Delhi-110007.	Member
10.	Dr Vivek Joshi Registrar General, Census Commissioner of India, (Representative of RGI Office)	Ex-officio Member
11.	Dr. Samiran Panda, Head, Division of ECD, Indian Council of Medical Research, New Delhi-110029.	Member
12.	Dr. M. Vishnu Vardhana Rao, Director, ICMR-National Institute of Medical Statistics, Ansari Nagar, New Delhi.	Member Secretary

12. Ethics Committee

Sr. No.	Name	Designation
1.	Prof. Y.K. Gupta, Ex-Prof. & Head, Deptt. Of Pharmacology, AIIMS, New Delhi	Chairman
2.	Prof. Sudesh Nangia, UGC Faculty Recharge Programme, New Delhi	Member
3.	Dr. Sanghamitra Acharya, Director, Indian Institute of Dalit Studies, New Delhi	Member
4	Dr. Shashi Kant, Professor, Centre for Community Medicine, AIIMS, New Delhi	Member
5.	Dr. G.C. Shukla, Advocate, Supreme Court of India, New Delhi.	Member
6.	Mr. Hitender Vats, New Delhi	Member
7.	Dr. M. Vishnu Vardhana Rao, Director, ICMR-NIMS, New Delhi.	Member
8.	Dr. Saurabh Sharma, Scientist B, ICMR-NIMS, New Delhi.	Member Secretary

13. Academic Council

Sr. No.	Name	Designation
1.	Dr. H.K. Chaturvedi, Scientist G	Chairman
2.	Dr. Damodar Sahu, Scientist F	Member
3.	Dr. Tulsi Adhikari, Scientist E	Member
4.	Dr. Atul Juneja, Scientist E	Member
5.	Dr. Geetha R Menon, Scientist E	Member
6.	Dr. Saritha Nair, Scientist E	Member
7.	Dr. Kh Jitenkumar Singh Scientist D	Member

8.	Dr. Lucky Singh, Scientist D	Member
9.	Dr. Saurabh Sharma, Scientist B	Member-Secretary
10.	Dr. Jeetendra Yadav, T.O.	Member

14. Swachh Bharat Plan Committee

Sr. No.	Name
1.	Dr Anil Kumar, Scientist F
2.	Dr Tulsi Adhikari, Scientist E
3.	Dr Geetha R Menon, Scientist E
4.	Mr S.K Bara, Store In charge
5	Mrs Harpreet Kaur, ACO
6.	Mr Prem Chand, SO
7.	Ms Deepika, UDC

15. Internal Complaints Committee (ICC) for Women

Sr. No.	Name
1.	Dr Tulsi Adhikari, Scientist E- Chairman
2.	Dr Kh. Jitenkumar Singh, Scientist D, Member
3.	Ms Satvinder Kaur, PS, Member
4.	Ms Pranita Achyut, Director, Research and Programs, International center for Research on Women, New Delhi-Member
5	Dr Saritha Nair, Scientist E-Member Secretary

16. Maintenance Committee

Sr. No.	Name
1.	Dr Anil Kumar, Scientist F- Chairman
2.	Dr Geetha R Menon, Scientist E, Co-Chairman
3.	Dr Ravinder Kumar Sharma, Scientist E, Member
4.	Mr S.K. Bara, Store Officer
5	Mr Shiv Kumar, Sr TO
6.	Mr Yatinder Kumar,TO
7	Mr Jiwan Bisht, SO accounts
8	Mr Tinku Kataria, UDC

17. Internal Grievance Committee for Scheduled Tribes

Sr. No.	Name
1.	Dr M. Vishnu Vardhana Rao- Chairman
2.	Dr H.K. Chaturvedi, Scientist G, Member
3.	Dr Anil Kumar, Scientist F, Member
4.	Dr Ravindra K Sharma, Scientist E, Member
5	Mrs. Lalita Anand, Sr. AO, ICMR

18. Capital Works Advisory Committee (CWAC)

Sr. No.	Name
1.	Mr. K S Shukla, Executive Engineer (Civil), Chairperson
2.	Mr. V.K. Paul, (Retd.), CPWD Safdarjung, New Delhi, Member
3.	Mr. B.S. Chauhan (Retd.), Executive Engineer (Elec.), AIIMS, Member
4.	Dr M. Vishnu Vardhana Rao, Director, NIMS, Member
5	Dr. Damodar Sahu, Scientist -F, Member
6.	Mr. Rajesh Kumar Bawa, AO, Member
7.	Mrs. Harpreet Kaur, ACO, Member
8.	Mr. Shiv Kumar, Sr. TO '3', Member
9.	Mrs. Ashpinder Kaur, TO 'A', Member

19. Capital Works Maintenance Committee (CWMC)

Sr. No.	Name
1.	Dr. Anil Kumar, Scientist 'F', Chairman
2.	Dr. Ravinder Kumar Sharma, Scientist 'E', Member
3.	Mr. B. S. Chauhan (Retd.), Executive Engineer (Elec.), AIIMS, Member
4.	Mr. Rajesh Kumar Bawa, AO, Member
5	Mrs. Harpreet Kaur, ACO, Member
6.	Mr. Kishanlal Badolia Sr TO '2', Member
7.	Mr. Jeetendra Yadav, TO 'B', Member
8.	Mr. G.P. Jena, TO'A', Member Secretary

20. Screening Committee for assessment of Technical Cadre Staff Next Grade MBAPS Scheme

Sr. No.	Name
1.	Dr M. Vishnu Vardhana Rao, Director, ICMR-NIMS, Chairman
2.	Dr. HK Chaturvedi, Scientist-G, ICMR-NIMS, Member
3.	Prof. Srinivas, Retired Prof, AIIMS, Member
4.	Dr. Anil Kumar, Scientist-F, ICMR-NIMS, Member
5	Dr. Ravendra Kumar Sharma, Scientist-E, ICMR-NIMS, Member
6	Dr. Sandhya Diwakar, Retired Scientist-G, ICMR, Member
7.	Mr. Rajesh Bawa, AO, ICMR-NIMS, Member

21. Condemnation Committee

Sr. No.	Name
1.	Prof R.M. Pandey, Prof and Head, Department of Biostatistics
2.	Mr B.S. Dhillon, Scientist G
3.	Dr Anil Kumar, Scientist F
4.	Mr Suman Kumar Bara, Store Officer
5	Mrs Harpreet Kaur, ACO
6	Mr A.K. Srivastava, Executive Engineer, ICMR

22. Purchase Committee

Sr. No.	Name
1.	Dr Anil Kumar, Scientist F
2.	Dr Jiten Kumar Singh, Scientist D
3.	Mr Rajesh Bawa, AO
4.	Mrs Harpreet Kaur, ACO
5	Mr Suman Kumar Bara, Store Officer

23. Staff list

23.1 Scientific Staff

1. Dr. M. Vishnu Vardhana Rao, Director
2. Mr. B.S. Dhillon, Scientist 'G' (superannuated w.e.f. 30-11-2020)
3. Dr. H.K. Chaturvedi, Scientist 'G'
4. Dr. Anil Kumar, Scientist 'F'
5. Dr. Damodar Sahu, Scientist 'F'
6. Dr. Tulsi Adhikhari, Scientist 'E'
7. Dr. Atul Juneja, Scientist 'E'
8. Dr. Geetha R. Menon, Scientist 'E'
9. Dr. Saritha Nair, Scientist 'E'
10. Dr. Ravendra K Sharma, Scientist 'E' (Transferred from ICMR-NIRTH, w.e.f.15-6-2020)
11. Dr. Bal Kishan Gulati, Scientist 'D'
12. Dr. Kh.Jitenkumar Singh, Scientist 'D'
13. Dr. Lucky Singh, Scientist 'D'
14. Mr. Bhagirath, Scientist 'B' (taken voluntary retirement w.e.f. 6-2-2021)
15. Dr. Saurabh Sharma, Scientist `B'

23.2 Technical Staff

1. Mr. Vinay Kumar, Principal Technical Officer (superannuated w.e.f. 30.9.2020)
2. Mr. Rajendra Singh, Principal Technical Officer (superannuated w.e.f. 31-5-2020)
3. Mr. S.K. Bara, Principal Technical Officer
4. Mr. Subhash Gautam, Principal Technical Officer
5. Mr. Shiv Kumar, Sr. Technical Officer (3)
6. Mr. Gurmeet Singh Rana, Sr. Technical Officer (3)
7. Mr. Ajay Kumar, Sr. Technical Officer (3)
8. Mr. K.L. Badolia, Sr. Technical Officer (2)
9. Ms. Sunita, Sr. Technical Officer (2)
10. Mr. Prashant Tapase, Sr. Tech. Officer (2)
11. Mr. Charan Singh, Technical Officer (C)
12. Ms. Prabila Toppo, Technical Officer (C)
13. Ms. Kapil Gautam, Technical Officer (C)
14. Ms. Madhu Mehra, Technical Officer (C)
15. Dr. Jeetendra Yadav, Tech. Officer (B)
16. Mr. Yatendra Kumar, Tech. Officer (A)
17. Mrs. Ashpinder Kaur, Tech. Officer (A)

18. Mr. Ganesh Prasad Jena, Tech. Officer (A)
19. Mr. Thandi Mal, Tech. Officer (A)
20. Ms. Indira Rani, Sr. Technician-III (superannuated w.e.f. 31-12-2020)
21. Mr. Raj Kumar Yadav, Sr. Technician - II
22. Ms. Senthanro Ovung, TA (Transferred from ICMR-NIRT, Chennai w.e.f. 8-1-2021)

23.3 Administrative/Accounts/Store Staff

1. Ms. Harpreet Kaur ACO (Joined in February, 2021)
2. Mr. Rajesh Kumar Bawa, AO
3. Ms. Usha Gulati, PS
4. Ms. Shalini Bhatia, SO (superannuated w.e.f. 30-6-2020)
5. Mr. Mukesh Kumar Kaushik, SO (superannuated w.e.f. 30-6-2020)
6. Mr. Prem Chand, SO (joined w.e.f. 1-7-2020)
7. Mr. Jiwan Singh Bisht, SO (Joined on 30-6-2020, transferred to NIPCR, Noida w.e.f. 23-2-2021)
8. Mr. B.P. Singh, Assistant (Transferred to ICMR-NIMR, New Delhi)
9. Ms. Satvinder Kaur, PA
10. Mr. Gaurav Mudgil, UDC (Resigned in November 2020)
11. Ms. Pooja Verma, UDC (Resigned in September 2020)
12. Mr. Tinku Kataria, UDC
13. Ms. Deepika, 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

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