ANNUAL REPORT 2009-10

NIMS

NATIONAL INSTITUTE OF MEDICAL STATISTICS (ICMR)

Preface

It is my proud privilege to present before you the annual report of the National Institute of Medical Statistics (NIMS) for the year 2009-10. The Institute carried out a number of capacity building programs for the students of statistics and various health personnel working in different institutions.

Towards research, the Institute handled 11 projects including 3 completed and rest either ongoing or initiated during the year. Institute collaborates with National Institute of Health & Family Welfare (NIHFW) for the NACO's HIV Sentinel Surveillance and estimates HIV burden in the country since 2003 in conjunction with WHO and UNAIDS.

NIMS acted as the nodal agency for the conduct of the IDSP-NCD Risk factor Survey under the stewardship of MOHFW (NICD & ICMR). It developed the survey design, data management mechanism, design weights and analysis. The study has been reported completed and reports for individual States (7) as well as combined have been prepared and submitted for dissemination.

The Clinical Trial Registry – India (CTRI) with its launch on 20 July 2007, has been functioning at the Institute. It is an online public record system for registration of all clinical trials being conducted in the country. It is a Primary Register of the ICTRP and searchable from the ICTRP. Data management and statistical support to the evaluation of the Viremia in health adults after single dose of vaccination of JE SA 14-14-2 has been carried out by the Institute. While trial was done at KEM Hospital and Research Centre with technical support from National Institute of Virology (NIV), Pune.

The Institute has been partnering the conduct of Integrated Biological and Behavioural Assessment (IBBA)* under the over all coordination of ICMR's National AIDS Research Institute (NARI), Pune for the high way component (IBBA-NH). IBBA is an evaluation of

Avahan, the India's AIDS Initiative of the Bill and Melinda Gates Foundation (BMGF) intervention programme launched in 2004.

The study on the Prevention of HIV/STI among Married Women in Urban India (A five-year NIH funded project),is another ongoing study aiming at developing and evaluating a culturally appropriate, theory-driven, health facility-based intervention utilizing enhanced women's health services and intervention with couples to promote primary prevention of HIV and other sexually transmitted infections (HIV/STI) among married women, ages 18-40, living in an urban poor community in Mumbai, India.

PHC facility survey of Demographically Weak Districts is undertaken as an evaluation of facilities available at 460 Primary Health Centres in Madhya Pradesh, Uttar Pradesh, Bihar, and Rajasthan.

The Institute undertook the development of a Survey Methodology to Estimate Disease Burden of Leprosy - A Pilot Study in Bareilly District, U.P. It aimed at assessing the feasibility of using inverse sampling for the estimation of disease burden of leprosy in Bareilly District.

There was a study on Infant and Child Mortality in India which examined the time trends of neo-natal, post neo-natal, infant and under-five mortality in India and its major states, is on going.

A number of training programmes has been organized in the area of Applied Statistics for the M.Sc. Students of different universities. A special session on dissemination of Clinical Trial Registry was organized at the ISMS conference at BHU.

A number of research papers and the proceedings of the workshops on "National Workshop on Issues Concerning Large Scale Surveys on Health and Nutrition" has been

published as the supplement of Demography India (a journal of the Indian Association for the study of population (IASP)).

The Institute has been holding the office of President of the Indian Association for the Study of Population (IASP) as well as the Indian Society for Medical Statistics (ISMS) and has been involved in the organizing their annual conference, e.g. organized Annual Conferences of these Associations at Tirupati (IASP 2009) and Varanasi (ISMS 2009) and brought out proceedings in the form of published book.

Arvind Pandey
Director

I. Training/Workshop/Conference Organized

Organized training on Medical Statistics to the M.Sc. Students of different universities, viz. Banaras Hindu University - PG students of Health Statistics, Institute of Medical Sciences, and Statistics, Faculty of Sciences. (Number trained during 2009-10 15 students from the University and 35 personnel working in projects).

Organized a session on CTRI at the Annual Conference of Indian Society for Medical Statistics (ISMS) held at Institute of Medical Sciences, BHU, Varanasi. There is overwhelm support of the International Committee of Medical Journal Editors, Regulatory body viz. Drug Controller General of India (DCGI) and GCP group to the registration of clinical trials conducted in India. The attendees of these workshops/conferences included over 300 participants from academia, clinical trials researchers, State Drug Controller Generals, journal editors, Pharma companies and CROs.

Organized the XXXI Annual Conference of the Indian Association for the Study of Population (IASP) at Sri Venkateswara University, Tirupati during Nov 3-5, 2009. The theme of the conference was **"Population and Disease Burden".** The conference was

attended by over 300 researchers, teachers, policy and programme managers and programme officers from various organizations such as UNICEF, UNFPA, NSSO, ICMR, AIIMS, IIPS, IEG, Intra health, ISEC, TISS, PRCs, BHU, JNU, SV University faculty and students etc

President addressing the delegates and release of souvenir — IASP conference, Tirupati 2009

Collaborated in organizing Annual Conferences of the Indian Society for Medical Statistics (Institute of Medical Sciences, B.H.U.: 2009). The main theme of the conference was "Statistics & Epidemiological Dimensions in Health and Medical Research"

Prof Arvind Pandey giving the presidential address at the inaugural of the conference, Prof. I.C, Tiwari, former head of the deptt of Community medicine, Institute of Medical Sciences, BHU, was also honored at the inaugural session of the conference.

- **Training Workshop on Clinical Trial and Statistical Computing**

Dated: 15 – 19 March, 2010

Funded by

Department of Health Research, Ministry of Health and Family Welfare, Government of India, and Indian Council of Medical Research, New Delhi

The Institute organized a training workshop on Clinical Trial and Statistical Computing one of the important activities of the institute towards arranging need based training programme in the field of medical statistics. Clinical trial is a highly specialized research area conducted on human beings mainly to develop and evaluate efficacy of new drugs or treatment therapies which is beneficial of treating specific disease or health problem. There is need to create awareness among the young researchers who are working or interested to work in this field to know the various research components of clinical trial studies such as developing research protocol, designing and management of study, ethical issues, data collection and analysis. It necessitates to have trained manpower to provide sustainable support to the undergoing research in various organizations. In such progrmmes, people working in the research team are drawn from different disciplines such as pharmacy, medical researcher, biostatistics etc,

Participants

The overall objective of the training workshop was to provide better understanding about the principles of clinical trial design, statistical concepts and important issues related with protocol development stage to proper execution of clinical trial studies.

A total of 20 participants from different medical institutes, research organizations and pharmaceutical companies attended the training workshop. Participants were from different disciplines such as clinicians, pharmacologists and biostatisticians.

Of the 20 participants, seven from ICMR institutes, seven from medical colleges including two from PGIMER, Chandigarh and one from Safdarjung Hospital, four from research organizations and two from pharmaceutical companies.

Foreign Visits

Prof Arvind Pandey attended annual meetings of the Population Association of America at Detroit, Michigan, USA, 29 April – 2 May 2009 with extended visits to the Institute of Behavioural Science, University of Colorado at Boulder, 3 - 5 May 2009; and Department of Biostatistics / Carolina Population Center, University of North Carolina at Chapel Hill, 6 – 9 May 2009.

Prof Arvind Pandey attended the XXVI International Population Conference of International Union for the Study of Population held at Marrakech, Morocco, 27 September– 2 October, 2009.

Dr. D. Sahu participated in the training workshop on HIV/AIDS Estimation and Projection Methods at Bangkok, Thailand, supported by WHO SERO, April 27-29, 2009.

Dr. D. Sahu underwent six-week short course on Epidemiology and Biostatistics at Epidemiology Unit, Faculty of Medicine, Prince of Songkhala University, Hat Yai, Songkhala, Thailand, Supported by WHO SERO, New Delhi, October 6- November 13, 2009

Dr. Atul Juneja participated in the 5th APCRSHR conference at Beijing China from 18-20 October 2009 with full fellowship from organizers and presented a paper on Role of sexual and obstetric practices in the development of cervical neoplasia . Honourable Minister of Health and Family Welfare Sh. Ghulam Nabi Azad was one of the members of the organizing committee and chaired one of the sessions at the conference

Honours/Awards

Prof. Arvind Pandey, Director of the Institute was conferred with the Fellow of National Academy of Medical Sciences for his outstanding contributions in health research.

Prof. Arvind Pandey, Director, was awarded Population Association of America's fellowship to attend its annual meetings at Detroit, Michigan, USA, and visit Institute of Behavioural Science, University of Colorado at Boulder, 3 - 5 May 2009; and Department of Biostatistics, University of North Carolina at Chapel Hill, USA, during 6 – 9 May 2009.

Prof. Arvind Pandey, Director was awarded International Union for Scientific Study of Population (IUSSP) fellowship to attend its XXVI International Population Conference at Marrakech, Morocco, during 27th September to 2nd October, 2009.

Dr. Atul Juneja was awarded full fellowship for attending 5th annual conference of 5th Asia Pacific Conference on Reproductive and Sexual Health and Rights held at Beijing, China from 18-20 October 2009.

II Visitors

Prof Asha Seth Kapadia, Professor of Biostatistics, university of Texas, Texas Medical Centre at Huston, visited NIMS and delivered a lecture on "Meta Analysis" and shared her experiences with the scientist of NIMS on 5th June 2009.

Scientific Studies

Completed Projects

1 NCD Risk Factors Survey Phase-I 2007-08

Project Period: 2007-09

Funded By: World Bank through MoHFW, Govt. of India

Background

The Government of India through the Ministry of Health & Family Welfare (MOHFW) initiated a decentralized, state based Integrated Disease Surveillance Project (IDSP) in the country with the assistance of the World Bank in the year 2004. The component of non-communicable disease surveillance planned periodic community based surveys of population aged 15-64 to provide data on the risk factors. It is in line to help the state health administrators to plan strategies for the control of non-communicable diseases by modifying the risk factors. All Indian states were proposed to be surveyed in a phased manner under the project. The first phase of the survey included seven states namely Andhra Pradesh, Kerala, Madhya Pradesh, Maharashtra, Mizoram, Tamil Nadu and Uttarakhand.

The overall objective of the NCD risk factors survey was to improve the information available to the Government health services and care providers on a set of high-priority risk factors, with a view to improve the quality health care and services. The survey also aimed to establish the baseline database of NCD risk factors needed to monitor trends in population health behavior and risk factors for chronic diseases over time. This would provide evidence for evolving strategies and interventions for identified risk factors in the community to reduce the burden of non-communicable diseases.

A National Technical Advisory Committee was constituted to provide the technical guidance to the survey and a National Monitoring Committee was formed for monitoring the overall progress of the project. Indian Council of Medical Research was the implementing agency while the National Institute of Medical Statistics (NIMS) was appointed as the National Nodal Agency (NNA) for coordinating the survey. Five medical institutes/colleges were selected as a Regional Resource Centre (RRC) for monitoring the quality of data collection and technical support to State Survey Agency (SSA) of seven states selected in the first phase for conducting the survey.

Survey Methodology

WHO STEPS methodology for NCD Risk Factor Surveillance has been adopted for the survey after carrying out suitable modifications. The survey was designed to provide prevalence estimates of risk factors for each 10 years age group (15-24 through 55-64) by sex (male/female) and place of residence (urban/rural). The survey used uniform sample design, bilingual schedules (English and the regional language of the state concerned), field protocol for data collection and physical measurements to facilitate comparability across states and also to ensure high quality data. For the present survey, appropriate sampling weights for households were used for urban and rural areas of the state. From each selected household one member aged 15-54 was selected using the KISH Method and all members aged 55-64 were selected. Such post stratification was used for improvement of efficiency of the estimators. For each state, post stratification weights for individuals were constructed using the age distributions by sex.

Two types of questionnaires - one at household level and another for individual level were used for the survey. At household level, information was elicited on religion, household facilities, ownership of agricultural land and livestock, and possession of durable goods for each selected household. The Individual questionnaire collected information from the selected individuals regarding demographic, behavioral and physical measurements. The individual questionnaire was divided into two segments based on WHO STEP methodology. The first section (Step-1) collected the demographic information of individuals including age, sex, marital status, education, and occupation. In the behavioural information section, information about tobacco use, alcohol consumption, diet, physical activity, history of raised blood pressure and history of diabetes were collected. In the second section (Step-2), physical measurements of individual such as height, weight, waist circumference (not measured for pregnant women), blood pressure, and pulse rate were recorded.

Characteristics of survey population

A total of 5000 households were contacted in urban and rural area of each of the seven states. The overall household response for the survey ranged from 88.6% in Kerala to 99.9% in Madhya Pradesh and Maharashtra. More than four-fifth (82%) of the households were Hindu in all the stats except Mizoram and Kerala. In Mizoram, 92% of the households were Christian whereas in Kerala, 56% were Hindu, 23% Muslim and 20% Christian.

Four in every five households in Andhra Pradesh, Maharashtra, Uttarakhand and Tamil Nadu used drinking water from a piped or hand pump whereas 73% of households in Madhya Pradesh, 70% of households in Mizoram and 28% of households in Kerala used such drinking water. Almost all the households in the seven states under study had flush or pit toilet facility. More than 90% of households in all the states except Madhya Pradesh and Uttarakhand had electricity as the main source of lighting. Three quarter households in Uttarakhand and more than two third households in Madhya Pradesh, had electricity as main source of lighting. More than half of the households in Maharashtra and Mizoram were using LPG as cooking fuel and in rest of the states it varied from a low 19% of households in Madhya Pradesh to a high 38%

in Kerala. The use of wood as cooking fuel was prevalent in 72% of households in Madhya Pradesh, 65% of households in Andhra Pradesh, 61% of households in Kerala and 57% of households Uttarakhand and Tamil Nadu. Over half of the household in Madhya Pradesh and Uttarakhand had own agricultural land. However, It was only 15% in Kerala and 30-40% in rest of the states.

The percentage of illiterate respondents ranged from a low 9% in Mizoram to a high 45% in Andhra Pradesh. Between 67-77% of the respondents were currently married in all the states except Mizoram where it was only 53%. Majority of the respondents in all the states were engaged in agriculture, domestic or manual work.

Behavioural Risk Factors for NCD

Tobacco Smoking

As per the WHO STEPS guidelines, the smokers are presented into the categories *of Current Smokers*, *Current Daily Smokers*, *Past Daily Smokers* and those who have never smoked in lifetime are classified as *Non-Smokers*. The percentage of current daily smokers varied between a low 9% in Maharashtra and high 42% in Mizoram.

Figure 1. Current daily smokers (%) by sex and phase-I states of India and

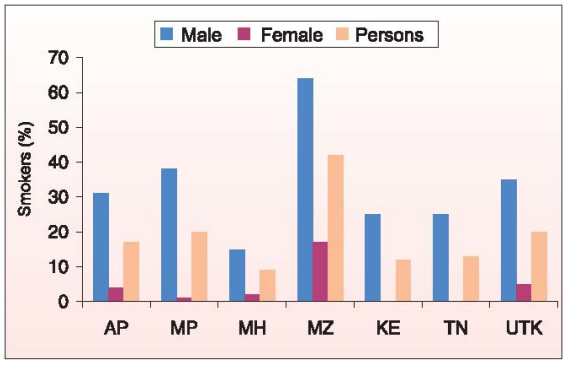
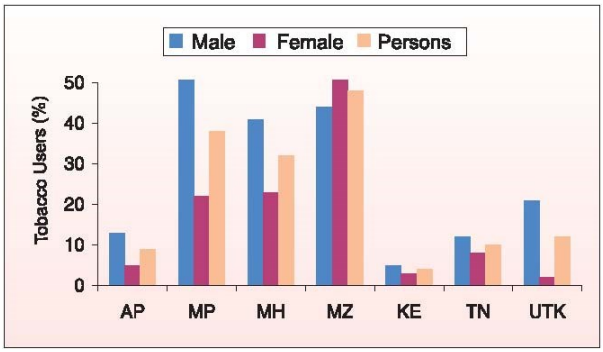


Figure 2. Current smokeless tobacco users (%) by sex

phase-I states of India



The mean number of smoking *beedis* ranged from a low of 3 in Maharashtra to a high of 14 in Uttarakhand. The mean number of smoking manufactured cigarette in a day was low in Madhya Pradesh (<1) and a high 11 in Mizorzm. The average age of onset of smoking ranged from 17 years in Mizoram to 20 years in Maharashtra, Kerala and Tamil Nadu and in rest of the states it was 19 years.

In Andhra Pradesh, Kerala, Tamil Nadu and Uttarakhand, 4-12% respondents were current daily users of smokeless tobacco. In rest of the states, it ranged from 32-48%. The mean frequency of chewing tobacco in a day ranged from less than 1 in Kerala and Andhra

Pradesh to 10 in Mizoram. The mean frequency of chewing pan with tobacco ranged from a low <1 in Madhya Pradesh and Maharashtra to a high 9 in Mizoram. The mean age of initiation of smokeless tobacco use was 18 years in Mizoram and 20 years in rest of the states among young respondents (15-34 years).

Alcohol Consumption

In the survey, percentage of the respondents reported to have consumed alcohol in past 12 months ranged from a low 11% in Mizoram to high 20% in Andhra Pradesh. Except Andhra Pradesh and Kerala, the prevalence of alcohol consumption was higher among rural respondents than their urban counterparts. The average number of standard drinks consumed on a drinking day ranged from a low of 2 in Madhya Pradesh and Maharashtra to a high 8 in Uttarakhand. The mean age of initiation of alcohol consumption regularly in the age group 15-34 years was 20-22 years in all the seven states.

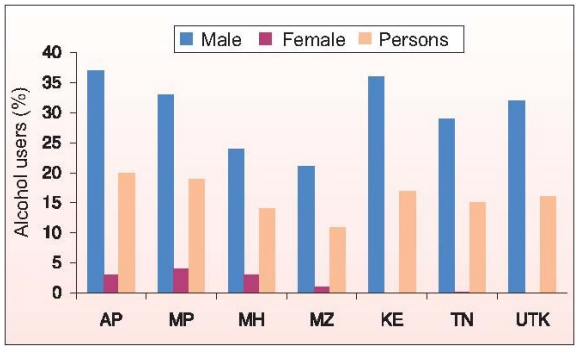


Figure 3. Respondents consumed alcohol in last 12 months (%) by sex and phase-I states of India

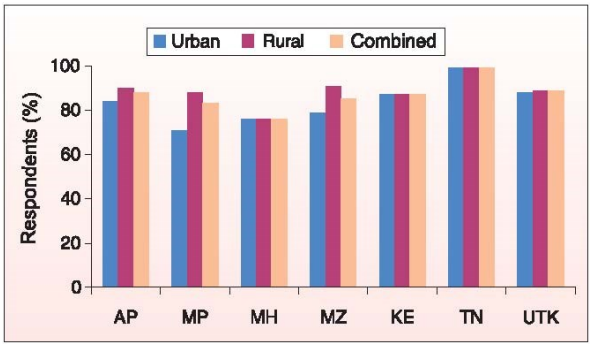


Figure 4. Respondents consumed less than five servings of fruits and vegetables (%) per day by residence and phase-I states of India

Fruits and Vegetables Consumption

In a week, people consumed vegetables 4-7 days and fruits only 2-3 days in all the states. The mean number of days in a week, when fruits were consumed, was higher among urban population as compared to rural. There was not much difference between urban and rural respondents in the mean number of days consumed vegetables in a week. The percentage of respondents consumed less than five servings of fruits and vegetables per day ranged from a low 76% in Maharashtra to high 99% in Tamil Nadu.

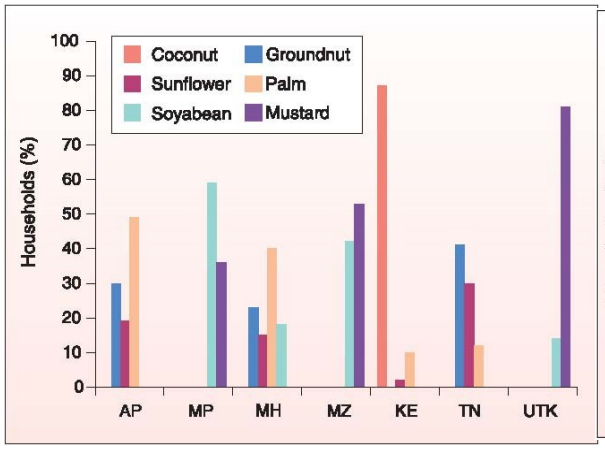


Figure 5. Type of oil consumption among the households for cooking(%) in phase-I states of India.

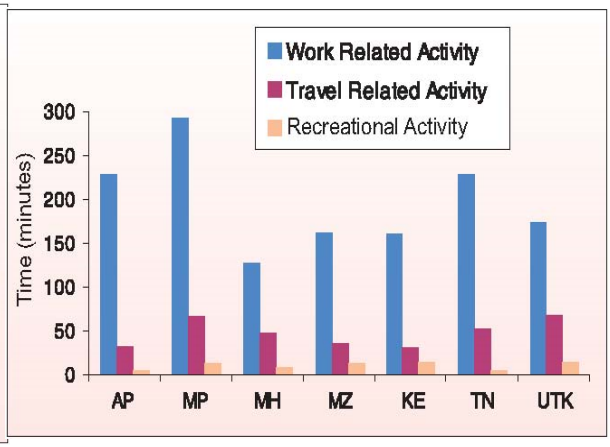


Figure 6. Mean time spent on physical activity per day (minutes) in phase-I states of India

The edible oil used commonly for cooking were mustard and soyabean oil in Madhya Pradesh, Mizoram and Uttarakhand; groundnut, soyabean and palm oil in Andhra Pradesh and Tamil Nadu. In Maharashtra, the edible oil used commonly was groundnut, soyabean, palm and sunflower oil. Coconut oil was the only edible cooking oil used commonly in Kerala.

Physical Activity

The lack of physical activity leads to obesity, hyper-lipidemia, diabetes mellitus, hypertension, and coronary heart disease. The present survey found that the mean time spent on work related physical activity ranged from a low 128 minutes per day in Maharashtra to a high 293 minutes per day in Madhya Pradesh. Most of the time spent was mainly related to work only. The mean time spent in travel related activities (cycling/walking) ranged from a low 31 minutes per day in Andhra Pradesh to a high 69 minutes per day in Uttarakhand. The

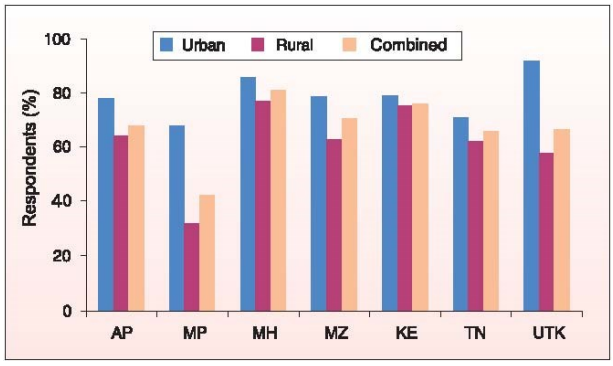


Figure 7. Low physical activity of respondents (%) by residence and phase-I states of India

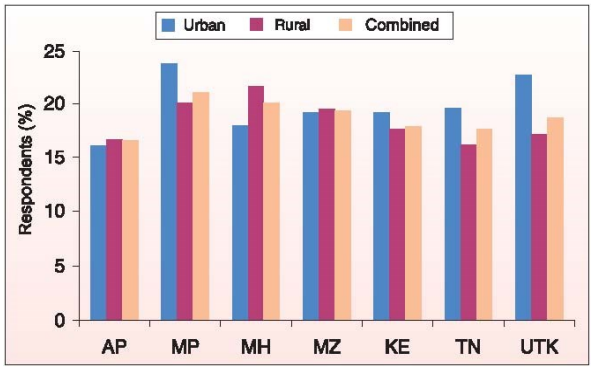


Figure 8. Stage I & II hypertension (%) by residence and phase-I states

survey also reported that the mean time spent in recreational activities was low (4 minutes per day) in Andhra Pradesh and high (67 minutes per day) in Madhya Pradesh.

As per the WHO guidelines, the total physical activity of the individual has been categorized as low, medium and high. The proportion of respondents reporting low physical activity was lowest (42%) in Madhya Pradesh and highest (81%) in Maharashtra.

Hypertension and Diabetes

Hypertension

The blood pressure is an important determinant of risk of cerebrovascular and ischemic heart diseases, congestive cardiac failure and renal failure. In the survey, the reported cases of hypertension diagnosed by health professionals, ranged from 2% in Madhya Pradesh to 9% in

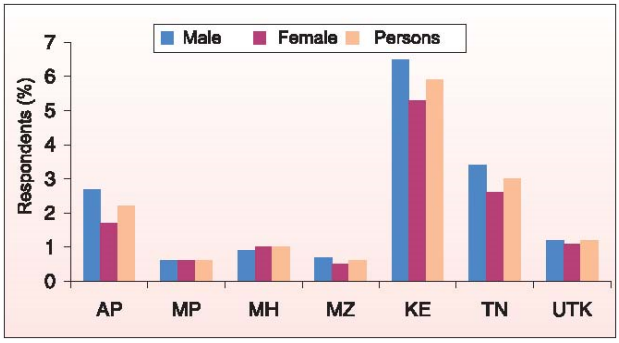


Figure 9.History of raised blood sugar (%) by sex and phase-I states of India

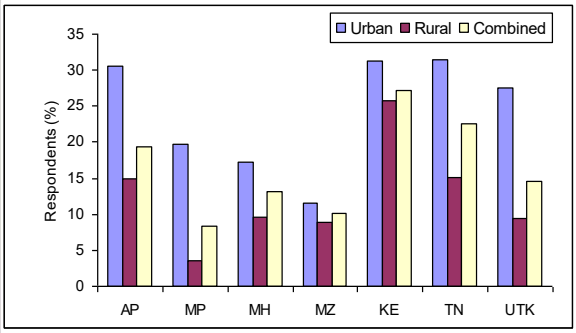


Figure 10. Overweight respondents (%) by residence and phase-I States of India.

Kerala. Among those who were diagnosed with hypertension, majority of them were on prescribed drugs. The advice on dietary modification and lose weight ranged from a low 22% to high 71% in all the states. A low 1% of such cases in Madhya Pradesh to high 22% in Maharashtra consulted AYUSH practitioners. Of those consulted AYUSH, a low 24% in Madhya Pradesh to high 81% in Uttarakhand were taking treatment from the same. The survey also carried out measurement of blood pressure as a part of step-2 of individual questionnaire. The mean systolic blood pressure in the population ranged from 123 mm Hg in Maharshtra and Andhra Pradesh to 126 mm Hg in Madhya Pradesh. Mean diastolic blood pressure ranged from 77 mm Hg in Andhra Pradesh and Kerala to 81 mm Hg in Mizoram. By categories of hypertension, 17-21% of the respondents in all the states were found in stage I or stage II hypertension.

Diabetes

Diabetes mellitus is an important marker of risk for the arterial disease of the coronary, cerebral and peripheral arterial trees, and for micro vascular disease leading to blindness and renal failure. The survey also included information on history of diabetes. A low 1% of the respondents in Mizoram, Madhya Pradesh and Maharashtra and high 6% in Kerala reported to have history of raised blood sugar. Of which, 12-46% were taking insulin and 66-87% were on oral drugs. A large number of them were advised life style modification such as diet modification, lose weight and increase physical activity. About a low 3% and high 31% (of the diagnosed) in all the states had consulted AYUSH practitioners for the elevated blood sugar levels and the compliance to the prescribed treatment of system ranged from 58-93%.

Physical Measurements

Body Mass Index (BMI)

World wide researches have shown that there is a strong association between BMI and health risk. On the other hand, low BMI is an indicator of risk to health, often being associated with tobacco, alcohol use and drug addiction. The survey recorded height, weight and waist circumference of the surveyed individuals. The mean BMI in all the seven the states ranged between 20 to 23 kg/m2 with mean height ranging from 157 to 160 cm and mean weight 50 to 58 kg. The respondents in under weight category were 14% in Mizoram 15% in Kerala and 39% in Madhya Pradesh. In other four states, respondents in the underweight category ranged from 23 to 28%. The grade I overweight was only 7% in Madhya Pradesh closely followed by 9% in Mizoram, 11% in Uttarakhand and Maharashtra where as it was 15% in Andhra Pradesh, 18% in Tamil Nadu and 22% in Kerala. The obesity of grade 2 and above was around 5% in Tamil Nadu, Andhra Pradesh and Kerala and it was around 2 to 3% in rest of the states.

The results generated through this IDSP-NCD survey would certainly focus on major issues in bringing about change or initiate various programs related to control of non-communicable diseases.

2. Survey Methodology to assess disease burden of leprosy: A pilot study in Bareilly district UP

Date of initiation : June 2009

Date of completion : Dec 2009

Funding Agency : Min of H&FW

Background & Objective

The Govt. of India, in order to see the progress towards elimination of leprosy (<1 case per ten thousand population) commissioned the task of developing a survey methodology to estimate the annual new case detection rate (ANCDR) of Leprosy in the country and States at the National Institute of Medical Statistics (NIMS). A series of technical consultations with the epidemiologist and biostatisticians held at the Institute. It was recommended to compare conventional random sampling and inverse sampling procedures in the field conditions particularly in an endemic population. Accordingly, a pilot study was undertaken in Bareilly district of Uttar Pradesh to see the feasibility of using inverse sampling with the following specific objectives:

Primary objective

The primary objective of the pilot study was to find out the feasibility of inverse sampling vis-à-vis conventional sampling technique to be adopted at the national level.

Secondary objective

The secondary objectives were to estimate new case load in the study population; assess leprosy burden by recording Grade-I and Grade-II disability cases and magnitude of stigma and discrimination prevalent in the study community.

Methodology

As per the objectives and suggestions of the expert-group of technical consultation, two Blocks, namely, Ram Nagar and Fatehganj in Bareli district of Uttar Pradesh were selected for the pilot study. The conventional random sampling procedure was considered in Ram Nagar while inverse sampling was evolved in Fatehganj. A sample of about 44,686 was considered for the survey in Ram Nagar while 25 new cases were predetermined for inverse sampling in Fatehganj.

A stratified random sampling with proportional allocation was used to get the representative sample from Ram Nagar Block PHC and three additional PHCs namely Ram

Nagar, Sirauli and Rewati which were taken as strata. In each stratum, sub-centres were selected and from the selected sub-centres, villages were selected to have a representative sample of population from Ram Nagar. The selected villages were completely enumerated.

For implementing the inverse sampling in Fatehganj Block PHC, one village was selected randomly from the list of villages of this block PHC and the first household in the selected village was taken from the prominent point to start the data collection. Complete enumeration in the village was done to get the 25 new cases of leprosy. If 25 new cases were not found then the adjoining village was selected in downward direction from the map of Fatehganj. In the similar way, sampling was continued till 25 new cases of leprosy were detected. All the members of a family were physically examined for the detection of leprosy.

Findings

Ram Nagar: Under conventional sampling, a total of 88^{020} persons were enumerated, of which 41975 (94%) were examined and rest 2711 (6%) could not be examined because they were not available being away for a longer period from home during the survey. All the available members of a family were physically examined and their status of leprosy with status of treatment was recorded in household schedule. Due care was taken to revisit the houses for the members who were not available at first visit.

Finding reveals that about 56 percent of the population belongs to the age group 1-20 years and the male population was about 54 percent. The survey found 134 cases of leprosy affected persons in the study population of which 63 cases were new cases where no treatment was taken and there were 71 old cases where the treatment was either completed or under treatment/withdrawal. Among 71 old cases, 8 cases had withdrawn the treatment, 10 cases were under treatment and rest had completed treatment. All these cases of leprosy were validated by representative of MOHFW. All the newly developed cases of leprosy were registered by the sector PHC for treatment.

Forty nine percent of new cases and 38 percent of old cases belong to age group 21-40 indicating that this age group is more prone to develop leprosy. Among new cases, 59 percent are male whereas among old cases 68 percent are male which indicates that males in the age group 21-40 years are at greater risk of developing leprosy. Multi Bacillary (MB) leprosy was found in 46 (34%) cases of leprosy affected persons. Out of these 46 cases of MB, 16 cases were found to be new cases while other 30 cases were found to be old cases. This shows that the MB cases were detected late. Among 16 new cases of MB, 6 cases have developed disability of Grade-II while no disability was found in remaining cases of MB. The remaining cases of leprosy affected persons (88) suffered from Paucibacillary (PB) leprosy of which 47 cases were new cases and 41 cases were old cases of which 5 had withdrawn the treatment and 8 were under treatment.

Out of 134 cases of leprosy affected persons, the disability in hands/feet/eye was found to be 12% (16 cases), of which one had disability of Grade I while other 15 cases (11%) had disability of Grade II and no disability was found in remaining (118) cases of leprosy affected persons. Further, among cases those who had completed treatment (53), one developed disability of Grade–I, 7 developed disability of Grade–II while remaining 45 cases completed their treatment without developing any disability. Among the 63 new cases of leprosy, 6 cases developed disability of Grade-II, of which 5 were MB cases and 1 was PB case indicating that these cases have been detected late.

Fatehganj: As mentioned, inverse sampling was used in Fatehganj block PHC. All the members of a family were physically examined and their status of leprosy with status of treatment was well recorded in household schedule. Due care was taken to revisit the house for the members who were not available at first visit. A total of 14734 persons were enumerated of which 14136 (96%) were examined, 598 (4%) could not be examined as they were not available for longer period during the survey. Therefore under inverse sampling 14734 populations was needed to cover to get the twenty five new cases of leprosy. The sampling was stopped at the 25th case of leprosy where no treatment was taken.

About 57 percent of the population in the study area of Fatehganj belongs to the age group 1-20 years and the male population was found to be about 53%. The survey found 36 cases of leprosy affected persons in the study population of which 25 cases were found to be new cases where no treatment was taken and 11 old cases where the treatment was either completed or under treatment/withdrawal. Among the 11 old cases, one case had withdrawn the treatment, one case was under treatment and in rest of them the treatment was completed. All these cases of leprosy were validated by representative of MOHFW. There were two more cases for which the status of leprosy could not be ascertained even by the experts and these cases were kept under observation by the system for confirmation. All the newly developed cases of leprosy were registered by the sector PHC for treatment.

The survey found 36 persons who were affected with leprosy. Of which 25 were new cases and 11 were old cases (either the treatment was completed or continue). It was found that 11 cases (44%) of new cases belong to the age group 21-40 years while there were 4 cases (36%) in old cases of leprosy which indicates that this age group is more prone to develop leprosy. Seventy six percent of new cases and 45 percent of old cases which further indicates that males in the age group 21-40 years are at greater risk of developing leprosy. Multi Bacillary (MB) leprosy was found in 7 (19%) cases of leprosy affected persons. Out of these 7 cases, 3 were found to be new cases while other 4 were old cases. Among 3 new cases

suffering from MB, one case developed disability of Grade-I while other 2 cases developed disability of Grade II. The remaining cases of leprosy affected persons (29) suffered from Paucibacillary Leprosy (PB), of which 22 cases new cases and the remaining 7 were old cases of which one had withdrawn the treatment and one was under treatment. Out of 36 cases of leprosy affected persons, the disability in hands/feet/eye was found to be 17% (6 cases), of which one had disability of Grade I while the other 5 cases (14%) had disability of Grade II and no disability was found in remaining (30) cases of leprosy affected persons. Further, among the 11 old cases, 3 developed disability of Grade–II and 8 cases had no disability. Among 25 new cases of leprosy, 1 case developed disability of grade I while 2 cases developed disability of grade II and all the disability cases were MB indicating that these cases have been detected late.

Estimation of ANCDR and disease burden under stratified sampling

The ANCD of Leprosy under stratified sampling is estimated as:

$$\hat{p}_{st} = \frac{1}{N}\sum_{1=1}^{L} N_i \hat{p}_i \qquad (a)$$

where, L is the number of strata and L=3 as additional PHCs are treated as strata, N is the total population of Ram Nagar and N_i is the population for i^{th} additional PHC.
Variance is given by,

$$\hat{V}(\hat{p_{st}}) = \frac{1}{N^2}\sum_{i=1}^{L} N_i^2 \left(\frac{N_i - n_i}{N_i}\right)\left(\frac{\hat{p_i}\hat{q_i}}{n_i - 1}\right) \qquad (b)$$

Estimation of NCDR under inverse sampling
The NCDR of leprosy under inverse sampling is estimated as:

$$\hat{p} = \frac{\text{Number of new cases} - 1}{\text{Total population exposed} - 1}$$

Comparison of results under inverse and conventional sampling

Population characteristics
As mentioned inverse sampling was adopted in Fatehganj while conventional sampling

procedures was carried out in Ram Nagar block PHC to estimate the ANCDR and disease burden of leprosy. The characteristics like age distribution, sex composition are found to be similar in the covered population in two block PHCs. As regards to the types of leprosy, it was found that among the 63 new cases in Ram Nagar 16 suffered from MB and in Fatehganj block PHC out of 25 new cases 3 were MB cases. This shows about one-fourth cases were late detected in Ram Nagar against 12% in Fatehganj. The disability presenting Hand/Feet/Eye were found to be similar in both block PHCs. The age distribution and sex composition of new cases were also similar.

Estimates

The study reveals that ANCDR obtained under two procedures are not much different. Similarly the disease burden is also coming out to be similar. However CV obtained by conventional sampling is little less than the CV obtained under inverse sampling. Further, it was observed that CVs lies well within the assumed value as 20% at the planning stage which shows the estimates under two sampling procedures are consistent. The population covered under conventional sampling is three times more as compared to inverse sampling. The number of working days consumed for data collection under inverse sampling is 38 days with two teams while under conventional sampling it is 62 days with three teams. Therefore, cost of data collection is more in conventional sampling as compared to inverse sampling.

Table-1: Results under inverse sampling vs conventional sampling procedure

	Inverse sampling (population covered 14734)		Conventional sampling (population covered 44686)	
	New cases	Disease burden	New cases	Disease burden
Estimate of p	0.0016	0.0020	0.0014	0.0020
SE	0.00033	0.00038	0.00015	0.00018
CV (%)	20	19	11	9
95% CI	10 to 22 /10,000	13 to 27 /10,000	11 to 17 /10,000	16 to 23 / 10,000
No. of teams (5 members)	2		3	
Working days involved	38 days(half days)		62 days (half days)	

Stigma & Discrimination

The data on stigma and discrimination were collected from leprosy affected persons, member of that family and from the community.

Leprosy Affected Persons (LAPs)
Fifty two leprosy affected persons were asked about stigma and discrimination. It was found from that about 92% of leprosy affected persons (LAP) did not know about the occurrence of disease. About 36% (19 persons) of their family member knew that he/she was suffering from leprosy. Of the responses of these 19 family members of leprosy affected person, 16 (84%) were found to be normal. As regard to the behavior of the spouse, 31 LAP were married and the behavior of their spouse was found to be supportive (58%). LAPs did not find any problem from the community (84.5%)

Family members
In total 47 family members were interviewed**.** It was found that 85% did not have any prohibition from community and they did not have any difficulty with LAP. About 89% said LAP should not be isolated.

Community
A total of 177 persons were interviewed from the community from both the block PHCs. Of these, about 77% had seen a case of leprosy and 50% responded for its curability. Among the respondents who had seen a case of leprosy, over 90% were in favour of keeping distance from the leprosy affected persons. This shows that discrimination still exists in the community.

3. PHC Facility Survey of Demographically Weak Districts

Date of Initiation : April 2007

Date of completion : December 2009

Funded by : ICMR

Objectives

The study was undertaken with the following objectives

- To take stock of the existing health facilities at the PHC level with regard to the available manpower, Infrastructure and Family Welfare services provided by them in the recent period
-
- To see the improvement in the services due to strengthening.

The study covered 379 PHCs from 83 districts (out of 90 demographically weak districts) from the undivided states of Uttar Pradesh (UP), Madhya Pradesh (MP), Bihar and Rajasthan. In addition, 136 CHCs (16 from Rajasthan, 68 from UP, 44 from MP and 8 from Bihar) were also covered. The selection of these has been done by random sampling giving due representation to all regions in the state. The information collected in the study would relate to the Coverage parameters, Physical facilities, Manpower, training status and their performances on which information was collected earlier.

Findings

Primary Health Centre

About two third of the PHC's were found to have labour room and 40 percent have operation theatres. As compared to 1993 PHC facility survey, physical facilities in terms of labour room, Operation theatre, Govt. building, residential quarters and number of Bed has increased in UP and Bihar. One medical officer was available in 70 percent of the PHC's , two medical officers were in about 18 percent of PHC's, very few PHC's were having three medical officers. The PHCs without any Medical officer has been decreased in the states of UP, MP and Rajasthan. As compared to 1993 PHC facility survey, the number of ANMs at PHCs has increased by 13 percent in Bihar. Number of LHVs were found increased by 15 % and 27% in UP and Bihar respectively. Space for out door patients was sufficiently available at all the places. The situation of supply of electricity and water was not good in the Bihar and UP. In case of emergency, the vehicles were not available at all

the places. Almost all the paramedical staff were trained and carry out all the activities related to IUD, checking blood pressure, practicing ORT, UIP, RCH and ART works in all the states. High risk pregnancies were being managed as well as being referred also at the PHCs in all the states. Normal deliveries were being conducted in all these states.

Family Planning

About 280 women were interviewed of these 40 from Rajasthan, 100 from U.P, 101 from MP and 36 from Bihar. Most of the women attending the family planning clinics were Hindu. About two thirds of the beneficiaries in Bihar and about one third of the beneficiaries were in the age group of 18-25 years. About 60% of the beneficiaries were in the age group 26-35 years in the other states. Illiteracy was more prevalent among women beneficiaries than their husbands. More than 30% of the women were illiterate in almost all the states. Most of the women were either housewife or engaged in their agricultural activity in almost all the states. The same trend was also observed in respect of their husbands also. About two thirds of the women were having sterilization in MP where as in remaing states, the women were using temporary method of contraception. Most of the beneficiaries observed physical obstacle as the main obstacles in adopting the FP methods.

More than two thirds of the women were of the view that staffs of the PHCs were explaining clearly how these methods works as well as how to use also. They were also in position to describe the side effects also and their remedies in case of its failure.

All women were also of opinion to advise other women to go to these health centres for availing the services of family planning. All women were fully satisfied with behavior of doctors/LHV/ANMs of the health centres during consultancy. There were adequate arrangements of privacy during their examination. Doctors/ LHV/ANMs of the health centres were giving proper and adequate attention to the patients. All women were visiting the health centres because the behavior of doctors as well as of LHV/ANMs were friendly.

As expected, it has been observed from the analysis that female sterilization was more among those who were illiterate or having the qualification up to the primary standard. The women who were having middle and above qualification were using temporary methods of family planning.

Delivery Management

About 200 women were interviewed of these 38 were from Rajasthan, 57 from U.P, 70 from MP and 30 from Bihar. Majority of women were Hindus in Rajasthan & Bihar. About two thirds of the women belong to SC/ST and OBC category. As evident, the Joint family

was more than three forth of the families in MP and Bihar. Majority of women who interviewed were housewife in Rajasthan & UP while the majority of women were working as agriculture labor in MP and Bihar. Similar trend was observed for the occupation of their husband. Only few were in private sectors in all the state. About two thirds women were literate with formal education in Rajasthan, MP and Bihar. Similar trend was observed in case of their husband also. Normal delivery was being observed in all most all the states.

All the beneficiaries were registered for ANC also. In case of complications, system of referral was working in all the states and it takes more than 45 minutes to reach the hospital in all the states except in UP where it takes about 25 minutes.

Almost all the women were satisfied about the attention were being given by doctors and Nurses at time of ANC as well as at time of delivery.

Ante Natal Check up

About 260 women were interviewed of these 38 from Rajasthan, 97 from U.P, 96 from MP and 30 from Bihar. It has been observed that the majority were Hindus. More than two thirds of the women belong to SC/ST and OBC category in all the states. The women from general category were 15 % in almost all the states. As evident, the Joint family was about two thirds in all the states except MP where it was about 60%.

About two thirds women were literate with formal education in Rajasthan, MP and Bihar. The proportion of illiterate women was more in UP. Similar trend has been observed in case of their husband.

Almost all women were taking doses of TT1 and TT2 from the Government hospitals. Lack of information was the main reason for those who were not getting TT.

About one third women were visiting only once for ANC in UP and MP. This proportion was higher in Rajasthan and Bihar. Almost all women were visiting Government hospitals for purpose of ANC in UP, MP and Bihar. About one fourth women were visiting private institutions for ANC in Rajasthan.

More than three fourth of women were satisfied in case of measuring the BP, weight, Urine examination, Hemoglobin, Foetal Heart sound, both doses of TT and IFA in MP and Rajasthan.

Community Health Centre

Total number of 136 CHCs (16 from Rajasthan, 68 from UP, 44 from MP and 8 from Bihar) were covered. As expected, The Medical Officers (up to six) were available at almost all

the CHCs in all the states. However, in Rajasthan and Bihar, there are more than six medical officers. The similar situation was also available in the case of general duty Medical officers. The obstetrics & gynecology specialists were available at one third places in all the states except Bihar. The same position was in case of pediatrician/ physician general duty, Anesthesia / Pathology/ Radiology and Surgery and Lady Medical Officers. At least one Pharmacist was available at all places. The Para Medical Officials i.e, Health worker (male and Female) were sufficiently available at almost all the CHCs in all the states. Staff Nurse and Class IV staffs were sufficiently available at almost all the CHCs in all the states.

The availability of Operation Theatre, Labour room, Dispensing room, Doctors room, Store, Latrines were sufficiently available at all the CHCs in all the states. All the CHCs were running in Government building. Laboratory facility room was available at all the places. The supply of adequate water supply was available at all these places.

All Medical officers and Para medical staff those who were being trained in different activities were actually doing the same activity in all the CHCs in all states. All essential medicines i.e, Medicines/ Injections IFA tablets, IFA Tablets, Vitamin A solution, Tablet Superstal/ cotrimoxazole, ORS packets, Injections & Tab methergen (Ergotamine) and Tablet Paracetamol were sufficiently available at all the CHCs in all the states except in UP and Bihar.

All essential Vaccines and Contraceptives were sufficiently available at all the CHCs in all the states except Bihar.

Ongoing Projects

1. Epidemiological Analysis and Estimation of the trend and burden of HIV, and Analytical Report of HIV Sentinel Surveillance, India 2008

Date of initiation: April 2009

Date of completion: March 2010

Study supported by: NACO, New Delhi

Background

The National Institute of Medical Statistics (NIMS) has been involved in the data management, analysis, estimation of HIV/AIDS burden and preparation of analytical report of HIV Sentinel Surveillance (HSS) data since 2002. HSS is being conducted to provide essential information on the dynamics of the HIV epidemic, monitor trends and foresee the type of inputs needed to strengthen the control programmes in different geographical areas and population groups. NIMS adopts a systematic and consultative process for estimation HIV burden in the country with the help of a national committee of experts from premier national institutions and WHO and UNAIDS. Giving the recap of the Improved estimates provided in the year 2006 and 2007, the estimation process for the year 2008 in provided in the subsequent paragraphs.

Estimation process 2006-2007

- Comparison of the current method with global methods;
- A series of workshops were organized at regional level to understand the epidemic sub-populations in the country to restructure the Workbook;
- Multiple sources of data were used to do away with the assumptions involved in the estimation process;
- A number of consultative meetings were organized with national and international experts to review and modify the estimates;

The estimates were re-calculated for the years 2002–2006 to understand the epidemic trend, following the change in methodology; and estimates for PLHIV in all ages were derived from the

- Spectrum package.

Estimation Process 2008

In 2009, NACO initiated several changes in HIV Sentinel Surveillance (HSS) activities such as expansion of sentinel sites among high risk groups, introduction of consent form, introduction of dried Blood Spot (DBS) method for sample collection among high risk groups and modified surveillance guidelines for improvement the quality surveillance data. Also UNAIDS Global Reference Group on Estimates, Modeling and Projection in the year 2009 modified estimation methodology and recommended to use new version of estimation and projection Package (EPP) instead of WHO/UNAIDS workbook and Spectrum packages for estimation of HIV burden at national level.

2. Estimation and Prediction of HIV/AIDS in India Using Deterministic Asian Epidemic Model: A case of Mumbai

Background

During past decade, Epidemiologist and Biostatistician have made several attempts to estimate and project the HIV infections in India. These resulted in availability of needed information and methods to estimate HIV prevalence in the country. However, even today, reliable trend of the epidemic at district levels are not available due to several reasons including non-availability of biological data for various groups, insufficient sample size etc. At the same time for a better planning, monitoring and evaluation of HIV prevention and care programmes it is important to know the trend of epidemic among different subgroups such as brothel and non-brothel based sex workers, clients of sex workers etc about whom information is not readily available. Even if such data is available from ad-hoc studies, it is hard to come-up with a trend with such scattered pieces of information. There are certain questions which are critical for policy makers and program implementers to arrest the epidemic effectively. Some of these questions are- *Is the epidemic is growing in the region? If so, what is the growth rate of the epidemic and which are the groups driving the epidemic? Will the same group be fueling the epidemic in future? What will most effective intervention to slow or stop this growth? What are the implications for future support, care and treatment needs?*

Obviously, very few of these questions can be answered using the existing data for any district of the

country. Mathematical and statistical models have always been a matter of choice for answering such questions. The present work is a similar attempt for Mumbai and it uses a mathematical process model known as Asian Epidemic Model (AEM) developed by the Thai Working Group on HIV/AIDS Projection (Brown T and Peerapatanapokin W, 2004). It is a full process model that mathematically replicates the key processes driving HIV transmission in Asia. As a result it has more extensive epidemiological and behavioral input requirements but offers the ability, which these other packages cannot, to examine future scenarios in which prevention and care efforts induce behavior change.

Why Mumbai? It is because Mumbai is one of the most talked about centers of HIV in India due to genuine reasons. It has got a wealth of epidemiological and behavioral data due to increased attention from researchers and program person that makes it easier to use for modeling the epidemic. Moreover, with continuous program efforts, significant changes in the epidemiological and behavioral situation have been observed in Mumbai. For example, the prevalence among female sex workers has fallen from a peak of 71 percent in 1997 to around 14 percent in 2006 (NACO, 1998; NARI, 2007). On the contrary, a rise in HIV infection among men having sex with men is seen in recent times. With all these changes happening in behavior of individuals, a process model may be the best mathematical tool to estimate and predict the face of epidemic in Mumbai.

Objectives

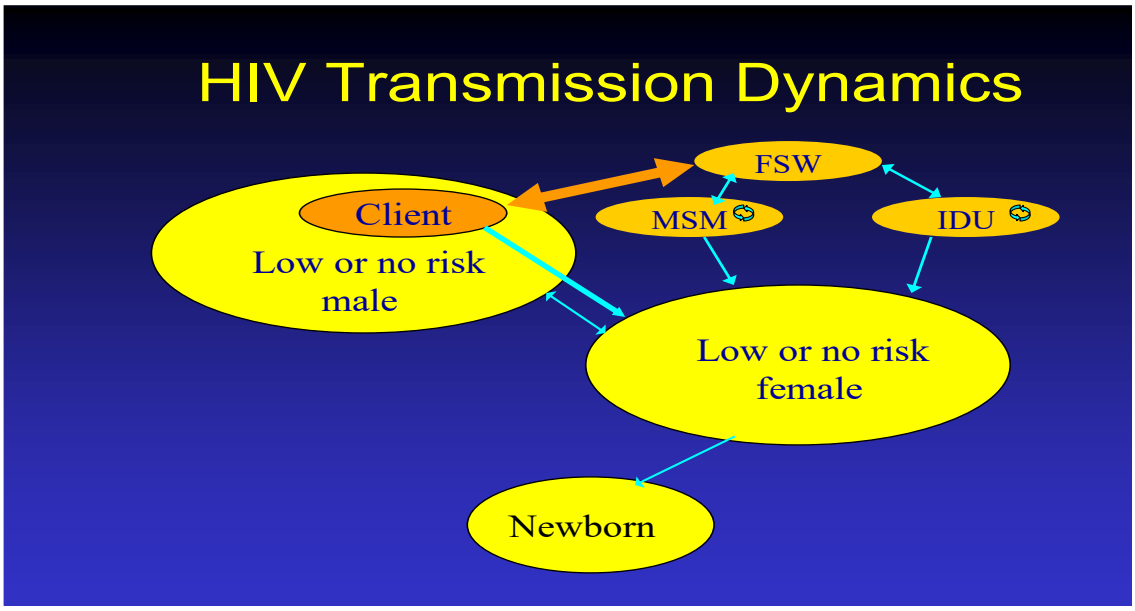
1. To present the past and future scenario of the HIV epidemic in Mumbai.
2. To develop different policy scenarios based on different assumptions about the behavior changes over time.

To find the most cost-effective strategy to arrest the epidemic

Method

As mentioned earlier the AEM is a process model – it seeks to model the key processes that give rise to HIV transmission. The epidemiology of HIV in India is conducive to mathematical modeling as the risk is focused in certain high-risk groups such as female sex workers (FSWs) and their clients, injecting drug users (IDUs) and men having sex with men and transgenders (MSM). In AEM the primary emphasis is sex work followed by sharing of needles and heterosexual transmission between males and their non-commercial female sexual partners including spouses. Further, the commercial sexual encounters between a client and female sex workers are assumed to be close to random mixing. The following Figure1 depicts the HIV dynamics as adopted in the Asian Epidemic Model -

Figure 1: HIV dynamics adopted by the Asian Epidemic Model



To summarize the above dynamics, the model assumes that the epidemic shifts from the most vulnerable populations (such as FSW, IDU, MSM) to bridge populations (clients of sex workers, partners of drug users) and then to the general population. The philosophy of AEM is simple and it uses the data on sexual behavioral as inputs. Transmission parameters (probability of HIV transmission, STD and circumcision cofactors) are then adjusted by the model until trends in HIV from the model are in agreement with observed HIV trends. Observed HIV trends in some of the groups (such as FSWs, IDUs, MSM) are also inputted in the model. Hence, with fixed behavioral trends, changing a parameter changes HIV in the model. The model allowsHence direct comparison of observed estimated trends in the epidemic. The transmission parameters are fitted because the epidemics vary from country to country in ways that may affect transmission. There are variations in health, nutritional & immune status, sexual network, HIV subtypes, STD types etc. Moreover, small variation in transmission probability is capable of producing big difference in levels and trend of the epidemic. A fuller description of the model is available in a separate document (Brown T and Peerapatanapokin W, 2004).

Progress:

Data needed as input into the model have been synthesized and entered into the programmed excel

sheet. The excel sheet is linked with the computer software designed specially to execute the Asian Epidemic Model.

Next Step:

The various policy scenarios (representing set of projections about the epidemic in Mumbai) are to be developed. This includes forecasting the HIV epidemic under different possible interventions and behavioural change. The cost of different interventions (to bring desired change in behavior) and their impact on the epidemic will be compared to identify the most cost effective strategy to arrest HIV in Mumbai. It is also proposed to carry out similar analysis in some of the other cities in India such as Kolkata and Chennai which have good wealth of epidemiological and behavioral data.

5. Study for the evaluation of the viremia in healthy adults after single dose of vaccination of japenese encephalitis sa14-14-2

Date of initiation : May 2007

Funding Agency : Ministry of Health and Family welfare through ICMR

Objectives

To determine the levels of viremia after administration of single dose of live attenuated SA-14-14-2 Japenese Encephalitis Vaccines in adult subject between day

Methodology

It is an open labeled uncontrolled, single centre trial (KEM Hospital Pune). Eligible subjects were vaccinated with single dose of live attenuated JE Trials. Subjects were evaluated for viremia between days1-8. Subjects were evaluated for safety for one year following vaccination, adverse events recorded for the study. Subjects were tested for sero-conversion on 30th day following vaccination. Subjects were tested for persistence of antibody for the period of one year

Progress

Regular visits made by Data management team of NIMS to KEM hospital Pune to monitor the progress of the work.
Advised clinical group on the recording of source data on to the designed questionnaire.

Supervised and interacted with Sristek-CRO at Hyderabad for the development of data entry module (Sristek was appointed by PATH for the development of Data entry software and data entry work under the supervision of NIMS.)

Total subjects screened-287
Subjects enrolled-35
Dropouts-3
Data entry done
Data analysis in progress

3. Integrated Behavioral and Biological Assessment - National Highways (IBBA-NH) - Round II, Mid-Term Evaluation

Date of initiation :
Funding Agency : BMGF

Background

Truckers, particularly those who ply on National Highways for longer distances, are said to play an important role in the HIV epidemic across the glob including India. They constitute part of a larger bridge population constituted mainly by clients of female sex workers in the country. The National AIDS Control program (NACP) focuses on the truck drivers to slow the spread of HIV from core groups to bridge and general populations. The three major components of the target interventions among truckers are- (1) Behavioural Change Communication (2) Condom promotion activity through social marketing and free distribution of condoms, and (3) Treatment of sexually transmitted infections (STIs).

Avahan, the India AIDS Initiative of the Bill & Melinda Gates Foundation (BMGF) started in India in 2004 with the aim of slowing down the HIV epidemic through focused, integrated, large-scale prevention programs providing saturated coverage to key populations. Integrated Behavioral and Biological Assessment on National Highways (IBBA-NH) represents an overall strategy to evaluate the Avahan intervention among long distance truck drivers (LDTD). A LDTD was defined as driver who took consignment from one place to destinations located along the national highways traversing more than 800 kilometers one-way before returning to the place of origin.

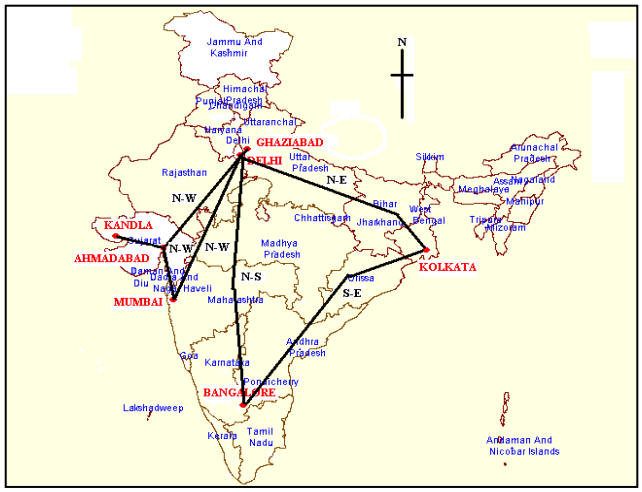
Objectives

The objectives of the IBBA-NH are:

1. To measure the major outcomes and impact of the Avahan intervention programme by collecting behavioral and biological data from long distance truck drivers;
2. To make data available for estimating size of long distance trucker's population.and for modeling the impact of the Avahan intervention program.

Methodology

With these objectives, the first round of IBBA-NH was conducted in 2007 at seven transshipment locations (TSL) covering the bulk of India's transport volume along four routes, North-East (NE), North-South (NS), North-West (NW) and South-East (SE). The route categories were the extreme road corridors traveled by long distance truck drivers. The transshipment locations on the four route categories were selected through key informant interviews with transport industry leaders that indicated that a majority of the truck drivers on the four route categories stop at least at the selected TSL for a long period of time. These were- Sanjay Gandhi Transport Nagar (SGTN), New Delhi; Ghaziabad Transport Nagar, Uttar Pradesh; Kalamboli, Mumbai; Narol Chowkdi, Ahmedabad; Gandhidham, Kandla; Neelamangala, Bangalore and Territy bazar, Kolkata. Following map shows the locations of these TSL-



Details of routes and transshipment locations

Routes

NE: North-East (Route joining the cities of Ghaziabad-Delhi-Kolkata)

NS: North-South (Route joining the cities of Ghaziabad-Delhi-Bangalore)

NW: North-West (Route joining the cities of Ghaziabad-Delhi-Ahmedabad-Kandla-Mumbai)

SE: South-East (Route joining the cities of Bangalore-Kolkata)

Round-1

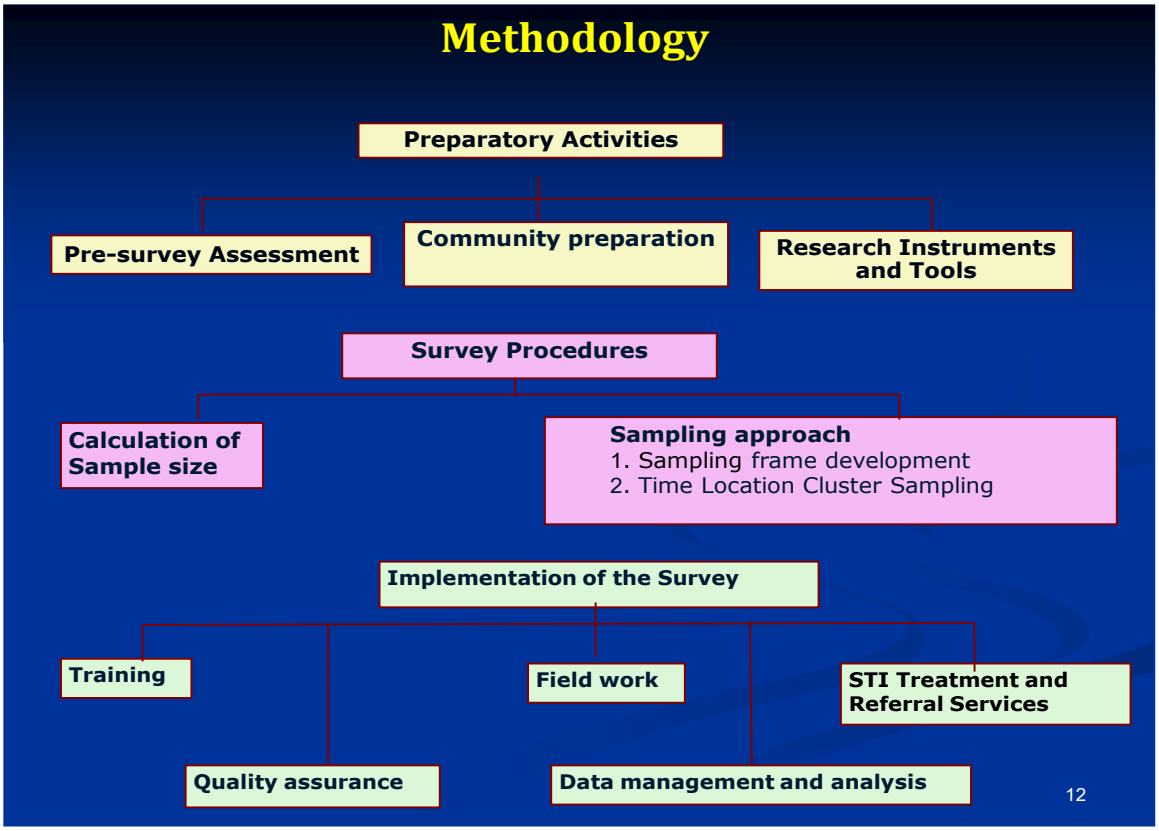
First round of the survey covered a total of 2,066 long distance truck drivers (NE- 498; NS- 540; NW- 515; SE- 513). It was the first independent large-scale survey undertaken among LDTD by collecting both behavioral risk information as well as biological specimens, including urine, blood and swab for carrying out various STI tests, including HIV. The first round of IBBA was the baseline for the Avahan programme though the assessment was launched after the Avahan interventions were in place.

Round- 2

The second round of IBBA-NH (IBBA-NH Round- 2) was conducted in 2009 – 2010 as follow-up survey to assess the changes in behavioral and biological indicators from baseline. It was conducted at same transshipment locations except for Kandla along the four aforesaid routes (namely, NE, North-South NS, NW and SE). It covered a total of 2,085 long distance truck drivers (NE- 524; NS- 538; NW- 526; SE- 497).

Survey Design

Similar to the first round, a Two-stage Time Location Cluster (TLC) Sampling was adopted to select the LDTD plying on a particular route. Same methodology and protocol were followed in both rounds of the survey to collect information on demography, work, mobility, sexual behavior – female sexual partners (wife, paid partner and non-paid partner), male/ transgender sexual partners, condom use, drug and injection practices, history and symptoms of sexually transmitted infections (STIs), knowledge of HIV and its prevention and exposure to HIV prevention interventions, undertaken by Avahan and others. For the behavioural assessment, confidential, face-to-face interviews using structured questionnaires were used to collect data from truck drivers. Blood and urine samples were collected from all participating truckers. Specimens were tested for HIV, reactive syphilis serology, *Neiserria gonorrhoeae*, *Chlamydia trachomatis* and herpes simplex virus type-2 (HSV-2 in 10% of samples). The step-by-step procedure of laboratory testing, storage protocol and Biological tests performed on different specimens at different testing laboratory are given below:



Preparatory Activities

A comprehensive pre-survey assessment (PSA) was undertaken to understand the local transport dynamics from the point of view of availability of drivers and business cycle of the transport offices that dispatched trucks of a particular route category and for rapport building. Community Advisory Board (CAB) and Community Monitoring Board were formed at each TSL. These were groups of people from the community (i.e. TSL) who were able to help the survey teams in rapport building, motivating transporters and truckers to support the survey and to avoid any adverse event. Persons in CAB and CMB were members of transporters' associations, leading transporters, dhaba owners etc. Besides, Community Liaising Officer (CLO) was also recruited at each TSL. He was an individual having a good understanding and relationship with the truckers. For example, an out-of-work member of the truckers' population, mechanics, paan shop owners and tea shop owners etc. He acted as an interface

between the survey team and the community at all stages of the field work (locating the Transport offices and drivers, introducing the survey team to the community, rapport building etc. At each TSL, there were one or more than one CLO (depending upon availability and size of the TSL. The survey was introduced to the community through various meetings held with them and distribution of letter from transporters' association. These preparatory activities played a vital role in rapport building, understanding the community, representing the interests and concerns of the respondents, and providing input into how the survey would operate at a site. The research instruments and tools were almost same and few modifimodified based on the

Sample Size

The sample size calculation was based on factors—the expected baseline value of key indicators, magnitude of change it is desired to be able to detect, confidence level, statistical power and design effect. The indicator that was taken for calculation of sample size was consistent condom use with paid female partners.

The sample size was estimated using the foemula based on two proportions using appropriate design effect .

The target sample size of each route category is 500 truckers and total target sample is 2000.

Sampling Frame Development:

In IBBA-NH round 1, a detailed listing of TEs was made to facilitate sampling of the target population. The listing included information about the TE, the routes they generally send transshipment, volume of trucks according to route on a usual day/week/month, availability of drivers within or outside the transshipment location's boundaries, minimum and maximum number of trucks available, working days, convenient timing for getting the list of trucks waiting for consignment from TE and convenient timing for conducting interviews. In IBBA-NH round 2, sample frame was updating/validating the existing information at the TE level by including new TEs and deleting non-existing TEs and complete sampling frame was developed

in each category.

Survey Implementation

Training:

Sampling frame Development

Two rounds of Training of Trainers (TOT) for Sampling Frame Development (SFD) Exercise was conducted for researchers and supervisors of research agency during April 15-16, 2009 and May 13-14, 2009 at NIMS;

Site-specific training of investigators to collect data for sampling frame development was carried out at Delhi, Mumai, Kolkata and Ahmadbad for each TSL;

NIMS conducted the training as trainers SFD workshops with NIMS & FHI as resource persons.

Main Survey Training:

Behavioral Component

Site-specific training of the behavioral teams (Investigators and Supervisors) was conducted at four places-

Delhi – Training of the Delhi and Ghaziabad teams

Vadodara – Training of the Mumbai and Ahmedabad teams

Kolkata – Training of the Kolkata team

Bangalore – Training of the Bangalore team during

Biological component

Centralized clinical training was provided to doctors at Safdarjung Hospital and laboratory training to Lab Technicians and doctors was conducted at the Institute of *Pathology, New Delhi* by NIMS

Fieldwork

Two/three survey teams were formed for each TSL depending on the sample size. Each survey team comprised of a supervisor, three interviewers, a laboratory technician and a medical doctor. Behavioral data was collected through face-to-face one-to-one interviews by interviewers. Blood and urine samples were collected by the lab technician. Ulcer swabs were collected by the medical officers from those respondents who had an external

genital ulcer. The fieldwork of IBBA-NH Round- 2 was conducted between September 18, 2009 and January 09, 2010. The process of data collection presents in the diagram given below. The details of fieldwork by route category is given below tables.

Route	Target Sample	Achieved Sample	Date of start the survey	Date of Completion of the survey
NE	500	524	Sep 18, 2009	Nov 24, 2009
NS	500	538	Sep 18, 2009	Jan 9, 2010
NW	500	526	Sep 18, 2009	Dec 2, 2009
SE	500	497	Oct 15, 2009	Jan 3, 2010
Total	**2000**	**2085**	**Sep 18, 2009**	**Jan 9, 2010**

Quality Assurance

Behavioral Data

Researchers from NIMS, NARI and FHI were present in the field during the preparatory work, training and actual survey;

On spot checks were done for quality and completeness of data;

Inconsistencies were checked and corrected at the site itself by the field supervisor.

Biological Data

RPR tests done at the state laboratory were monitored by the national laboratory (NARI) by re-testing 10% of the serum samples;

For the assays carried out by NARI (TPHA, HIV-J Mitra, HIV- Genedia, HSV-2 ELISA), 10% randomly selected samples were re-tested on a separate aliquot by a separate team;

For Gen-Probe APTIMA Combo 2 assay, all positive samples and 5% of all negative urine samples were re-tested on a separate aliquot at NARI.

STI treatment and Referral Services

One of the benefits to the participants of the IBBA was the access to medical examination and treatment at site clinic. Participants with symptoms of STIs were given syndromic treatment at the time of survey and they were directed to visit Khushi clinics for the treatment of STIs.

Data Management and Analysis

The behavioral data were entered twice by two different data entry operators (one at CORT and another at NIMS) using computer software "Census and Survey Processing System" (CSPro - version 3.1).

Inconsistencies in the data were sorted out by comparing two data sets and verifying with the questionnaire;

The cleaned data were used for statistical analysis. Computer Software "Stata" (version 10.0) has been used for data analysis.

During 2009-10, implementation of the survey, double data entry, data cleaning (inconsistency in the data) was completed.

6 National Sample Survey for Assessment of Disease Burden of Leprosy (2010-2011)

Period: Jan2010

Expected date of completion : April 2011.

Current Status: Sampling designed developed for the study.

Background

This study is based on the findings of the pilot study conducted during June 2009 to Dec 2009. The findings of the pilot study were presented on 16 December 2009 among the experts of leprosy and statisticians. It was agreed by the experts and the Ministry of Health & Family Welfare to adopt inverse sampling at the National level with more than one random starts to reduce the false negatives commonly encountered in the conventional sampling. This Institute was requested to develop the survey methodology at the National level for the assessment of disease burden of leprosy.

Objectives

To develop the survey design and provide the sampling frame for the national sample survey for assessment of disease burden of leprosy at state level and at National level.

Coverage

Out of 630 districts of India, a sample of 130 districts; rural as well as urban are to be covered of which 93 districts are from rural areas and 37 from urban areas. The allocation of these districts to states was done on the basis of number of districts in the state and its Annual New Case Detection Rate (ANCDR). Two blocks , one with high endemicity and other with low endemicity are selected from the selected districts. The total coverage at the national level will be about 2.43 crore. A sample of 27 new cases worked out using inverse sampling at district level.

Methodology

The sampling methodology using inverse sampling was developed during Jan-Feb 2010. All the states/UTs will be covered and the combined estimate will give the estimate at the National level. Three stage sampling design was adopted for rural population. At the first stage, districts were selected, at the second stage blocks were selected from the selected districts and at the third stage villages were selected from the selected blocks. Thus, district will be the primary sampling unit and the village will be the ultimate unit of selection. There are four random starts in each selected block. Four new cases from each random start are to be covered in the high endemic block while three new cases are to be covered from the low endemic block to get the representative sample of the blocks. Sampling will continue till the desired number of new cases will be identified. For urban areas, separate sampling design is adopted. Cities are divided into four categories; Metros, other 4 million population, 1-4 million population and <1 million population. There will be ten random starts in metros while six random starts in other cities to have an representative sample of urban population. Three new cases are to be covered in metros from each random start while five new cases are to be covered from each random start from other cities. Sampling will continue till the desired number of new cases will be detected.

Status : Field work started after the TOT conducted at NIHFW during 9-16th April 2010.

9. Clinical Trials Registry- India

Period : Started April 2006- March 2009 extended up to March 2011
Funding Agency : DST

Background

Clinical trials hold enormous potential for benefiting patients, improving therapeutic regimens and ensuring advancement in medical practice that is evidence based. However, the data and reports of various trials are often difficult to find and in some cases do not even exist as many trials are abandoned or not published due to "negative" or equivocal results. This tendency for availability of only selective information from the myriad clinical trials conducted is not commensurate with the practice of "evidence-based medicine".

Today, world over, a need has been felt on the imperative for transparency, accountability and accessibility to establish public trust in clinical trial data. This would be possible only if all clinical trials conducted are publicly declared and identifiable and a minimum set of information of all clinical trials is freely available to physicians, health researchers, academicians, pharmaceutical industries as well as the common man.

In keeping with this mandate, the WHO has set up a global platform, the International Clinical Trial Registry Platform (ICTRP) to publicly declare and identify clinical trials, by disclosing 20 (plus 1) key details of the trial at or before the enrollment of the first patient (Table 1)

Table 1

Items of the WHO Trial Registration Data Set

UTRN	Secondary Sponsor
Primary Register and Trial ID #	Date of first enrollment
Date of Registration in Primary Register	Target sample size
Title of study	Health Condition/Problem studied
Scientific Title of Study, (also give trial acronym, if any)	Intervention and Comparator agent
Secondary IDs, if any	Key inclusion/Exclusion Criteria
Contact Person (Scientific Query)	Primary Outcome/s
Contact Person (Public Query)	Secondary Outcome/s
Funding Source/s	Countries of Recruitment
Primary Sponsor	Status of Trial
	Study Type

In addition to the above items, the CTRI has added a few more data set items to be declared at the time of trial registration.

Principal Investigator's Name and Address
Name of Ethics Committee and approval status
Regulatory Clearance obtained from DCGI
Estimated duration of trial
Site/s of study
Phase of Trial
Brief Summary
Method of generating randomization sequence
Method of allocation concealment
Blinding and masking

With the developments on the global front and the growing popularity of India as a clinical trials hub, a need has been felt to set up a clinical trials registry in India as well. The Clinical Trials Registry – India (CTRI) has been set up at the National Institute of Medical Statistics, ICMR, New Delhi, India with the financial support of DST, WHO and ICMR.

The registry was formally launched on 20th July 2007 by DG, ICMR, as a primary register linked with WHO international clinical trials registry Platform (ICTRP). The CTRI (www.ctri.in) is an online platform for the registration of all clinical trials being conducted in India on health products including drugs, devices, vaccines, herbal drugs etc. from where with the click of a button, key information of all clinical trials conducted in India, will be available to all as well as neighboring countries which do not have such registries of their own. Although the mandate is for the prospective registration of trials, i.e., before the enrollment of the first patient in the trial, currently in the CTRI, ongoing, completed trials are also being registered. Currently registration of clinical trials in CTRI is voluntary and is free of cost.

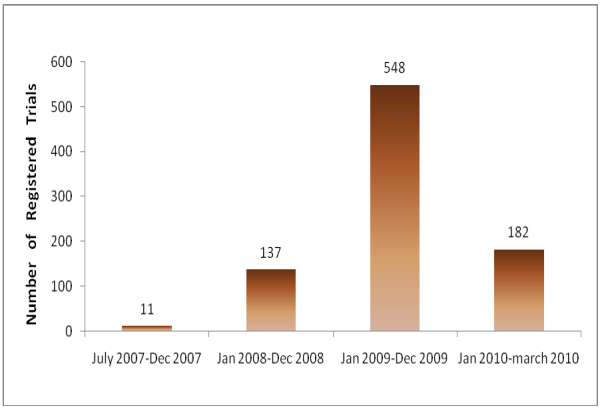
Goal and objectives of the registry

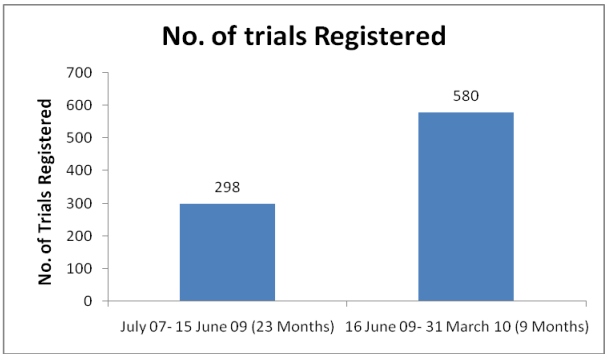
The specific goal of setting up a clinical trial registry is to ensure that all clinical trials conducted in India are registered and publicly declared and identifiable and a minimum set of information of all clinical trials are freely available to physicians, health researchers,

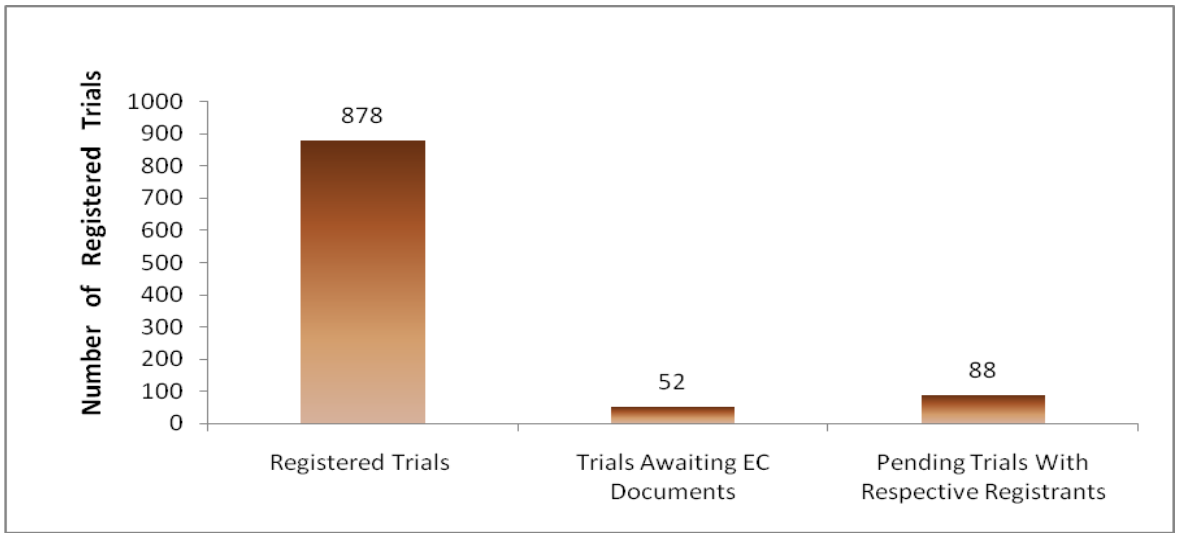
academicians, pharmaceutical industries as well as to the common man which will increase public trust in the conduct of clinical research.

The objectives of the project are to:

1. To establish a 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.
2. To create a more complete, authentic, and readily available data of all ongoing and completed clinical trials







3. To provide a corrective system against “positive results bias” and “selective reporting” of research results to peer review publication..
4. Increase awareness and accountability of all the participants of the clinical trials and also for public access.
5. To promote training, assistance and advocacy for clinical trials by creating database and modules of study for various aspects of clinical trials and its registration

Methodology

A registry for clinical trials, Clinical Trials Registry –India (CTRI) was set up by the ICMR's National Institute of Medical Statistics (NIMS). A software application is hosted on the internet. The Registry is operational; anybody who wishes to conduct a clinical trial in the country would have to declare all items of the CTRI Trial Registration Data Set

The Registry collects information on all prospective clinical trials to be undertaken in India and make this information available to the public.

One of the major functions of the CTRI is to ensure that trials are not registered more than once in the registry (deduplication). Mechanisms are to be put in place to have an effective reduplication process at CTRI.

Coverage

Initially, the registry included data of clinical trials conducted at the 29 ICMR institutes and a large number of ICMR Regional Research and Health Centers and all the clinical trials funded by ICMR, and subsequently include clinical trials being conducted by DST, DBT, CSIR, Health Ministry, NACO, AYUSH and other funding agencies. In addition, data of clinical trials will also be accrued through drug Regulatory Authorities as well as from government-aided as well as private institutions and hospitals. Currently registration of trials is open globally; all those who are interesting in registering the trials can register the trials in CTRI.

Technical Progress

Initially after the launch only 11 trials were registered by the end of December 2007. All these trials were registered before the recruitment of first patient. To increase the trial registration

various dissemination workshops were organized in Western, Southern and Eastern Zone of the country resulting in direct impact on trial registration. During 2009, w.e.f 15th June 2009, DCGI made the trial registration mandatory by issuing the notification. The awareness regarding Registry has gained momentum as evidenced by the number of hits on the CTRI site, which has crossed more than 74000 marks till March 2010, more than 900 users had been registered. The registration of trials gains momentum and rose to 878 till 31st March 2010 as compared to 548 trials till 31st December 2009. Also, the impact of DCGI notification further gains momentum in registration of clinical trials, resulting in 580 trials from 16th June 2009 to till 31st March 2010 as compared to 298 trials before the implementation of notification. (Graph-1I) About 88 trials are pending with the respective registrants for various modifications/clarifications, while 52 trials are pending with the Administrator awaiting EC/ DCGI approval documents. In addition the awareness in the public has increased and several mails have been received requesting for possible participation in the trials.

Since December 2008, trials registered in the CTRI are also searchable from the WHO's global search portal, the ICTRP. A total of 878 trials were registered as on 31st March 2010. Yearwise status of registered trials is shown in the graph.

8. Home based Management of Young Infants

Date of initiation :Trial: 2Nov., 009

Expected date of completion : April, 2010

Funding Agency :

The Indian Council of Medical Research (ICMR) carried out a Community-based study on Home Based Management of Young Infants, supported by the Ministry of Health & Family Welfare in the six districts of different states viz. Cuttack (Orissa), Patna (Bihar), Rajasmand

(Rajasthan), Yeotmal (Maharashtra), Barabanki (Uttar Pradesh). Each site covered six PHC areas with approximately 1,80,000 population. This cluster-randomized study aimed at demonstrating impact of home-based interventions delivered by village level workers in reducing neonatal and infant mortality rates. After the completion of the study (intervention period), an end line evaluation survey was required to document changes in main outcome measures (neonatal, infant mortality and changes in newborn care seeking practices).

At the instance of Secretary DHR & DG ICMR, the National Institute of Medical Statistics was involved in execution of the survey at five sites. A core committee constituted to look into strategy for end line evaluation suggested that NIMS could collaborate with the project investigators for implementation of survey, however with the specific responsibilities of both

The task of undertaking the survey with the help of Principal Investigator in the respective sites was assigned to NIMS scientists by the Director, NIMS.

The logistics involved planning of the field work, finalization of study tools, recruitment of field staff and training them and execution of the survey ensuring proper supervision and timely completion. Participted in several meetings organized to finalize the study tools and other logistics both at ICMR Hqrs and NIMS.

The field work covering all the households of all the villages in the selected six PHCs of selected district has been completed. A door to door survey was carried out with the help of local field investigators and supervisors.

Progress

Field work at the 5 sites was carried out and completed and the data entry work and analysis work is in progress.

4. The Prevention of HIV/STIs among Married Women in Urban India

Date of initiation : July, 2008
Expected date of completion: June 30, 2013
Funding agency International Centre for Research on Women, New Delhi

Objectives

Conduct formative research with stakeholders, institutional representatives and members of the study community involved in women's health to establish the current health resources available to women, to further explore women's culturally-based symptoms and life situations, to assess husband's knowledge, attitudes and behaviours with regards to women's health and to explore wife-husband interaction as factors in women's HIV/STI risk.

Develop and implement two interventions in a community-based public health facility; Enhanced Care (EC) and theory driven Couples' intervention (CI).

Test the efficacy of the proposed interventions to reduce women's risk of HIV/STI transmission in marriage through a Randomised Clinical Trial (RCT).

Methodology

Conducted the following activities :

- In-depth interviews with public & private providers,
- Interviews with women patients,
- Predictors of women's treatment preference,
- Interviews with married men in the community,
- Married couples in-depth interviews,
- Focus groups.

Current status with narrative report

This project seeks to develop and evaluate a culturally appropriate, health facility-based intervention to promote primary prevention of HIV and other sexually transmitted infections (HIV/STIs) among married women, ages 18-40, living in an economically marginal community in Mumbai, India. After completion of formative phase the project started intervention from the month of May, 2009 and in a Randomized Controlled Trial (RCT), 289 married women were recruited till March, 2010. These women were randomly distributed in four different category i.e. IC (Individual Counseling), CI (Couple intervention), IC+CI (Individual Counseling and Couple Intervention) and No Intervention (Control Group). All different arms are getting intervention independently. The total target of recruitment is around 1200 married women in next two years. Community Education (CE) program is also going on in same community taking training/meeting with Imams (Mosque Religious Leader), NGOs, Mahila Mandal and Community Health Volunteers (CHVs).

7. Infant and Child Mortality in India : Time trend and factors derived from three rounds of the National Family Health Survey

Date of initiation : November 2008

Funded by : UNICEF, New Delhi

BACKGROUND: The National Population Policy has emphasized reducing the level of infant mortality rate (IMR) to 45 by 2007 and 28 by 2012. It is under a holistic approach of reproductive and child health (RCH) wherein there is a comprehensive treatment of safe motherhood and child survival on the one hand, reduction in fertility on the other. The underlying goal is to minimize risk of death of mother and the child, and in order to achieve the aforesaid goal we need to take clue from the trend of IMR with respect to neonatal and post-neonatal component. In this context, it would be very much desirable to analyze the level and trends of IMR around the dimensions of high risk births (HRB). The HRB could either be a single risk or multiple risks. The socioeconomic and cultural factors also show variation in the level and differences in infant and child mortality. Children belonging to disadvantaged group have multiple deprivations. These in turn, account for the high levels of exposure to infections, low levels of resistance to fight against communicable diseases, inadequate care seeking and low chances of receiving prompt and effective treatment. Thus these children are less likely to survive than children born to advantaged group. However, socio-economic variables mostly act and interact through intermediate variables including maternal factors. The package of reproductive and child health programme has emphasized reducing infant, child and maternal mortality in the population. But it cannot sustain unless we illustrate the devastating effect of high risk factors having scope of changing the scenario through interventions. It would be then desirable to examine the level of IMR and under-five mortality in various aforesaid high risk groups and the related factors slowing pace of decline in its level and trend during the recent past in India and its states. Such analyses are expected to help designing appropriate intervention strategies for reducing IMR and under-five mortality across the country. Thus the present study proposes to examine the level and trend of various components of under-five mortality including neo-natal, post-natal, infant mortality and mortality during 1-4 years in

India and its major States in the context of high-risk births along with various causative factors and variation that exists across the states.

The specific objectives of the study are as under:

1. To examine the time trend of neo-natal, post-neo-natal, infant and under-five mortality in India and its major States
2. To examine the time trends of coverage of child health services, and key child health practices in India and its major States;
3. To study the factors associated with decline in neo-natal, post-neo-natal, infant and under-five mortality in India and its major States over three rounds of NFHS survey (socio-economic and service coverage and quality);
4. To analyze the inequities in child mortality and access to child health services, across economic and social groups

Data and Methodology

The present study uses data from Sample Registration Scheme (SRS), the office of the Registrar General, India. And three rounds of the National Family Health Survey, NFHS-1, NFHS-2 and NFHS-3 conducted during 1992-93, 1998-99 and 2005-06 respectively and The SRS's estimates of mortality indicators are used to study the levels and trends in child mortality prevailing during 1978–2008. The National Family Health Surveys (NFHS) data used to examine the factors associated with decline in neo-natal, post-neo-natal, infant and under-five mortality in India and its major States.

Trends in components of under-five mortality were estimated using SRS data by fitting a regression line to the relation between observations of mortality and time for each state and for India, using the methodology given by Hill *et al.* 1997. Cox-proportional hazard model has been used to estimate different components of under five mortality and factors affecting to them wile analyzing the NFHS data.

V Scientific Meetings & Conferences

Meetings/Conferences/Workshop Attended

Prof Arvind Pandey

April 1 2009	First Meeting of Expert Group on Data Triangulation at Nirman Bhawan, New Delhi.
April 3-4	First Meeting of Technical Advisory Group of Janani Suraksha Yojana (JSY) impact assessment at UNFPA, New Delhi.
April 7	First Meeting of the Working Group on 'Estimation of Children Infected with and Affected by HIV/AIDS' at NACO Office, New Delhi.
April 13	First Meeting of Technical Advisory Group for USAID supported INHP Project at India Habitate Centre, New Delhi.
April 24-25	UNFPA Supported Workshop on "Small Area Estimation" at Institute of Social and Economic Change (ISEC), Bangalore
June 1	Futures Group Meeting of Institutional Ethics Committee (IEC) in Kadamba, Habitat World, New Delhi.
June 3	Meeting of Community Based Study on Prevalence of Clinical Sexually Transmitted Diseases at NACO, Ministry of H&FW, New Delhi.
June 4	Meeting on Informal Consultation on indicators for Elimination of Kala -azar at WHO.
June 12	**M**eeting of Technical Advisory Group(TAG) to seek expert advice on design of quantitative as well as qualitative surveys for final evaluation of USAID supported INHP Project.
June 23	Expert Group Meeting on District Population Projections and Small Area Estimation at UNFPA, New Delhi.
June 24-25	National Level Consultation on Public Health Worksforce in India at Hotel Oberoi, New Delhi organized by Ministry of H& FW, New Delhi.
July 7	Meeting on Epidemiological profile of HIV/AIDS situation at district/ sub-district level using Data triangulation at NACO, New Delhi.

August 8	Seventh Meeting of the Institutional Ethical Committee (IEC) of Futures Group International at India Habitate Centre, New Delhi..
August 31-Sept.3	First State-level workshop for Data Triangulation in Karnataka on the auspicious of National AIDS Control Organization at State Institute of H&FW, Magadi Road, Bangalore.
Sept.16-19	International Conference on Environment, Occupational and Lifestyle concerns-Transdisciplinary Approach at the ICMR Complex, Nirmal Bhavan, Banglore.
October 5	Dissemination workshop on early evaluation results of targeted intervention meeting at Hyatt Regency Hotel organized by Avahan (BILL & MELINDA GATES foundation) in collaboration with NACO.
October 8	Donor Meeting to discuss issues of maternal and newborn health at PATH, New Delhi.
October 12	TAC Meeting to discuss the Draft National Report for the the project "Youth in India: Situation and Needs Study" at IIPS, Mumbai.
Nov.20	Annual Sentinel surveillance for HIV infection 2008-National Post Surveillance Review Meeting of Supervision and Monitoring by Central Team Members at NIHFW, New Delhi.
Nov.27-29	27th Annual National Conference of Indian Society for Medical Statistics(ISMS) at Banaras Hindu University(BHU) Varanasi & also attended the Special Session of CTRI-India .
Feb.16,2010	Meeting of the TAC to discuss the Final Fact Sheet of CE-NRHM at National Documentation Centre, NIHFW, New Delhi.
Feb.19-20	Chief Guest in the Valedictory session of National Seminar on "Population Development and Environment: Issues and Challenges" BHU, Varanasi.
March 16	To discuss the preliminary findings on MMR Estimates from DLHS-3 at Ministry of Health & Family Welfare, Nirman Bhawan, New Delhi.
March 20-21	Consultation Workshop on Data Triangulation at NIHFW, New Delhi.

Dr. R. J. Yadav

April 24, 2009	As a Member of International Life Sciences Institute -India Symposium on emerging Issues in food safety and nutrition at Hotel La Merdian, New Delhi..
May 18, 2009	As invited Member in workshop on Application of small Area Estimation Techniques at IASRI, New Delhi.
July 24,2009	As a Member in Meeting of Management and systems Division Council (MSDC) at Bureau of Indian Standards, Manak Bhawan, New Delhi.
August 12,09	As a Member in Meeting of Composition of statistical Methods for quality and reliability Sectional committee, MSD 3 at Bureau of Indian Standards, Manak Bhawan, New Delhi.
Sept 11, 2009	As a member in the NFHS-3 dissemination on Nutrition in India, Health and Living Conditions in Eight Indian Cities, Profile of Youth in India, Gender Equality and Women's Empowerment in India at La Meridian Hotel , New Delhi.
Sept 16, 2009	As a Member in Meeting of Panel for Basic Statistical Methods, MSD 3/P-1 at Bureau of Indian Standards, Manak Bhawan, New Delhi.
Sept 19,2009	As member in the meeting of Governing body of Institute of Applied Statistics and Development Studies, Lucknow at New Delhi.
Sept 24, 2009	As member of Selection committee for the post of Research fellow, Division of RHN, ICMR.
Oct 29,2009	As a member in the " Brain storming consultation to strengthen the capacity of health delivery system and decision making process based on empirical and hard data" organized by NIHFW & CORT at New Delhi.
Nov 3-5,2009	Chaired a session in 31st annual conference of Indian Association for the study of population held at S.V. University, Tirupati.

Nov 27-29,2009	Chaired a session in 27th annual conference of Indian Society of Medical Statistics held at IMS, BHU, Varanasi.
Dec 3, 2009	As a guest of honor at RMRIMS, Patna on the occasion of annual day function.

Dec 8-10 2009	As a Member in All India *Raj Bhasha Sammelan* held at Puri (Orissa) .

Dr. Anil Kumar

24-26 August 2009	Attended training programme on reservation Policy of Govt. of India at Cochin organized by Institute of Public Administration, Bangalore.
31 August 2009	Attended meeting of Task Force for the research study "Home based Management of Young Infants" at ICMR Head Quarter.
16 September 2009	Attended a lecture in Hindi "Swine flu kya hai aur iski Roktham" By Dr. Sarman Sing at ICMR Head Quarter.
5 October 2009	Attended Assured Carrier Progression meeting at ICMR Head Quarter, New Delhi
6 October 2009	Attended meeting of TOT the research study on "Home based Management of Young Infants" at ICMR Head Quarter.
7 December 2009	Attended Scientific Advisory Committee meeting of the institute.

Dr. Abha Aggarwal

16 April 2009	Attended a meeting with WHO, NRA team members for Clinical Trials at ICMR.
5 May 2009	Attended meeting for JE Virus Trial at ICMR
21 May 2009	Attended BPG meeting of CTRI via teleconference
5 June 2009	Attended a lecture on Meta Analysis at NIMS by Prof. Asha Kapadia,USA
16 -17 June 2009	**Invited** as a Selection committee member at CCRH for the selection of five Research Officers.
18 June 2009	**Invited as a subject expert** for protocol designing for a study entitled "study on prevention of Epidemic fever in the state of Kerala" in the CCRH.
3 July 2009	Attended a meeting with DDG(Lep) for Pilot study at MOHFW
14h July 2009	Attended a meeting as a member at central council for research in homoeopathy for pilot project on treatment of Kala azar with Homoeopathy in District Muzaffarpur, Bihar.
16 July 2009	Attended and presented the progress of CTRI in project review meeting at Hyderabad.
17 July 2009	**Invited as a subject expert** in the Assessment Board for assessment of scientists in CCRAS, Janakpuri.
16 October 2009	**Invited** in a meeting in central council for research in homoeopathy for finalization of protocol for the proposed study on Chikungunya Arthritis.
7 Dec 2009	Attended and presented research work in SAC at NIMS.
16 Dec 2009	Attended and organized a meeting with Leprosy experts from MOHFW and Statistician to present the report of the pilot study of leprosy at ICMR.
4 – 5 January 2010	Attended and presented the sampling design for "National Sample Survey to assess the disease burden of leprosy" in a meeting organized by MOHFW at NIMS.

6 January 2010	Invited as a Selection committee member of Indian Council of Medical Research for the selection DEO and Scientist for the study entitled "Pre-Programme introduction of Cyclofem and Noristerat Injectable Contraceptive through district hospital and NGO clinics.
18 Jan 2010	Attended and presented the sampling design for urban population for National Sample Survey to assess the disease burden of leprosy in a meeting organized by MOHFW at NIMS.
25 January 2010	Participated actively as a resource person in a training programme of Students of IIPH on clinical research.
2 Feb 2010	Attended and presented the selection of urban areas for National Sample Survey to assess the disease burden of leprosy in a meeting organized by MOHFW at NIMS.
10 Feb 2010	Attended and presented the final sampling design for National Sample Survey to assess the disease burden of leprosy in a meeting organized by MOHFW at NIMS.
26 Feb. 2010	**Invited as** resource person to disseminate CTRI in the special session at Dayanand Medical College and Hospital at Ludhiana.
4 – 5 March 2010	Attended and presented the sampling design for "National Sample Survey to assess the disease burden of leprosy" in a meeting organized by MOHFW at NIMS
13 March 2010	Attended a Selection committee meeting for the post of Statistical Assistant in CCRH , NOIDA at 2.00 p.m.
17 March 2010	Attended a meeting to finalize the details the selection of blocks and random starts for Rajasthan and UP at MOHFW at 10 AM.
18 March 2010	**Invited as resource** person to deliver **two lectures** on sample size determination and on CTRI in training programme on clinical trials and statistical computing at NIMS.

Workshops/Conferences

3-5 Nov, 2009	Attended and presented a paper" Inverse sampling for estimation of disease burden of Leprosy" during IASP at Triputi.
6 - 7 Nov 2009	Invited by MOHFW as a resource person for presenting the

	methodology of "Estimation of New Cases in India – A Methodology" at National Conference for state Leprosy Officers at BHU,Varanasi.
27-29 Nov 2009	Invited for organizing a session to disseminate CTRI as a Resource person during 27th Annual conference of ISMS at BHU Presented a Paper on Survey Methodology for estimation of disease burden of leprosy during 27th ISMS conference. **Chaired two sessions during 27th Annual conference of ISMS.**

Dr. D Sahu

April 8-9, 2009	Capacity Building Workshop on "Epidemiological Appraisal of the HIV/ AIDS Situation", NACO, New Delhi, April 8-9, 2009.
April 15-16, 2010	Training of trainers (TOT) for Sampling Frame Development of IBBA-NF project for Researcher and Supervisors organized by NIMS at NIMS, New Delhi.
May 13-14, 2010	Second Training of trainers (TOT) for Sampling Frame Development of IBBA-NF project for Researcher and Supervisors organized by NIMS at NIMS, New Delhi.
May 22, 2009	Review meeting of the research project entitled "Infant and Child Mortality in India : Time trend and factors derived from three rounds of the National Family Health Survey", UNICEF, New Delhi, May 22, 2009.
June 8-10, 2009,	Sample Frame Development (SFD) training at Site level for Investigator at Sanjay Gandhi Transport Nagar organized by CORT, New Delhi.
June 15, 2009,	Working Group meeting on HIV Estimation at NIMS, New Delhi
August 3-5, 2009	Epidemiological profile of the HIV/AIDS situation at district and sub-district levels using data triangulation - first national workshop, NACO, New Delhi, August 3-5, 2009.
August 18- 22, 2009	Training of Behavioral Teams for Main Survey in IBBA-NH Round 2 for Field Investigators (Delhi and Ghaziabad) at New Delhi organized by CORT, Vadodara.
August 24- 31, 2009	Training of Behavioral Teams for Main Survey in IBBA-NH Round 2 for Field Investigators (Mumbai and Ahmadabad) at Ahmadabad organized by CORT, Vadodara.
September 8-10, 2009	State level workshop on HIV epidemiological profiling using data

	triangulation under NACP-III for DPO-DAPCUs & District Supervisors, IHAT, Bangalore, September 8-10, 2009.
November 12, 2009,	Working group review meeting on HIV Estimation at NIMS, New Delhi
November 23, 2009,	Working group review meeting on HIV Estimation at NIMS, New Delhi
December 7, 2009	Scientific Advisory Committee of National Institute of Medical Statistics, New Delhi, December 7, 2009.
Dec 29-31, 2009,	Working group review meeting on HIV Estimation at NIMS, New Delhi.
Jan 6, 21, 28, 2010,	Working group review meeting on HIV Estimation at NIMS, New Delhi.
January 6-8, 2010,	Visited to review of Completed IBBA-NH Bangalore fieldwork
February 12, 2010,	Meeting for discussion on statistical analysis of Research study at central Council for Research in Homeopathy, Janakapuri New Delhi.
March 3, 2010,	Working group review meeting on HIV Estimation (Dr. John Stover, Future's Group) at NIMS, New Delhi.
March 12-13, 2010	Review meeting of the research project entitled "Infant and Child Mortality in India: Time trend and factors derived from three rounds of the National Family Health Survey", Gurgaon, March 12-13, 2010.
March 25, 2010,	Working group review meeting on HIV Estimation at NIMS, New Delhi.

Dr Tulsi Adhikari

16 April 09	Meeting on the Heath card development of the students of DPS School at DPS society
14 May 09	Meeting to monitor the progress and plan the data entry issues of the study on JE trials (Adult Viremia Study) at KEM Hospital Pune.
5 June 09	Attended lecture on Meta analysis at NIMS by Prof Asha Kapadia of University of Texas USA
31 August,09	Technical Advisory committee meeting for project on home based management of young infants.

6 Oct 09	TOT for the project on Home Based Management of Young infants at ICMR New, Delhi
27-29 Nov 09	Poster presentation at annual conference of ISMS held at Institute of Medical Sciences BHU, Varanasi
16Feb 10	Meeting on possibility of the health card finally evolving into a smart health card for student at DPS Society New Delhi
18-19, 26 March2010	Meeting on data management issues at Sristek Hyderabad in connection with study on JE Trials being conducted at Pune

Dr. Atul Juneja

16 April 09	Meeting on the Heath card development of the students of DPS School at DPS society
14 May 09	Meeting to monitor the progress and plan the data entry issues of the study on JE trials (Adult Viremia Study) at KEM Hospital Pune.
26 May 2009	PRC Meeting (for North Eastern Projects) of ECD
5 June 09	Attended lecture on Meta analysis at NIMS by Prof Asha Kapadia of University of Texas USA
31 August,09	Technical Advisory committee meeting for project on home based management of young infants.
24 Sept 09	Delivered lecture on sampling methodology to functionaries of voluntary organizations on Monitoring and Evaluation of development programmes for women and children at NIPCCD, New Delhi
18-20 Oct.09	Presented a paper on Role of sexual and obstetric practices in the development of cervical neoplasia at 5th APCRSHR conference at Beijing China
22 October,09	PRC meeting for Projects from North East region
27-29 Nov 09	Presented genesis of CTRI at a special session held on Clinical Trial Registry-India at annual conference of ISMS held at Institute of Medical Sciences BHU, Varanasi
18-20 Oct.09	Presented a paper on Role of sexual and obstetric practices in the development of cervical neoplasia at 5th APCRSHR conference at Beijing China

22 October,09	PRC meeting for Projects from North East region
27-29 Nov 09	Presented genesis of CTRI at a special session held on Clinical Trial Registry-India at annual conference of ISMS held at Institute of Medical Sciences BHU, Varanasi
16Feb 10	Meeting on development of Health card at DPS Society New Delhi
25 Feb 10	PRC meeting of ECD for Projects from North East region at ICMR, New Delhi
18-19, 26 March'10	Meeting on data management issues at Sristek Hyderabad in connection with study on JE Trials being conducted at Pune

Mr. B.K.Gulati

Aug 3-5, 2009	Epidemiological profile of the HIV/AIDS situation at district and sub-district levels using data triangulation - first national workshop, NACO, New Delhi.
Sep 8-10, 2009	State level workshop on HIV epidemiological profiling using data triangulation under NACP-III for DPO-DAPCUs & District Supervisors, IHAT, Bangalore.
Nov 3-5,2009	XXXI Annual Conference of the Indian Association for the Study of Population (IASP), S.V. University, Tirupati,.
Dec 7, 2009	Scientific Advisory Committee of National Institute of Medical Statistics, New Delhi.
March 12-13, 2010	Review meeting of the research project entitled "Infant and Child Mortality in India : Time trend and factors derived from three rounds of the National Family Health Survey", Gurgaon.

Mr. Kh. Jiten Kumar Singh

Jan. 22-23, 2010	A paper entitled "Trends in Primary Schooling in Major states in India: Evidence from NFHS", **National Conference on a Challenges in Human Development** at Yanam, Pondicherry University.
Nov. 24-25, 2009	A paper entitled "Inequality in School Participation at Primary Stage among Muslims and Hindus in India: Evidences from NFHS III, **National Seminar on 'Human Right and Social Security in the Age of Globalisation'** Jamia Millia Islamia, New Delhi.

Nov. 5-6, 2009	A paper entitled "Recent Trends in Schooling among Muslims in Major States in India: Evidences from National Family Health Survey and Some implications" at the **National Educational University for Planning and Administration**, New Delhi.
Nov. 3-5, 2009	A paper entitled "Prevalence of Prehypertension and Hypertension in Andhra Pradesh, India", at the **XXXI Annual conference of IASP, Tirupati**.

Invited Talks

Prof. Arvind Pandey

May 19	Brainstorming Session to discuss the need, policies, methodology, deliverables etc. for both Data Repository as well as Clinical Data Management at ICMR.
June 18	Presentation on "Health Research in Europe" at the European Commission at Brussels at ICMR.
June 26	Scientific Advisory Board (SAB) Meeting at ICMR.
April 8-9	Invited as a Resource person in the Capacity Building Workshop on Epidemiological Appraisal of the HIV/AIDS Situation at NACO, New Delhi.
July 14	Lecture on 'Vital Statistics' at National Academy of Statistical Administration (NASA) at Greater NOIDA.
Sept.14	Chief Guest in the Hindi Divas & Inaugurated the CEP course on "Biostatistical Methods for Life Sciences" Delivered lecture on "Overview of Biostatistical Methods" at Dept. of Defense Research & Development Orgn., (DIPAS), New Delhi.
Jan 14, 2010	International Symposium on 'India – An Emerging Destination for Clinical Trials' at ICRI, New Delhi at India Habitate Centre, Lodhi Road, New Delhi. Delivered a Keynote Speech & Guest of Honors on ' Role of Biostatistics & Clinical Trial Registry' in Promoting Clinical Research'**.**

Feb.22-24	Speaker on 'Estimation of HIV' in the IAPSMCON-2010, 37th National Annual Conference of IAPSM (Indian Association of Preventive & Social Medicine) at Rajendra Institute of Medical Sciences (RIMS), Ranchi.
Feb.26-27	Delivered *a* lecture on 'Clinical Trial Registry-India-India' at Dayanand Medical College & Hospital, Ludhiana.
August 11	To take a session on Population Stabilization in the 11th Professional Development Course in Management, Public Health and Health Sector Reforms for District Medical Officers at National Institute of Health & Family Welfare(NIHFW), Munirka, New Delhi.

Meeting at ICMR & Its Institutes

April 13-14.09	ICMR's 4th Medical Development Congress on Stem Cell Research & Therapy at ASSOCHAM House, New Delhi.
May 11	Project Advisory Committee Meeting to review methods of midterm evaluation at ICMR.
May 15	Meeting of the Expert Group on Pan Masala and Oral Pre-cancers
July 14	Task Force Meeting of Statistics at ICMR.
July 15	Chairman in the Selection Committee Meeting for the temporary post under ad-hoc research project entitled" Managing the Indo-German (ICMR-HGF) Sciences Center for infectious diseases (IG-SCID)
July 16	Meeting to finalize the number of additional posts of Scientists required at ICMR institutes/Centres.
July 22	First Annual Review Meeting of ICMR's INDIAB- Phase I" study, Chennai.
Sept.7	Meeting of booster survey project sponsored by World Bank at RMRI, Patna.
Oct.26-27	SAC Meeting of National AIDS Research Institute (NARI), Pune.
August 13	Advisory Committee Meeting on MIC-Gas Patients at ICMR.
August 20	Meeting of Task Force on Statistics and Health System Research at ICMR
August 24-25	ICMR-DCI-MU Workshop on Research Methodology for Dental Professionals (RMFDP) at Maharshi Markandeshwer University(MMU), Mullana, Ambala, Haryana in collaboration with MMU and Dental Council of India.

Dec.3-4	22nd Scientific Advisory Committee Meeting (SAC) of RMRCT, Jabalpur.
Dec.8	Meeting to creating Data Repository of data generated using ICMR funds and applying Business Intelligence, Data Mining and Text Mining at ICMR.
Feb.2,2010	Meeting of Condemnation Board at ICMR.
Feb. 20	Invited as a Expert Member in the Selection Committee Meeting of NIIPER at RMRI, Patna.
Feb.25	Meeting of the North East Project Review Committee of ECD.
March 18-19	Scientific Advisory Group (SAG) Meeting of Division of Epidemiology and Communication Diseases (ECD) .

Meeting of Other Institutes

May 25,2010	Planning of the various projects involving epidemiological studies at DIPAS, Delhi.
July 14	TAG meeting of CARE India.
August 14-17	Organized the Committee Meeting of the Annual Conference of IASP at S.V. University, Trupati
October 8	Donor Meeting to discuss issues of maternal and newborn health at PATH, New Delhi.
October 10	First meeting of the Academic Board of Studies of Hindustan Institute of Medical Sciences & Research (HIMSR) & Sharda Hospital, Greater Noida,
Oct.29-30	An expert group and investigators meeting on 'Prevalence of Infertility to discuss the progress achieved, future strategies etc. at NIN, Hyderabad.
Nov.2	Workshop on Sub-national Estimation to share the progress of the research study on "Sub-national Estimation of the MDG Indicators in India" at Institution of Social and Economic Change (ISEC) at Bangalore.
Nov.3-5	31st Annual Conference of Indian Association for Study of Population (IASP) at SV University, Tirupati.

Nov.6-7	13th Annual Conference of Indian Political Economy Association organized jointly by the Punjabi University, Patiala.
Jan10-12,2010	To deliver a plenary address at the Scientific Symposium & Meeting of medical journal editors and ethics committees on 11th & Co-chaired the first plenary session at CMC, Vellore.
Jan.22-23	Clinical Trial Congress-2010 of Indian Drug Manufacturers Association (IDMA) at Mumbai & for attending the first meeting of Zydus Data Safety Monotoring Boarads at Hotel Parle International, Mumbai .
Feb.12-13	Seminar on 'Demography: International perspective and Challenges for India' at IIPS Mumbai in collaboration with IIASA, Vienna, Austria and TIFAC, New Delhi. Presented the Paper on "Issues Related to HIV/AIDS and Some Recent Infectious Diseases" & also Chaired the session "Mortality and Morbidity – some methodological issues on estimations" & Panel discussion Panel discussion on Emerging Research Issues for future collaboration.

Meeting at NIMS

May 27, 2009	Meeting to review methodology of midterm evaluation for the project entitled "Home Based Management of Young Infants" at ICMR.
June 7-9	Visited Baraeilly, UP in connection with 'Survey methodology for estimation of disease burden of leprosy: A pilot study in Baraeilly'.
July 28,	Data Safety & Monitoring Board (DSMB) for clinical trials at Cadila Pharmaceuticals at Ahmedabad.
August 10-11	Core Committee to finalize the tools and Standard Operating Procedure for endline evaluation of the Project entitled "Home Based Management of Young Infants" at NIMS.
August 14-17	Visited Ichhapuram, Orissa in connection with IBBA Survey on National Highway to review the referral and clinical arrangement at the TCIF, Khussi Clinics.
August 26	Welcome address of -Laboratory Training of IBBA Project of NIMS at IOP, New Delhi.
Sept.9-10	IBBA State Principal Investigators meeting at NARI, Pune.
October 6	Trainer's training workshop for end line evaluation of project "Home Based Management of Young Infants" at NIMS.

Dec.7	Scientific Advisory Committee (SAC) Meeting.
Jan.4-5, 2010	Meeting of National Survey of Leprosy at NIMS
Jan 27	Advanced analysis of IBBA Round 1 and Round 2 dataset at NARI Pune.
Jan.18,	Meeting of Estimation of New Cases and Disease Burden of Leprosy at National Level' at NIMS.
Feb.2,	Karnataka Health Promotion Trust (KHPT), Bangalore for the IBBA Work.
March 15-19	Clinical Trial and Statistical Computing Training Workshop at NIMS.

Viva-Voce/Examiner/Doctoral Committee Meeting

April 15,09	Ph.D. Viva Voce examination of Mr. Alok Kumar Dwivedi, Ph.D. Student in the Deptt. of Biostatistics, AIIMS on *Biostatistical Study on; Pattern of Referral and Timing of Treatment of Cancer Patients with Special Reference to Breast Cancer'.*
July 17	Ph.D. viva of Mr. Ashish Kumar Mishra at IIT Kanpur.
Sept.24	Ph.D. Viva-Voce of Mr. C. Ramesh on his Ph.D. thesis "Reproductive Morbidity, Health Facilities and Treatment Seeking Behaviour in Tamil Nadu" at Jawaharlal Nehru University, New Delhi.

Other professional responsibilities/activities

President – Indian Association for the Study of Population, 2006-08, 2008-11;

President Elect – Indian Society for Medical Statistics (ISMS), 2006-2008.

Journal Referee

Indian Journal of Medical Research, India.

Demography India, India

Journal of Family Planning and Reproduction Health Caer, UK

Demography, USA

Population Studies, UK

Population Policy Review, USA

International AIDS Conference, Austria

AIDS

STI

AIDS & Behaviour.

Dr. R. J. Yadav

Delivered Lectures on "Monitoring and evaluation in Social developmental Programme" to Officials of NGOs of different states at NIPCED, Delhi on March 16, 2009.

Delivered Lectures on "Monitoring and evaluation in Social developmental Programme" to Officials of different states at NIPCED, Delhi on September 22, 2009.

Dr. Anil Kumar

Reviewed research papers of Indian Journal of Medical Research.

Dr Abha Aggarwal

7th April 2009 Delivered lecture as Resource person "Design and Conduct of Clinical Trials" in training programme on RCT at ICPO, Noida.

Dr. Atul Juneja

9 July 09	Delivered lecture at Training Program on Biostatistics and Epidemiolgy at ICPO (ICMR)
24-25 Aug 09	Delivered a lectures at workshop on Research Methodology for Dental Professionals at Maharshi Markandeshwar University, Mullana, Ambala
25 October 09	Delivered a lecture on life table approach for estimating the risk due to cancer at DST sponsored workshop at Guru Gobind Singh Khalsa College, Taran Taran-Amritsar.
15-19 March10	Acted as resource person for the workshop on clinical trials and computing held at NIMS,New Delhi
31 March 10	Delivered a lecture at NC College of Engineering Israna, Panipat during DST sponsored workshop on Software Challenges in Engineering.

Field Visits

Dr. Atul Juneja

11 August 09	Visited Ballabarh in connection with Testing of Instrument for the Project on New Born care-Study
4-7 Jan10	Conducted training program for the supervisors appointed for the survey of project on 'End line evaluation of Home based management of Young Infants at Cuttak' Orissa and visited the field areas.
27-31 Jan10	Visited field areas of the project on 'End line evaluation of Home based management of Young Infants' at Cuttak Orissa.
17-21 Feb 10	Visited Cuttack to monitor the progress of the survey work on End Line Evaluation of Home Based Management of Young Infants being carried out in the state of Orissa.
9-14 March10	Visited Cuttack to monitor the progress of the survey work on End Line Evaluation of Home Based Management of Young Infants being carried out in the state of Orissa.

VI. Statistical Consultancy/Articles Reviewed

Dr. Abha Aggarwal

Reviewer of IJMR and IJRH

Reviewed 9 articles.

Provided consultancies to variors MD students of RML hospital, Kalawati Saran Hospital, LHMC and Safdarjung hospital.

Provided statistical consultancy for the study on "Randomized Triple Blind paraller group, active controlled clinical trial to evaluate the efficacy and safety of Herbal Medicated Tread in minimally invasive surgical management of Fistula-in-ano" at surgical department of RML hospital.

Dr. D. Sahu

Provided statistical consultancy for research studies undertaken at Central council for Research in Homeopathy, Janakpuri, New Delhi.

Dr. Tulsi Adhikari

Reviewer of IJMR

Have being providing statistical consultancy in designing, and analysis of the research studies carried out by the researcher from various hospitals, universities and research institutions.

Dr. Atul Juneja

Advised more than 10 post Graduates and faculty from Deen dayal Hospital Safdarjung Hospital Maulana Azad Medical College,GB Pant Hospital on designing of the study and analyisis for their research programs. DPS Society has been provided consultancy on the development of Health card and its computerization to keep a track of the health profile of students during their tenure in school

VII Publications

1. Abha Aggarwal, Arvind Pandey, Rohini Sehgal & Suneeta Mittal (2009) Maternal Mortality in Minorities, In N.C. Chavez Tapia and M. Urbi (Eds.) *Topics in Prevalent Diseases*, Nova Science Publishers Inc., Chapter 15, pp. 259-278.
2. Arvind Pandey, Abha Aggarwal, Mohua Maulik & S D Seth :Clinical Trial Registration Gains Momentum in India Indian J Med. Res. 130(1) pp. 85-86
3. Arvind Pandey, R.M. Mishra, Nandini Roy & K.M. Sathyanarayana (2010) Population research and millennium development goals in India, In K.S. James, Arvind Pandey, Dhananjay W. Bansod & Lekha Subaiya (Eds.) *Population, Gender and Health in India: Methods, Processes and Policies*, Academic Foundation, New Delhi, pp. 47-65.
4. Arvind Pandey, DCS Reddy, Peter Ghys, M. Thomas, D. Sahu, M. Bhattacharya, K.D. Maiti, Fred Arnold, Shashi Kant, Ajay Khera & Renu Garg (2009) Improved estimate of India's HIV burden in 2006, *Indian Journal of Medical Research*, 129, 50-58.
5. Damodar Sahu, Arvind Pandey, B.K.Gulati and Nomita Chandhiok (2010) Factors affecting postpartum non-susceptible period in Orissa: A Multivariate Survival Analysis with Time Dependent Covariates, In K.S. James, Arvind Pandey, Dhananjay W. Bansod & Lekha Subaiya (Eds.) *Population, Gender and Health in India: Methods, Processes and Policies*, Academic Foundation, New Delhi, pp. 139-152.
6. D. Sahu, J. Pradhan, V. Jayachandran and N. Khan (2009) Why immunization coverage fails to catch up in India? A community-based analysis, Child: Care, Health, Development, vol. 36 (3), pp 332-339, published online:4 Sept. 2009, Blackwell Publishing ltd. 2010.
7. H. K. Chaturvedi, J. Mahanta, Arvind Pandey (2009) Treatment-seeking for febrile illness in north-east India: an epidemiological study in the malaria endemic zone, *Malaria Journal (BioMed Central)*, Vol.8, pp.301-8.
8. H. Singh, and Singh, J.K. 2010. Public-Private Differential in Health Care and Health care Cost in India: The Case of In-patients. Population, Gender and Health in India : Methods, Process and Policies. Academic Foundation, New Delhi, 461-473.
9. J.C.Suri, M.K.Sen,U.C.Ojha,Tulsi Adhikari: Epidemiology of sleep disorder in the elderly – A questionnaire survey: Ind J. Sleep Medicine. Vol .4(1), 12-18, 2009.

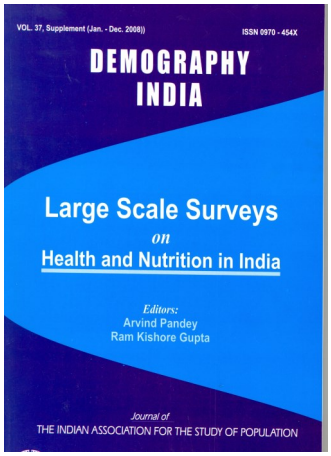
10. Ojha Ashutosh, Arvind Pandey, B.K. Gulati & B.N. Bhattacharya (2009) Unobservable heterogeneity and timing of births in Uttar Pradesh: An application of parametric failure time model of event history analysis, In KK Singh, RC Yadava & Arvind Pandey (Eds.) *Population, Poverty & Health – Analytical Approaches*, pp. 86-95, Hindustan Publishing Corporation (India), New Delhi.
11. R.J.Yadav, Rajesh Mehta, Tulsi and Arvind Pandey: An evaluation of Adolescent Friendly Health Services in India: *Health and Population- Perspectives & Issues*. Vol. 32, (2), 96-104, 2009.
12. R.J.Yadav, Arvind Pandey and Padam Singh: Indigenous System of Medicine and Homoeopathy in India: Impact of Literacy on users of traditional healers. *Journal of empirical Research in Social Science* Vol. 4. No. 1-2, 40-48, March-Sept. 2009.
13. R.J.Yadav, Padam Singh and Arvind Pandey: Utilization of Indigenous system of Medicine and Homoeopathy in Bihar. *Indian Journal of Preventive and Social Medicine* Vol. 40, No 3-4, July-Dec. 2009, 213-217.

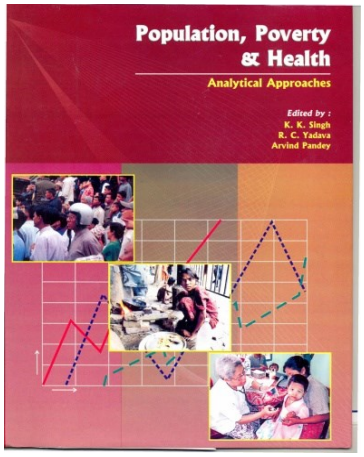
Books/Journal

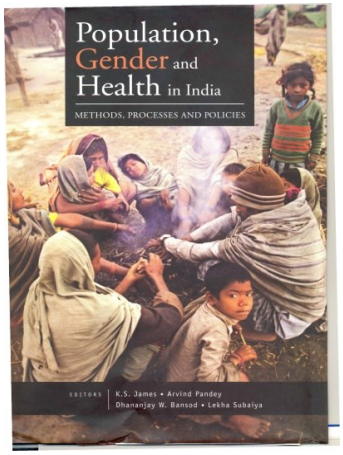
2010 *Population, Gender and Health in India: Methods, Processes and Policies,* Editors: K.S. James, Arvind Pandey, Dhananjay W. Bansod & Lekha Subaiya, Academic Foundation, New Delhi.

2009 *Population, Poverty & Health: Some Analytic Approaches,* Editors: K.K. Singh, R.C. Yadav & Arvind Pandey, Hindustan Publishing Corporation, New Delhi.

2009 *Demography India: Large Scale Surveys on Health and Nutrition in India :* Arvind Pandey, Ram Kishor Gupta, Journal of the Indian Association for the study of population.







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Head, Division ECD ICMR, New Delhi, 110 029	Member

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Dr. Sudesh Nangia, Professor (Retd.), Centre for Study of Regional Development, JNU, New Delhi-110067	Special Invitee
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