

External Evaluation of IndiaCLEN

Prepared by
IndiaCLEN External Evaluation Team

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List of abbreviations

AIIMS	All India Institute of Medical Sciences, New Delhi
BRTC	Biostatistics Resource Training Centre, Vellore
CAMR	Community-Acquired Microbial Resistance Project
CBS	Capacity Building Subcommittee
CDC	Centers for Disease Control and Prevention
CERTC	Clinical Epidemiology Resource Training Centre, Trivandrum
CEU	Clinical Epidemiology Unit
CMC	Christian Medical College, Vellore
DGHS	Directorate General Health Services
DOTS	Directly observed therapy, short course
FHAC	Family Health Awareness Campaign
GB	Governing Body
GOI	Government of India
GMC	Government Medical College
IBIS	Invasive Bacterial Infections Surveillance
IRB	Institutional Review Board
ICMR	Indian Council for Medical Research
IDSP	Infectious Diseases Surveillance Program
IIDI	Infectious Disease Initiative
INCLN	International Clinical Epidemiology Network
IndiaCLEN	India Clinical Epidemiology Network
IndiaSafe	India Survey of Abuse in the Family Environment
IPEN	IndiaCLEN Program Evaluation Network
IPHIDE	IndiaCLEN Program for Health Intervention Development and Evaluation
JHU	Johns Hopkins University
KGMC	King George Medical College, Lucknow
LAMP	Leadership and Management Program
MDR TB	Multidrug resistant tuberculosis
MI	Micronutrient Initiative
MMC	Madras Medical College, Chennai
MOHFW	Ministry of Health and Family Welfare
NACO	National AIDS Control Organization
NACP	National AIDS Control Programme
NHRI	Neonatal Health Research Initiative
PIP	Project Implementation Plan
RNTCP	Revised National TB Control Program
RSC	Research SubCommittee
SAPNA	South Asian Pneumococcal Network
STI	Sexually transmitted infections
TNMGR	Tamil Nadu MGR Medical University, Chennai
UNICEF	United Nation's Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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Executive Summary

IndiaCLEN, one of the 7 regional networks of INCLEN, is now in its 15th year of existence. It is registered as a non-profit health research organization. Beginning with membership of 45 INCLEN trained fellows in clinical epidemiology, research and related disciplines, IndiaCLEN currently has 200 members. The majority of these members are affiliated with 7 clinical epidemiology units (CEU) located in leading medical institutions of the country.

The mission of the organization is to improve the health of disadvantaged populations, particularly in low and middle-income countries, by promoting equitable health care based on the best evidence of effectiveness and the efficient use of resources. The organization intends to achieve this by using the network to conduct collaborative, interdisciplinary research on high priority health problems, and to train future generation of leaders in health care research.

Keeping in view the long journey made by the organization and the changing health care scenario in the country, the INCLEN Trust and IndiaCLEN decided to have an external evaluation done in order to obtain an objective, independent and credible report of strengths and weaknesses of the organization. The evaluation would help IndiaCLEN make necessary changes in its organizational structure and operations to improve its effectiveness and efficiency. Also, it would serve the funding agencies by allowing them to make informed choices on utilizing the services of IndiaCLEN.

The evaluation was carried out in March 2006 by a team of two national and two international professionals who reviewed relevant IndiaCLEN documents and reports, and interviewed key officials from the IndiaCLEN administrative office, all seven CEUs, and major stakeholders. The evaluation team was asked to address: 1) why health professionals should seek membership in IndiaCLEN; 2) why should members route their projects through CEUs; and 3) why should the funding agencies deal with IndiaCLEN rather than dealing directly with individual members or institutions; and 4) what steps are necessary to sustain IndiaCLEN in the future.

The study team found that IndiaCLEN has a strong team of highly committed and trained professional researchers who are willing to work extra besides their routine assignments (in their parent institutions). The model of operations of the IndiaCLEN through capacity building within medical colleges and not creating a parallel organization has generally been successful and exemplary. Most of the host institutions have adopted the CEUs well and are providing continued support to their operations. The organization has established its credibility in the market by conducting high quality research. Scientific productivity of IndiaCLEN has several major success stories; IndiaCLEN has produced scientific work of high quality that led to sound policy formulation and effective program implementation. The funding organizations hold a very high opinion about the IndiaCLEN and have shown interest in working with it in future.

Despite many strengths and successes to its credit during its 15 years operating in India, changes in its external environment—both in terms of the larger scientific community of India and its funding sources—and aging of its internal environment requires the IndiaCLEN to consider a set of transformative decisions.

Some of the activities of IndiaCLEN need to be strengthened. These areas include networking with stakeholders, new business development (especially for competitive research or program evaluation funds), quality assurance of research projects, dissemination of research findings

and advocacy to bring about policy changes. To do so the IndiaCLEN needs to “professionalize” its operations by strengthening central management, as the current organizational structure and its network is considered loose. The team recommends establishing a strong Executive Office with full time professionals based in Delhi to provide leadership. The sub committees that control the major functions of the CEUs are considered to have poor operational effectiveness and therefore should be disbanded. The Executive Office may take over and carry out these functions with the help of an external review process.

Representation of potential funding agencies and external experts on the governing board (GB) of the organization is relatively poor and thus should be improved. The GB should ensure that the organization maintains its distinction as a group of clinical epidemiologists and should not over time dilute into a survey / descriptive research organization.

Given the potential crisis related to the impending retirement of the vast majority of the originally trained members, leadership responsibilities at the specific CEUs should be transferred to younger members of the CEUs. Leadership roles should no longer be based on seniority or whether the CEU member was originally an INCLIN trainee but instead should be based on the competence and commitment of the member to carry forward the IndiaCLEN movement. The selection of CEU Directors may be done centrally rather than leaving it on the CEUs where the pre-existing hierarchy may be strong and thus likely to influence the selection process.

In order to attract funding agencies to deal with the IndiaCLEN rather than dealing directly with the individual members or institutions, the IndiaCLEN should emerge as a strong research body that assures the quality and timeliness of delivery of its products to client organizations. This might also attract individuals to join the organization. To achieve more autonomy and functional efficiency, individual CEU’s should consider registering under the Registration of Society’s Act in collaboration with the host institution.

To expand its network, IndiaCLEN should rapidly move to operationalize the by-law changes of January 2006 that make it a far more open membership organization. Though the by-laws now permit interested scientists to join IndiaCLEN more readily, after a 15-year legacy of perceived “clubbiness” and exclusivity, IndiaCLEN has a major “marketing” task before it to truly serve as an open society of scientists interested in high-quality clinical epidemiologic and other public health research of value to the population of India. The three-tiered membership (Life, Associate and Honorary) should be dropped as it may have the unintended consequence of reinforcing the perception of clubbiness and exclusivity.

The existing capacity building initiatives are considered inadequate to expand the IndiaCLEN network. In this context a well-designed crash course in clinical epidemiology along with a road map need to be prepared.

IndiaCLEN should accelerate its efforts to diversify its funding sources with a major initial focus on securing GoI resources rather than external financing. Building strong networks and relationships with the line departments of the MOH at the central and state levels is crucial for the long-term sustainability of the organization.

Presently the CEUs are dependent on the organization (IndiaCLEN) for core grants for maintaining administrative and support staff—this support may not continue for long. A portion of the funds raised through research activities, consultancies, or training should be utilized for the administration and management of the individual CEUs. Alternatively, the

individual CEUs should consider requesting core support from their respective academic institutions in extended, multi-year agreements. IndiaCLEN core grant support to CEUs should be phased out in a time bound period. In long term, the CEUs may even contribute to the central office to support the costs associated with IRB review, financial oversight, communications, and dissemination activities.

Mechanisms should be devised to provide incentives, such as certificates plus cash, to investigators to bring research funds into their Units. Although, the evaluation team was not specifically asked to look into it, it was felt important for the health and viability of the CEUs.

Overhead expenses in the organization seem to be high and thus invite cost containment measures. The academic activities, i.e. training programs, workshops, conferences, should have definite objectives and specific target groups. Scientific evaluations should be inbuilt in these programs to assess their success and to gain insight into approaches needed to improve the programs. The participants must contribute partly towards the cost of these activities so that they can become self-sustaining.

In the initial stages, the strengthening of central office may increase the financial burden on the organization but within a period of 3 years the Executive Office should compensate it and even generate surplus by developing new business.

Overall, the study team is fully convinced that the activities of the IndiaCLEN conform to its mission. The organization has many internal strengths and there are tremendous opportunities for new research activities in the current environment. By strengthening the central command of the organization, expanding the network in a systematic way, playing a proactive role in securing competitive funds and controlling the overheads, IndiaCLEN can play a vital role in developing clinical research capability in medical institutions throughout India, thereby contributing to improvement in the health of the community.

Chapter 1

Introduction

Background

IndiaCLEN, one of the 7 regional networks of INCLEN, is now in its 15th year of existence. It is registered as a non-profit making health research network with the registrar of societies at Trivandrum, Kerala since 1992. Beginning with membership of 45 INCLEN trained fellows in clinical epidemiology, health economics, biostatistics and health social sciences, IndiaCLEN currently has 200 members. The majority of these members are affiliated with 7 clinical epidemiology units located in leading medical institutions of the country.

Mission Statement (2003-07)

The INCLEN mission states, “We are a unique global network of clinical epidemiologists, biostatisticians, social scientists and other health professionals affiliated with key academic healthcare institutions. We are dedicated to improving the health of disadvantaged populations, particularly in low and middle-income countries, by promoting equitable health care based on the best evidence of effectiveness and the efficient use of resources. We achieve this by using the network to conduct collaborative, interdisciplinary research on high priority health problems, and to train future generation of leaders in health care research.”

Goal of IndiaCLEN

- To remain functionally strong, sustainable and progressive network which is known nationally and internationally for its demonstrated performance and capacity to achieve worthwhile outcomes both in the fields of medical research and education.
- To achieve above – we, the members, constantly strive and do all we can
 - To be a leading health research and capacity building network in the country
 - To be one of the successful members of regional CLEN family
 - To strengthen INCLEN trust

The primary activities of the network are:

- a) To design, conduct, publish and disseminate multidisciplinary health research of high quality which is relevant to local, regional and national needs.
- b) Intra and extramural capacity building to support and sustain the above activity on a long term basis.
- c) To bridge the gap between clinical and public health teaching training and research activities in the country.
- d) Actively interact with policy makers and program managers of various national, regional, public health programs in order to provide technical support/consultation in the designing of new programs/revised programs and perform external evaluation of these public health activities to suggest improvements in their performance.

Need for Evaluation

Keeping in view the long journey made by the organization and the changing health care scenario in the country, the INCLIN Trust and IndiaCLEN decided to have an external evaluation done in order to obtain an objective, independent and credible report of strengths and weaknesses of the organization. The evaluation should help IndiaCLEN make necessary changes in its organizational structure and operations to ensure that all its activities are directed towards its goals in an efficient manner. This in turn would help the organization to sustain itself and to grow in years to come. This external evaluation will also help the stakeholders and funding agencies to make informed decisions about IndiaCLEN based on their real capabilities, strengths and weaknesses.

Terms of Reference for the External Evaluation of IndiaCLEN

1. To evaluate the performance of IndiaCLEN research programs and other research activities in relation with its vision/mission/mandate and examine how has this contributed to
 - a) Knowledge generation and closing of the “Knowledge-do” gap.
 - b) Policy formulations and implementations
2. To evaluate/assess how successful IndiaCLEN has been in adapting itself to respond to the problems of
 - a) Changing health contexts
 - b) Building bridges between clinical and public health activities in academic and health services environments at institutional and national levels.
 - c) Pro-active interactions with policy makers and program managers of various national/regional public health programs
 - d) Fostering partnerships
3. To evaluate the capacity building strategies and activities of IndiaCLEN in terms of research capacity development and training in research methodology at local and national levels in order to support and sustain the IndiaCLEN research program on a long-term basis. In this context to evaluate the additional/specific contributions/roles of the Resource Training Centres (CERTC, Thiruvananthapuram and BRTC-Vellore) a different protocol strategy will be needed.
4. To evaluate the organizational structure and functioning of IndiaCLEN including financial management practices with a view to suggest changes if needed to make the organization more efficient and enable it to attract more funds from diverse funding sources to achieve its goals.

Team of evaluators

The team of evaluators consisted of four members, two from India and two from outside India:

- Dr. Dilip Mahalanabis, Health Research Scientist
- Dr. Jonathon Simon, Health Research Scientist
- Dr. Davidson Hamer, Health Research Scientist
- Dr. Hari Singh, Management Expert

Methodology

Sampling Frame

The following units of IndiaCLEN were included in the evaluation:

- IndiaCLEN administrative office, Chennai
- Christian Medical College (CMC), Vellore
- Medical College, Trivandrum
- All India Institute of Medical Sciences (AIIMS), New Delhi
- King George Medical College (KGMC), Lucknow
- Government Medical College (GMC), Nagpur
- Madras Medical College (MMC), Chennai
- Tamil Nadu MGR Medical University (TNMGR), Chennai

Besides the IndiaCLEN units, key officials from major stakeholders were included in the evaluation, i.e. USAID, ICMR, WHO, UNICEF, MOHFW, DGHS, CDC, NICD, World Bank, IDCR, Micronutrient Initiative (MI), etc.

Data Collection Techniques

Interviews: At each CEU of IndiaCLEN, one of their staff initially made a presentation about the activities of the unit and issues of concern. This was followed by group discussion with all the available staff. Thereafter, in-depth personal interviews were held with key personnel.

Observations: The infrastructure, furniture and equipment available at each of the units were observed. Besides these, ongoing training programs at the two training centers (CERTC, Thiruvananthapuram; BRTC, Vellore) were also observed.

Study of record: All available research publications, evaluation reports, annual reports, expenditure statements, etc were collected and reviewed.

Data Collection Tools

Checklists were prepared for interviewing the key officials in IndiaCLEN units and other stakeholder organizations.

Time Line

Activity	Time	Dates
Preparation and tool development	3 days	Feb 23-25
Data Collection	2 weeks	Feb 26- March 8, 2006
Analysis & Draft Report	2 weeks	March 9- 23, 2006
Review of draft report	1 week	March 25- 31
Final Report	1 week	April 1-7

Report

The study findings are described under the following chapters:

Chapter 2	Organizational Structure and Functioning
Chapter 3	Performance of Research Projects
Chapter 4	Adoption to changing Public Health priorities
Chapter 5	Research Capacity Strengthening
Chapter 6	Financial Management Practices
Chapter 7	Conclusion and Recommendations

Chapter 2

Organizational Structure and Functioning of IndiaCLEN

Goal: To evaluate the organizational structure and functioning of IndiaCLEN including financial management practices with a view to suggest changes if needed to make the organization more efficient and enable it to attract more funds from diverse funding sources to achieve its goals

A. Organizational Structure

Establishment of CEUs: The organizational structure of IndiaCLEN is unique. Unlike other external funded projects where a parallel body is created for execution of the activities, under the IndiaCLEN initiative, selected faculties from selected medical colleges in the country were trained in clinical research and related disciplines. In the initial stages (1986-95) the trainings were organized in the most prestigious international institutions. The faculties who have been trained in these Institutions are highly appreciative of the quality of the training they had undergone and feel that the training has been a turning point in their life to get involved in research. After the trainings, these faculties established CEUs in their respective institutions and are now carrying out the IndiaCLEN activities (i.e. research projects) besides their regular clinical and teaching assignments in their respective institutions. They draw salaries from their parent institutions. The institutions have provided the space (building), furniture and other support to the CEUs. Besides providing the infrastructure support, these institutes also assured that faculty would be allowed to devote 30% of their time to IndiaCLEN or research activities. IndiaCLEN through its core funds supports the salaries of administrative and support staff of all of the CEUs except one (i.e. TNMGR).

Most of the CEUs have good infrastructure and facilities that have been provided by the parent institutions. This indicates the concern and commitment of the institutions towards the IndiaCLEN activities as well as the credibility of the CEUs. The top management in these institutions is very positive about the importance and role of the CEUs and assured full support to CEUs in future. The concept and model of CEUs is quite successful. Majority of the CEU members reported that they have to work in extra time for the IndiaCLEN related activities and they accept this situation gracefully. This is the strength of the organization.

One of the core members in each CEU is designated as the Director of the CEU. The procedure for selection of director varies among the CEUs and traditionally the senior most core member (who was trained first) becomes the Director. Some forward looking CEUs e.g. AIIMS, have started the appointment of directors by rotation, which is a positive development. The Evaluation Team feels that some of the CEU directors lack vision and leadership qualities, and that not many efforts have been developed for building the research teams. Some initiatives were taken in the form of the LAMP but its impact could not be seen. There is a need to strengthen leadership in CEUs.

Presently some of IndiaCLEN members get the projects directly from various funding agencies without routing it through IndiaCLEN. There should be strong incentives for the IndiaCLEN members to carry out research and route their projects through IndiaCLEN.

Central Administrative Office: The administrative support to CEUs and the coordination among them is provided by the IndiaCLEN Administrative office located at Chennai. The office is headed by a manager who is also a social scientist and she is supported by 4 finance and administrative assistants. The administrative office seems to be weak in terms of its

managerial and technical capabilities to support and supervise the CEUs, and to assure the quality of products i.e. research and training carried out by the CEUs. The administrative office needs to be restructured.

Governing Body: The GB gives strategic direction to the organization. It has a maximum of 15 members including at least one member from each CEU, the INCLEN Executive Office, ICMR and USAID. The office bearers of the GB, i.e. President, Secretary and Treasurer, are elected by the life members of the organization. The office bearers also work as full time faculty in their respective colleges. There is a need to increase the representation of potential funding organizations and researchers of national and international repute in the GB.

Sub Committees: For controlling and facilitating research and training activities there are subcommittees i.e. RSC, CBS, and IRB. The sub committees are large and the members are drawn from different CEUs resulting in difficulties to function effectively and efficiently due to geographical distance. These committees require restructuring.

IndiaCLEN is registered as a society under the societies registration act but the status of individual CEUs is not very clear. It is recommended that the CEUs should also be registered as societies in their states. This may facilitate their fund raising capabilities and flexibility in utilization of funds. However legal/expert opinion may be sought in this regard.

Training Centers: Among the seven CEUs, two of them are also maintaining training centers for conducting short and long term training programs. These training centers are the BRTC at CMC Vellore and CERTC at Trivandrum Medical College. Good faculty, infrastructure and training facilities (furniture, AV aids etc) are available in these centers and the environment is conducive for academic activities. They conduct M.Sc. & Ph.D. in Biostatistics, and M.Phil in Clinical Epidemiology respectively. These courses have the approval of the respective colleges and universities. This again shows commitment of the institutions.

B. Sustenance of IndiaCLEN

The sustenance of IndiaCLEN activities depend on the following factors:

1. Quality of research, and dissemination of information (described in chapter 3)
2. Opportunities for funding of research projects
3. Networking with funding agencies and stakeholders
4. Expansion of IndiaCLEN network i.e. IndiaCLEN members and CEUs

Opportunities for funding of Research Projects: All the funding organizations e.g. USAID, ICMR, MOHFW, DGHS, UNICEF, CDC, WHO etc expressed a very high opinion about IndiaCLEN and its activities. They opined that IndiaCLEN has excellent team of professionals and they conduct high quality research. All of them are highly satisfied with the quality of work done by IndiaCELN for the projects funded by them. All of them are very positive about the possibilities of funding of IndiaCLEN research projects in future. The Program Officers in DGHS (e.g. RNTCP, RCH, FW etc) also confirmed the same. Thus, IndiaCLEN has a high credibility in the market and there are enormous opportunities for IndiaCLEN to get their projects funded by these and other agencies.

There is high demand from pharmaceutical companies, NGOs and International organizations for the trainings on research methods, bio-statistics etc. and accordingly there are opportunities for CEUs to generate resources through these training programs.

Networking with funding agencies and stakeholders: IndiaCLEN has worked with a limited number of organizations and vast array of sources remain untapped. A number of stakeholders are of the opinion that if IndiaCLEN is more proactive and develops better networking with all potential funding agencies, the possibilities are galore. No efforts seem to have been made to network with such organizations.

Expansion of IndiaCLEN network: What are the incentives for faculties to carry out research? In a few institutions like CMC Vellore and AIIMS, the academic environment encourages and motivates the faculty to learn and carry out research. The research publications of the faculty help in their promotions. The faculties are given liberal leaves and sabbaticals to pursue studies and carry out research. In many institutions, there are no incentives to the faculty to carry out research and the management of these colleges seems to be indifferent. In a few institutions the faculty finds the private practice to be more rewarding than the research.

In order to expand the IndiaCLEN network, more faculties were inducted as adjunct members based on their research publications or by providing them short-term trainings. Despite the short duration of the trainings, many of them have developed good research skills and are engaged in high quality research. It was reported that after undergoing such training programs about 40% of the candidates pursue research. There is a serious gap and mistrust between the core members (who were trained internationally) and adjunct members (who are inducted afterwards). The core members are apprehensive about the competency of adjunct members. On the other hand the adjunct members consider the core members arrogant and closed. The core members have the opportunity to attend the conferences, workshops etc at the cost of the organization, which is also a cause of discontentment of others. Few faculties who are not members of IndiaCLEN expressed the feeling that IndiaCLEN is a closed organization and it does not welcome the people who are interested in the activities of IndiaCLEN. However, some of the key players in IndiaCLEN have already realized this problem and have taken initiative in this regard. The bylaws of the organization have been revised and categories of IndiaCLEN memberships have been redefined as life members, associate members and honorary members. Conditions have been relaxed for enrollment of new members but the results of these initiatives are yet to be seen.

The core members (45 in total) who were trained 15-20 years back have started retiring and for obvious reasons their attrition would be much faster in coming years. Presently there are about 200 members. Although there is a four-fold increase in the number of members but keeping in view the long time period (i.e. 15-20 years), this expansion is not impressive. Despite the long and short term courses conducted in BRTC and CERTC, the study team feels that concerted efforts are not made to prepare second generation of researchers.

There is no significant increase in the number of CEUs over the years and this is not sufficient to spearhead the research activities at the country level. Under the IPEN initiative 106 medical colleges have been involved in multi-centric studies and there are good possibilities to motivate some of these colleges to establish CEUs in their campus. Since the IndiaCLEN office supports the administrative expenses of the CEUs, any addition of new CEUs may increase the financial burden on IndiaCLEN.

Overall the study team feels that the existing pace of expansion of the IndiaCLEN network is not sufficient for the sustenance of the organization and the strategy for expansion needs to be revised.

Mission

IndiaCLEN has revised its mission statement thrice in last 15 years. The study team is fully convinced that there is no deviation and the activities of IndiaCLEN conform to its mission statement i.e. to conduct collaborative, inter disciplinary research on high priority health problems, and to train future generations of leaders in health care research.

Chapter 3

Performance of the IndiaCLEN Research Projects

Goal: To evaluate the performance of IndiaCLEN research programs and other research activities in relation with its vision/mission/mandate and examine how this has contributed to

- a) Knowledge generation and closing of the “knowledge-do” gap;
- b) Policy formulations and implementations

The mission of IndiaCLEN, reflected in the INCLEN Mission Statement from the 2003-2007 Strategic Plan, is “to conduct collaborative, interdisciplinary research on high-priority problems and to train future generations of leaders in health care research.” This chapter will review IndiaCLEN’s performance in meeting this first goal—the generation of collaborative research on high-priority problems of national (and at times global) importance—while the training and capacity strengthening aspects will be reviewed in Chapter 4.

The scientific productivity of IndiaCLEN has several major successes worth acknowledging and highlighting while in other areas progress has been less impressive. We believe that at least four specific areas of IndiaCLEN activity have produced scientific work that is of sufficient quality to lead to sound policy formulation and effective program implementation.

Four areas deserving highlighting include:

1. Invasive Bacterial Infections Surveillance (IBIS) which evolved into the Community-Acquired Microbial Resistance (CAMR) Project and has become part of the South Asian Pneumococcal Network (SAPNA).
2. IndiaCLEN Program Evaluation Network (IPEN) with its contributions to network development that allowed program and policy relevant evaluations of the polio activities, injection practices, HIV risk behaviors, safe water systems and micronutrient supplementation.
3. IndiaSafe component of the WorldSafe study that helped put domestic violence on the national and global agenda.
4. The current version of the IndiaCLEN Infectious Disease Initiative (IID), which evolved from the early IBIS work, and has worked on a broad array of infectious diseases issues.

1. Invasive Bacterial Infections Surveillance (IBIS)

For more than ten years, IndiaCLEN faculty members, in collaboration with external scientists, have made major contributions to our understanding of the prevalence and distribution of invasive pneumococcal bacterial infections. Starting with the IBIS Project and continuing with the IDSP activities which now are part of a regional network, IndiaCLEN scientists have developed and implemented both facility-based, and now increasingly, community-based surveillance of pneumococcal disease. The surveillance work, with high-quality laboratory back up, has allowed India to determine the pattern of serotypes of *Streptococcus pneumoniae* causing disease in this country. Importantly, the serotypes described differ in substantial ways from the patterns used for the development of conjugate pneumococcal vaccines used in other countries. As this vaccine technology is already available in India and the costs of vaccine production continue to decline, this research, which IndiaCLEN has made major contributions towards, has the potential to alleviate the huge burden of pneumococcal disease in this country. The work has been well documented, generating more than fifteen peer-reviewed publications,

and it continues to stimulate scientific output. It attracted domestic research funds from the Indian Council of Medical Research (ICMR).

This area of work highlights the importance of a long-term vision (this activity has been going for almost 15 years) and a commitment to quality in the scientific effort. IBIS has been able to survive through multiple donor funding cycles and eventually draw in additional donors to broaden the geographic spread of the surveillance through the creation of the SAPNA network. If a conjugate pneumococcal vaccine, based on the IBIS serotyping data, is developed and delivered in India, the stream of benefits measured in deaths averted, and health care costs avoided, will dwarf the total investment made to date in the IndiaCLEN network. IndiaCLEN will have a major scientific success to be proud of and the donor community will have a huge return on its investment.

2. IndiaCLEN Program Evaluation Network (IPEN)

One of the most impressive aspects of the IndiaCLEN network is the IndiaCLEN Program Evaluation Network (IPEN). The goal of the network is to produce high-quality evaluations with practical recommendations on public health programs in India. The IPEN has worked hard to involve policy and program personnel at all stages of the evaluation project. Based on our interviews with clients from both the Government of India (GoI) and donor agencies, they have been remarkably successful in establishing a satisfied client base.

IPEN was initiated in 1997 amongst the six active CEUs. Rather than limiting itself to the INCLLEN-trained “club” members, IPEN was conceptualized as an open network within IndiaCLEN. Over the past 9 years, the IPEN has grown from these six sites to involve 109 institutions in 87 locations across 28 states. It is truly a network with nationwide reach and experience.

Stimulated with USAID funds, the IPEN has been successful in attracting funds from other sources. Thirteen evaluations have been conducted (as of March 2006) and funds have been mobilized from the GoI/MOH, WHO/SEARO, World Bank, GoI/National AIDS Control Organization (NACO) and MI. As the network focused on the production of methodologically and analytically rigorous evaluations, rather than any specific disease or problem entity, the range of problems/issues available for work has been broad. The IPEN has contributed to program efforts in polio, HIV/AIDS, infectious disease surveillance, micronutrient supplementation, injection safety, and safe water/urban health issues. In several of these areas, most notably injection safety and HIV/AIDS awareness, the evaluations have had major impacts on public policy and practice (the introduction of auto-destruct syringes) and program design and development (HIV/AIDS programming through NACP III).

Principal clients of these evaluations remarked during interviews on the quality of the work, the applied nature of the questions being posed, the “openness” of the IPEN leadership to involvement of the principal clients in the design of the evaluation, and the usefulness of the results. Several respondents noted the importance of the IPEN in engaging the university-based scientific community in national efforts and how valuable it was to have a non-governmental organization (rather than ICMR which was often seen as too basic in its orientation), involving “professors” speaking on public health issues. One interviewees summary criticism claimed the major problem with the IPEN is “...they need to do more, much more.”

3. India Survey of Abuse in the Family Environment (IndiaSafe)

The IndiaSafe study, a seven-site cross sectional survey of more than 10,000 families, may be the largest survey on this topic ever undertaken. Coordinated by IndiaCLEN and primarily based in various CEUs, this study is an excellent example of IndiaCLENs broadened mandate to foster interdisciplinary teams to look at public health issues of importance beyond narrowly defined clinical epidemiology questions.

The interest in documenting the prevalence of family violence emerged from the global INCLIN network. IndiaSafe was part of the WorldSafe initiative, which involved research teams from Brazil, Chile, Egypt, and the Philippines in addition to India. The IndiaCLEN members, in addition to conducting the largest country-specific study, also played a major role in the overall study conceptualization and development of study instruments. Funding for the WorldSafe study was supported by the International Center for Research on Women and INCLIN itself.

The IndiaSafe study, a standard piece of descriptive, community-based epidemiology, was both timely and relevant. The study was designed and implemented at a time of increasing awareness of the importance of inter-personal violence as an important component of the global burden of disease. This descriptive work was understood as a necessary precursor to the development of public health interventions to reduce the global burden of violence; especially violence against women.

IndiaSafe and WorldSafe were relatively successful in generating greater awareness of the importance of family violence and contributed to “setting the agenda” in this area. The results of this study have led to the development of a new act of Parliament that is currently under consideration, which would allow abused women to bring charges against their spouses or other family members. With the release of a new WHO-initiated global report on violence and increasing political pressure in many countries of the world, it may be that the IndiaSafe and WorldSafe studies of the late 1990s will be seen as important contributions to the emergence of this global public health agenda.

4. IndiaCLEN Infectious Diseases Initiative (IID) Phases 1 and 2 (included in the IndiaCLEN Program for Health Intervention Development and Evaluation [IPHIDE] activities)

The Evaluation Team considered the scientific contributions and potential public health significance of the current IID which evolved from the IBIS work to merit individual highlighting though it has been a component of the infectious diseases activities of IndiaCLEN for many years. Beyond IBIS, however, the infectious diseases agenda has been rich and varied. It remains a core intellectual strength of the network and a focal area for the IndiaCLEN proposed activities through 2008.

Four additional areas appear to be worth highlighting. IndiaCLEN faculty members continue to play major roles in advising the National AIDS Control Organization (NACO) in the development of their next (NACP-III) program plan. IndiaCLEN members have been working as advisors to individual states in the development of their state-level Project Implementation Plans (PIPs). Secondly, similar efforts have been forthcoming on the PIPs for the IDSP. IndiaCLEN members provided well-appreciated, high-level technical assistance to the

development of the national plan and nine state level plans. Third, the contributions to the national TB Control program, through applied clinical and social science research are noteworthy and are well appreciated by the national program manager. IndiaCLEN activities helped highlight the importance of confronting MDR TB by providing some of the first prevalence data on primary and secondary resistance. In addition, some molecular level bacteriology was produced contributing to that component of the knowledge gap. Lastly, the development of a national microbiology reference laboratory associated with the CMC Vellore CEU is a major contribution in this area and is highlighted in the capacity strengthening section of the evaluation report.

Though this section of the evaluation report focuses on the scientific productivity and health policy impacts and potential impact of IndiaCLEN's work over the past fifteen years, there are weaknesses noted in our review of the past and current activities. Our highlights above are the highest quality most rigorously conducted and carefully documented research and advising work of the network. In actuality, the quality of the research effort is variable across individual CEUs and specific studies. Some CEUs and faculty were better able to transition to program or theme-based research from specific project-based research studies. Several of the more recent initiatives have either failed to take off (urban health) or have been quite slow in emerging (neonatal health). In some areas important work is underway (tobacco epidemiology and control) but it is not identified as "IndiaCLEN" research. The importance of non-communicable diseases, injuries, and adolescent health issues are well recognized, but because there was no core research funds already in the pipeline approved for these issues, relatively little progress has been made in these areas. In general, the level of "intellectual entrepreneurship," i.e. the willingness of IndiaCLEN faculty to aggressively locate and secure competitive research (and training) funds is quite low. If IndiaCLEN is to survive into the future, it will need increasingly to cultivate a culture, especially among the junior scientists, of seeking research funds for the important agendas they are passionate about and transform the culture from the "easy money" days of the large Rockefeller grants and substantial USAID investments.

The production of high quality, relevant scientific information is only part of the IndiaCLEN mission. Dissemination of results and utilization in policy formulation and program practice are the real endpoints of the research endeavor. IndiaCLEN has been highly variable but overall relatively weak in its dissemination activities. Though there is a culture of publishing in general and a long tradition of attending scientific meetings and presenting papers, the active advocacy of scientific results to government and civil society is generally weak. When scientific advocacy has been energetic (injection safety for example) with the use of print and electronic media, generating questions at Parliament, and information dissemination to professional societies and the lay public more progress has been made than occurs when the information remains in the channels of communication reserved for the academic medial centers.

IndiaCLEN runs the risk of losing its scientific focus and its uniqueness among the research community in India. As the mission has expanded to undertake more community-based descriptive epidemiology, more program evaluation research, and more national and state-level technical advising, the relatively tight focus on clinical epidemiology has weakened. Though this change is important for maintaining relevance to GoI interests and needs, and reflects current donor priorities in many cases, it diverts IndiaCLEN from its initial focus. The Evaluation Team debated the pros and cons of this issue. While we agreed that the production of high-quality, policy and program relevant research is the key outcome IndiaCLEN should strive to produce, special efforts should be undertaken to ensure that some of this research is on

clinical epidemiologic questions. IndiaCLEN should continue to produce research findings for the evidence-based medicine movement that seeks to improve facility-based patient care through more rational and evidence-driven clinical practice. This is a core domain for clinical epidemiology and remains a unique contribution for the scientists in this network.

In summary, IndiaCLEN has made several scientific contributions to the national (and global) knowledge base of significant merit and importance. Though this evaluation is not able to conduct a formal cost-benefit analysis of the scientific productivity, IBIS and the injection safety work alone should make it clear to most evaluators and donors that their investments have generated major returns on the investments. The biggest value, however, is probably embedded in the human capital of the network, which continues to contribute to the knowledge base for health and development in India especially through the advising to national programs and the IPEN activities. The human capital stock is aging, however, and the structure and culture of the organization has not effectively facilitated the emergence of a second generation of leaders. Urgent, radical, and difficult changes are required to ensure that IndiaCLEN's contributions to the efforts to improve the health status of the Indian population continue into the future. Failure to do so will ensure that IndiaCLEN will, as with many externally initiated efforts, wither over time to the point where it too will enter the history books as a productive effort that could not be sustained through time.

Major achievements of the CEUs and their individual members as reported to the evaluation team are enumerated in the Appendix.

Chapter 4

IndiaCLEN adapting to changing public health priorities, interacting with policy makers, and fostering partnerships

Goal: To evaluate how successful IndiaCLEN has been in adapting itself to respond to the problems of:

- A. Changing health contexts
- B. Building bridges between clinical and public health activities in academic and health services environments at institutional and national levels
- C. Pro-active interactions with policy makers and program managers at various national and regional public health programs
- D. Fostering partnerships

Part of the mission of IndiaCLEN, as stated in the INCLEN Mission Statement for the 2003-07 Strategic Plan, is a dedication to “improving the health of disadvantaged populations, particularly in low- and middle-income countries, by promoting health care based on the best evidence of effectiveness and the efficient use of resources” and “using the network to conduct collaborative research on high priority health problems”. This chapter will address how well IndiaCLEN has succeeded in responding to changing public health research priorities in India and how the network has fostered collaborations with academic and central or state institutions to carry out research designed to influence policy and improve program implementation.

A. Changing health contexts

IndiaCLEN has successfully adapted its research focus in response to certain newly identified public health priorities (e.g. domestic violence, the HIV/AIDS epidemic, neonatal health) but has inadequately addressed other important health issues (urban health, non-communicable diseases, accidental injuries).

As described in chapter 2, the IndiaSAFE study identified an important, neglected issue and then performed a multisite study to assess this health problem. The results of the study were disseminated locally and nationally, and have led to the creation of a new act that is in the process of passing through Parliament.

In response to the growing HIV epidemic that has confronted India during the last 15 years, IndiaCLEN members have responded to this problem by means of a large multicenter study and several local research projects. NACO selected IndiaCLEN to carry out an external program evaluation of the Family Health Awareness Week Program, which was designed to raise awareness levels regarding HIV/AIDS and to facilitate awareness, early detection, and prompt treatment of sexually transmitted infections (STI). IndiaCLEN utilized its evaluation network to perform this program evaluation in 1999. The results of this external evaluation were used to modify the program, which was expanded in 2000 to a national Family Health Awareness Campaign (FHAC) that was designed to reduce HIV transmission through prevention and treatment of STIs. In 2002 IndiaCLEN’s IPEN team was asked by the NACO to perform an evaluation of the FHAC. The results of this follow-up external evaluation led to a series of recommendations for improved program management and social mobilization. In addition to this multisite evaluation, IndiaCLEN CEU members have been involved in several other research activities related to HIV/AIDS including stigma in HIV, response to antiretroviral therapy, and prevalence of opportunistic infections in AIDS patients. Unfortunately, several of these research activities appeared to be either of inadequate quality or

were evaluating study questions that have been previously intensively evaluated in other regions of the world.

The Neonatal Health Research Initiative (NHRI) was initiated by IndiaCLEN members as part of the IPHIDE strategic plan in response to the increased national and international recognition of neonatal mortality as a critically important health issue. The stated goal of this multicenter activity is “to evolve operational strategies to improve neonatal survival and decrease morbidity and mortality in India”. Thus far only phase I (formative research on health seeking behaviors and causes of neonatal deaths) has been completed. Phase II, the development of interventions designed to reduce neonatal morbidity and mortality, is in progress.

While addressing a timely issue, the NHRI can also be criticized for the relatively uncertain quality of the research carried out in phase I and the slowness with which the protocols for intervention have been developed, finalized, and ethically cleared in phase II. The NHRI is planning a number of different interventions including a neonatal disease surveillance study, community-based trial of the effectiveness of antenatal interventions for improving birth weight, behavioral interventions for improving neonatal health seeking behaviors, a community-based package for management of low birth weight babies, and a study of an approach designed to increase recognition and treatment of birth asphyxia. Although all of the protocols that have been prepared will address important causes of neonatal mortality, the NHRI might have been able to progress more quickly to field studies if efforts in phase II had been focused on a more limited set of study questions. Thus far the NHRI efforts have not had any apparent impact on state or central policies on the prevention of neonatal morbidity and mortality. It should be noted however that a community-based trial of essential newborn care practices with a focus on hypothermia that has been carried out by Dr. Vishwajeet Kumar at the King George Medical University (KGMU) CEU in collaboration with Johns Hopkins University (JHU) has demonstrated a significant impact on mortality. This nearly completed work will need to be effectively disseminated by IndiaCLEN to state and central health policy makers in order to scale up the intervention.

In addition to the failure to address neonatal survival issues in a timely and focused manner, IndiaCLEN has not effectively addressed several health problems that have become increasingly recognized during recent years. Given the rapid growth of large urban centers in India, urbanization-related health issues, which have some unique public health components and implications, have become an important problem. One exception to this is a study of the impact on obesity, hypertension, and other non-communicable diseases of migration from rural to urban areas that is being carried out as a multisite collaborative project with several CEUs (AIIMS, Nagpur GMC, and KGMU).

Given the limitations of the current pre-hospital emergency systems for dealing with motor vehicle and other forms of accidental injuries, there is a need to carry out epidemiological research to better define this widespread public health problem.

Relatively limited work has been carried out by IndiaCLEN on non-communicable diseases despite their growing importance during the gradual transition of India from a low- to a middle-income country. There are a few notable exceptions including the International Depression Project (initially funded by the World Psychiatric Institute and later co-funded by INCLEN). There also is a large, multi-country study of risk factors for myocardial infarctions that is being carried out by an IndiaCLEN member at the Nagpur CEU. Although this study was funded by INCLEN as well as the WHO, World Heart Federation, and the Wellcome Trust, this activity does not appear to have been integrated into IndiaCLEN.

B. Building bridges between clinical and public health activities in academic and health services environments at institutional and national levels

IndiaCLEN succeeded in several ways in building bridges to non-CEU academic institutions, state and national government health organizations involved in health policy planning and implementation. The premier example is the development and growth of IPEN. Since its initiation in 1997 until 2006, IPEN has expanded from 24 to 109 sites in 87 cities and all 28 states. Network constituents now include 109 different institutions and 286 investigators. IPEN has addressed key public health issues (challenges associated with polio immunization, HIV/AIDS awareness, micronutrient supplementation programs, and injection practices). A notable strength of IPEN has been its responsiveness to requests for program evaluation and monitoring, and the involvement of stakeholders (GoI, UNICEF, USAID, WHO, MI) in the design process. Working closely with policy making organizations has facilitated the dissemination of results both locally and nationally. As a consequence several of the IPEN evaluation activities have resulted in important modifications to national and state programs and policies.

Another example of IndiaCLEN's success in bridging the gap between academic centers and national institutions is the IDSP. This GoI/World Bank-funded activity will be implemented nationwide. The surveillance system will include 11 core conditions, water quality, and air pollution indices as well as 5 state-specific indicators. IndiaCLEN has been working closely with the Ministry of Health and Family Welfare, and nine state governments in the preparation of the program implementation plan for the IDSP. IndiaCLEN has been working closely with national and local partners to train state personnel who will be involved in the surveillance system data collection and management and to initiate the implementation of the IDSP in the nine states.

Dr. VK Srivastava, a member of the Lucknow CEU, has worked closely with the state government of Uttar Pradesh on a broad range of projects including an evaluation of the health benefits of the SWAJAL project in Uttar Pradesh and Uttaranchal, baseline survey of the iodine deficiency project, a study of factors contributing to the improvement of health indicators of reproductive and child health in two districts, and a review of the status of the Uttar Pradesh in 2005. Dr. Srivastava has used his long term connections in the state government to stimulate these and other collaborative activities. Similarly, Dr. SP Zopdey of the Nagpur CEU has worked with the Chhattisgarh state government to carry out evaluations of a local double fortified (iron-iodine) salt program.

C. Pro-active interactions with policy makers and program managers at various national and regional public health programs

As described in the previous section, IndiaCLEN has successfully worked with policy makers and program managers at the state and central level in the course of the IPEN evaluations and the development of the IDSP. Another notable success has been the work of Dr. Kurian Thomas who has been advising the NACO on the development of a program implementation plan (NACP III).

During the course of several of the activities described above (IDSP, IPEN, and the Family Health Awareness campaign evaluations), IndiaCLEN members have had a number of pro-active interactions with state and national public health program managers and policy makers. The assessment of injection practices (funded by the MOH and World Bank) required

extensive interactions with state and central public health programs. After the widespread dissemination of the results, in conjunction with a recommendation by the WHO, the Health Ministry implemented a plan to use auto-disposable or disabled syringes across the country for immunization programs. This initial study resulted in the subsequent development of Model Injection Centers, an activity that was carried out in collaboration with the GoI and USAID.

Two of the IIDDI projects on TB required close interactions with health policy makers and government programs, especially the Revised National TB Control Program (RNTCP). The study that defined the prevalence of multi-drug resistant (MDR) TB in West and North India found much higher rates of MDR than had been previously noted in southern India. After pro-active consultations with the RNTCP, the Program's DOTS program is currently making plans to address MDR TB. Another IIDDI TB program evaluated issues related to DOTS. This activity led to the development of a DOTS information booklet that has proved to be a popular resource for international TB programs and the booklet may be used by the RNTCP in its training program. In addition, the DOTS research contributed to national strategic planning for TB control.

In contrast to the success stories described above, not all IndiaCLEN program evaluation results have been effectively disseminated to policy makers. For instance, IPEN was asked by the Department of Family Welfare and the Ministry of Health and Family Welfare of the GOI to undertake an evaluation of the vitamin A and iron-folic acid supplementation program under the National Reproductive and Child Health Program. This work was successfully completed, resulted in a comprehensive, well written report, and was presented at national and international meetings. However, despite these dissemination activities, certain parties involved in this process feel that IndiaCLEN has not been pro-active enough with policy makers to effect a change in program implementation activities. Consequently, there is no evidence available to the external Evaluation Team to suggest that this micronutrient supplementation program has had any impact.

D. Fostering partnerships

In sections B and C above, several examples have been provided that demonstrate how IndiaCLEN has successfully developed partnerships. The IPEN is clearly one of the most successful activities in this regard. This evaluation network has successfully incorporated and collaborated with numerous medical colleges, NGOs, and public health institutions.

A relatively unique example of a partnership is that between the KGMC CEU and its Associate CEU at the BP Koirala Institute of Health Sciences in Dharan, Nepal. One of the core members of this Associate CEU participated in the Leadership and Management Program (LAMP). Dr. GK Singh of the KGMU CEU has served as the Director of the Dharan Associate CEU and has been instrumental in fostering this collaborative partnership.

In addition to the collaborative research and program evaluations that have been carried out by IndiaCLEN, several of the CEUs and their members have formed partnerships with international academic centers for research and training. For example, the KGMU CEU has signed a Memorandum of Understanding with the Department of International Health at the Bloomberg School of Public Health at JHU and the CEU members are carrying out a number of high quality, collaborative research projects on neonatal health with this external collaborator. Several investigators at other sites have also developed partnerships with external collaborators and funding agencies. The benefit of close links with external collaborators is the development and performance of high quality, policy-relevant applied

research. These external links should be encouraged given the quality of the output and the increased likelihood of publication in international, peer-reviewed journals.

However, with a limited number of exceptions, IndiaCLEN has done an inadequate job of developing partnerships with a number of stakeholders e.g. ICMR and its constituent research centers such as the National Institute for Malaria Research.

Although one of the goals of the LAMP is to build partnerships with policy makers, little evidence was provided to suggest that this program has succeeded.

Chapter 5

Research Capacity Strengthening

Goal: To evaluate the capacity building strategies and activities of IndiaCLEN in terms of research capacity development and teaching training of research methodology at local and national levels in order to support and sustain IndiaCLEN research program on long term basis. In this context, to evaluate the additional/specific contributions/roles of Resource Training Centers (CERTC, Thiruvananthapuram and BRTC-Vellore).

Research capacity strengthening activities are carried out by the CEUs through short courses on research methods, protocol development and biostatistics. In addition two dedicated resource training centers BRTC at CMC Vellore and CERTC at Trivandram conduct short term, medium term and long term research training programs. To create leadership in research, IndiaCLEN also initiated a program called Leadership and Management Program (LAMP) and undertook some activities.

A. Capacity Building Subcommittee (CBS) of IndiaCLEN

The Capacity Building Subcommittee (CBS) is one of the three subcommittees of the central IndiaCLEN organization. The other two are the Research Subcommittee (RSC) and Institutional Review Board (IRB).

Two training centers and seven CEU's on their own conduct programmes for research capacity building. The CEUs also independently run short courses for postgraduate students and junior faculty. At some host institutions these courses are mandatory for some categories of students. CEUs also provide consultation to postgraduates and faculty members on research design, methods and biostatistics.

B. Role of the CBS

The stated goal of the CBS is to assist the CEUs to build capacity for research. The specific objectives of CBS are to:

- Encourage teaching and training in research methodology.
- Develop leadership in research management skills.
- Build capacity of non-partners to facilitate ongoing projects.
- Build capacity to translate research to policy.
- Form linkages with professional bodies to help formulate research agenda.

The stated activities include development of personnel, equipment and infrastructure for computing and communication, laboratories, books and journals. It promotes teaching, training in research methodology, capacity building to translate research to policy, building capacity of non-partners involved in ongoing research, forming linkages with professional bodies, and organizing manuscript writing workshops.

IndiaCLEN has 195 members of whom 167 are CEU-based members. Members are full time faculty at host institutions including NGOs. Their IndiaCLEN activity is non paid additional commitment. The Evaluation Team notes that 19 workshops were conducted on various topics during 2002-2005. In addition CBS supported CME workshops and short courses in 2005 that include Protocol Writing, Leadership Management Program, Cost Effective

Management of Drug Resistance, Case Control Studies, Measuring Quality of Life, Qualitative Data Management, Disease Burden, Biostatistics, and Data Management and Analysis. These training programs are largely if not solely for IndiaCLEN members. Many members we interviewed were uniformly positive about their value and impact. A common statement by most new co-opted CEU members was that the research method workshops opened a new dimension in the way they think and look at problems. They all praised them in superlative terms.

C. IndiaCLEN Training Centres

1. BRTC (Biostatistics) Resource and Training Centre), CMC Vellore

This is an excellent resource center for training in biostatistics and epidemiology research methods. It has excellent human resources. Under the leadership of Dr. Jeyaseelan, it has six faculty members (3 with PhDs), 5 support staff, and research staff. They conduct workshops for the CEU members (2-4 week courses) supported by the CBS mechanism. In addition they run short courses (five days) which complement each other. They are available to postgraduates and the faculty of the host institutions. They are also open to the professionals from other institutions and individuals. These courses include:

Fundamentals of Biostatistics, Principles of Epidemiology, Statistical Packages for Social Sciences, Clinical Trials, Diagnostic Tests and Cluster Design, Multiple Linear Regression, Logistic Regression and Survival Analysis; each are for 5 days. All are available to CEU members whereas non CEU members may also attend at their own cost. The members of the review team found the BRTC to be of very high quality with full documentation of course materials. This is an outstanding resource and may be of crucial importance in creating leaders for CEUs.

In addition to the courses run at the BRTC, the team has written and is disseminating a statistical software for sample size calculations. This software is provided free of charge to the other CEUs.

2. CERTC (Clinical Epidemiology Resources & Training Centre)

This training center shares the facilities and infrastructure at the CEU at Trivandrum. One major training program is their M. Phil course with annual intake of 10 candidates. This is one year full time program having six months classroom teaching and six months dissertation. Until last year they were offered only to the faculty and postgraduate students of the host institutions. This year they have also taken students from other institutions. The students of the M. Phil course presented their dissertation topics before the study team; the students were very positive about the course. They also run short courses on research methodology for the post graduate students of the host institution. In addition, CERTC also conducts CBS supported workshops for the CEU members.

3. Centre for Clinical Trails and Evidence Based Medicine (the coordinating site of The South Asian Cochrane Network).

This excellent center is run under the leadership of Dr. Pratap Tharyan at Vellore. Dr. Tharyan is a psychiatrist with major community health interest. He initiated a workshop to train professionals to do *systematic* reviews and meta-analysis. The programme includes *systematic review* and meta-analysis by the participants. This important resource has added a

new dimension to research capacity building activities of IndiaCLEN. The review team was informed that Dr. Tharyan is only an Associate Member of the CEU in Vellore which is disappointing.

Comments: Training at BRTC has a broad range (from short course to Ph D in Biostatistics) with complete documentation. The courses are open to non-IndiaCLEN members but are not well publicized or marketed.

The CERTC *runs* an important M. Phil course. It helps junior faculty and post graduate students to learn about research methodology and evidence based medicine. The course curricula however are not modeled with learning objectives and documentation. Students are well motivated, bright and diverse in scientific interest/topics. Finally, there appears to be no significant interaction between BRTC and CERTC.

Research:

Leadership building strategy:

The review team notes that a program called LAMP to develop research leaders was created and workshop was conducted at the CEU of MRG Medical University with IndiaCLEN support. The team however feels that a convincing road map was not developed to create new leadership in research who would take over from those members retiring. A convincing road map for the above needs to be in place and pursued.

IndiaCLEN funded research projects are also used as a means for creating research leaders. This program does not appear to have achieved its stated goal.

Chapter 6

Financial Management Practices

Goal: To evaluate the financial management practices of IndiaCLEN with a view to suggest changes if needed to make the organization more efficient and enable it to attract more funds from diverse funding sources to achieve its goals

Earlier the IndiaCLEN projects were mostly funded by USAID. The USAID funds flow to IndiaCLEN is through a complicated process. The process begins with overhead contributions of 8% to Boston University for financial administration of the USAID award and 12% to the INCLLEN trust, which oversees the financial and general administration of the funds. An additional 30% of the USAID funds are budgeted for IndiaCLEN program activities which includes 8% priority projects, 8% capacity building and 14% for other program activities such as the IRB, annual conferences, GB meetings, etc. Some officials from few funding agencies expressed serious concern over the high proportion of overheads.

A part of the overheads is spent on the academic activities like workshop and conferences and capacity building. These activities are considered to be very useful for the academic development of the members and the organization. The members are fully financed by the organization for attending these activities (for their travel, and stay), but the review team was not convinced that the stated objective of academic development has been met.

Majority of CEU members agree that USAID, INCLLEN and IndiaCLEN have played their role of initial hand holding and now it is the responsibility of CEUs to generate their own resources and sustain on their own. Accordingly there is a shift in sources of funding in recent times. Under the IPEN initiative more than half of the project funds are obtained from sources other than USAID. There is definite increase in demand driven projects. This is a very encouraging development and in future more reliance on demand driven projects is envisaged.

The funds provided by IndiaCLEN to CEUs are broadly under three heads:

- Core Grant- Regular grant for the salaries of administrative/ support staff in CEUs
- Training grant for Training Centers and CBS /RSC Workshops
- Project Grants- for specific research projects on case to case basis

Core Grants: It was learnt that there is no commitment of the organization (INCLLEN/ IndiaCLEN) to provide core grant to the CEUs for a specific period. The core grants are released on annual basis and accordingly the CEUs appoint the staff on annual contracts. The number of administrative/ support staff in CEUs was found to be optimal. The staff is well utilized not only for IndiaCLEN activities but also for helping the postgraduate students of the medical colleges. The expenditure statements of the core grant of CEUs indicate a judicious use of funds and no misuse or wastages were identified.

Research Grants: The research proposals are generally initiated by individual members of CEUs however, occasionally the proposals are jointly prepared by a group of members or group of CEUs. After the proposals are cleared by the RSC and IRB, the funds (from USAID) are released by INCLLEN through the IndiaCLEN office and the funds are disbursed directly to the concerned individuals and not routed through the director of the CEUs. As a result some directors find difficulty in controlling the CEU and members. On the other hand some members are of the opinion that if funds are routed through the CEU Directors it may result in unnecessary interference of directors in their work.

If the funds are not available from IndiaCLEN, the concerned individuals or the CEUs are advised to approach other funding agencies.

Training Grants: Training Grants are for supporting the teaching and training activities at the two training centers and covers the expenses of participants for their travel and stay during the trainings. In CERTC, a nominal stipend is paid to the M.Phil students through this grant. It raises a doubt on the demand of this program.

Administrative support to units: Most of the members are of the opinion that the communication and flow of funds are smooth and there are no administrative problems with the IndiaCLEN office, whereas a few members in few institutions are of the opinion that they are required to follow too many formalities like filling up of too many details in trip sheets, getting three quotations for purchases above \$50, telephone bills are required to be submitted for small amounts etc. The IndiaCLEN office is of the opinion that these administrative procedures could be the requirements of their host institutions.

Chapter 7

Conclusions and Recommendations

IndiaCELN has a strong team of highly committed trained professional researchers who are willing to work extra besides their routine assignments. The model of its operations through capacity building of medical colleges and not creating a parallel organization is very successful and exemplary. Most of the host institutions have very well adopted the CEUs and have provided good infrastructure and facilities. The organization has established its credibility in the market by conducting high quality research. The funding organizations hold a very high opinion about the IndiaCLEN and have shown interest in working with it in future.

Though IndiaCLEN has many strengths and successes to its credit during its 15 years operating in India, changes in its external environment—both in terms of the larger scientific community of India and its funding sources—and aging of its internal environment requires the organization to consider a set of transformative decisions if it is to survive to see its 20th anniversary as a vibrant scientific research network.

Major problems identified

The issues/ problems identified by the study team are summarized below:

1. The GB has a large number of IndiaCLEN members and poor representation of potential funding agencies and external experts.
2. The central command of the organization is weak in terms of technical and managerial capabilities.
3. The sub committees that have been created to control the major functions of units have a large number of members who are from CEUs that are scattered over a large geographical area, which may lead to poor effectiveness efficiency.
4. Some of the CEU lack young and dynamic leadership.
5. Keeping in view the attrition of core members of IndiaCLEN, the pace of cultivation of second line of researchers is slow.
6. The expansion of CEU network is not sufficient.
7. Performance of a few CEUs and some members is not satisfactory.
8. There is a gap between core members and adjunct members.
9. Quality of research is variable among the individual CEUs and specific studies.
10. Dissemination of study findings and advocacy for policy change are relatively weak.
11. The proportion of overheads is high and some of the funding agencies are seriously concerned about it.
12. Although the demand driven/ competitive research projects are increasing there is a need to accelerate the process.
13. Networking with stakeholders is not adequate.

Besides these issues, there are certain questions of special consideration of all- why should professionals seek membership of IndiaCLEN, why should the members route their projects through CEUs, why should the funding agencies deal with IndiaCLEN rather than dealing directly with individual members or institutions and finally, will IndiaCLEN sustain.

Recommendations

Structural changes

In order to attract the funding agencies to deal with the IndiaCLEN rather than dealing directly with the individual members or institutions, the IndiaCLEN should emerge as a strong research body that assures the quality of the products to client organizations. This would also attract individuals to join the organization. The IndiaCLEN urgently needs to “professionalize” its operations through a strong central establishment, as the current organizational structure and its network is too loose to ensure success in the period ahead.

At the central level:

Governing Board: The GB should be reorganized giving more representation to potential funding agencies and external experts (researchers of national and international repute). To keep a check over the size of GB, all CEUs need not be included, instead only few active members may represent the CEUs. To reduce the costs, two of the four GB annual meetings should be held by teleconference. The GB should provide vision to the organization. Also, the GB should oversee that the distinction of the organization as a group of Clinical Epidemiologists should not be lost over a period of time (that means Clinical Epidemiology should remain a strong core competency of the organization)

IndiaCLEN Administrative Office: The central office should be relocated to Delhi (as Executive Office) to facilitate access to GoI officials and the funding community. A full time National Executive Director position should be created to provide leadership, new business development and oversight for the countrywide projects/ programs (technical expertise).

The Executive Director should be assisted by two full time deputies to take care of Advocacy, Networking, Research Dissemination, Communication, Marketing, Finance and Administration etc. The marketing expert should be responsible for more actively disseminating research findings and products from throughout the network and stimulating participation in the training courses offered at the BRTC and CERTC. These efforts are meant to increase the utility of the research results but also to generate new research opportunities

The technical team at the Executive Office will require an appropriate cadre of administrative/ support personnel (accounts officer, secretary, etc.).

In the initial stages, strengthening the central office may increase the financial burden on the organization but within a period of 3 years the Executive Office should compensate it and even produce surplus by generating new business.

Sub Committees: The Research Sub-Committee and Capacity Building Subcommittee as currently constituted should be disbanded. The functions of these committees should be performed by the Executive Office supported by external scientific review process. In order to ensure that external reviews are done in a timely manner, a small honorarium should be provided to the reviewers. The Executive Director would be responsible for approval of the

proposals and protocols for funding. Also he/she would be responsible for the quality of research projects and their reports, therefore, on completion of the studies, the study reports would be submitted to the funding agencies through the Executive Director.

The IRB should be streamlined (13 members is too large) and should meet via teleconference to minimize costs. The IRB should be constituted for a longer period of time and a system should be developed to allow for gradual turnover of IRB members over time. Furthermore, all IRB members should have completed certifications on Protecting Human Volunteers in Research Studies. This will also enable the IRB to register with the US Office of Human Rights Protection and to obtain a Federal Wide Assurance number. Wherever possible, the standing Ethical Committees of reputed institutions (e.g. CMC, AIIMS, ICMR etc) may also be used for ethical clearance of the proposals to save time and cost.

At the individual CEU level:

Status of CEUs: IndiaCLEN should consider creating local societies for individual CEUs under the Registration of Societies Act to allow for autonomy of CEUs in raising and handling of funds, and to increase administrative efficiencies. However, legal/expert opinion may be sought in this regard.

Leadership in CEUs: Given the predictable crisis related to the impending retirement of the vast majority of the originally trained members, leadership responsibilities at the specific CEUs should be transferred to younger members of the CEUs. Leadership roles would no longer be based on seniority or whether the CEU member was originally an INCLLEN trainee. CEU Director should be selected based on his/ her vision, leadership qualities, potential for research and commitment to carry forward the IndiaCLEN movement. The selection may be done centrally rather than leaving it on the CEUs where the hierarchy may be strong. Terms should be extended to three years, renewable for one additional term.

Core Support to CEUs: The CEUs should use a portion of the funds raised through research activities, consultancies, or training to hire a small permanent core staff (office administration/support) to run and manage the individual CEUs. Alternatively, the individual CEUs should consider requesting core support from their respective academic institutions in extended, multi-year agreements. IndiaCLEN core grant support to CEUs should be phased out in a time bound period (e.g. 3-5 years).

CEUs should pay a small portion of the overhead generated to the central office to support the costs associated with IRB review, financial oversight, and communication/ dissemination activities. This appears to be unrealistic at this stage.

Incentives to CEU members: mechanisms should be developed to provide incentives to investigators to bring research funds into their Units. Consider annual awards (comprising of certificate of excellence plus cash) for the best 3 research projects by young investigators. Every year a panel of experts comprising of both IndiaCLEN and external experts may select 3 best research projects completed by IndiaCLEN members. A corpus fund may be created and cash rewards may be paid from the interest of the corpus. When more than one member is involved in selected studies, the cash reward may be divided among them. Although the review team was not specifically asked to look into this aspect, it was felt important for the long-term sustainability of the CEUs.

Expansion of IndiaCLEN network

IndiaCLEN should rapidly move to operationalize the by-law changes of January 2006 that make it a far more open membership organization. Though the by-laws now permit colleagues and interested scientists to join IndiaCLEN more readily, after a 15-year legacy of perceived “clubbiness” and exclusivity, IndiaCLEN has a major “marketing” task before it to truly serve as an open society of scientists interested in high-quality clinical epidemiologic and other public health research of value to the population of India.

The three-tiered membership (Life, Associate and Honorary) should be dropped as it may have the unintended consequence of reinforcing the perception of clubbiness and inappropriate exclusivity.

Expansion of IndiaCLEN membership/ Capacity Building: To address the issue of strengthening the research capacity of young investigators, we propose the following model:

First, a search for potential young leaders should be carried out at the CEU’s affiliated institutions. Second, a composite, intensive training program of relatively short duration (e.g. 3 months, potentially broken into discrete workshops) should be provided to the selected young investigators. Third, the young researchers should be paired with a senior mentor in his/ her ongoing projects (for hands on training) so that they conduct high quality research and publish the findings in peer-reviewed journals. IndiaCLEN may give priority funding to those projects in which young researchers/ trainees are paired. Once the second line is created in the host institutions of CEUs, the activity may be expanded to other institutions.

Expansion of CEU network: Because of financial constraints it may not be feasible to create more CEUs that are dependent on IndiaCLEN for regular core funding. It is proposed that selected Institutions where there are high possibilities of getting highly committed professionals (e.g. PGI Chandigarh, St. John’s Hospital Bangalore etc) may be designated as CEUs after training of their key professionals. They may not be assured regular core grants. Based on the success of this piloting, the activity may be upscaled. This road map is only indicative.

During the annual meetings, training programs and workshops etc, efforts should be made to develop entrepreneurship among the participants to enable them secure more competitive research and training funds.

All activities of IndiaCLEN’s should reflect a commitment to the principles of openness and inclusiveness of research scientists, to the production and dissemination of high-quality policy and program relevant science, and the development of a broad array of principal clients led by the GoI program and policy units and including the various external donors supporting the health sector in India. This approach will foster the long-term sustainability of the IndiaCLEN network.

The road map suggested above may need significant modifications before or during its implementation and hand holding. We therefore recommend hiring a management consultant to assist in the major restructuring of the IndiaCLEN organization.

Financial Management Practices

A mechanism should be explored to reduce the cost associated with routing the funds through U.S. organizations such as the INCLLEN Trust and Boston University. If technically feasible, direct routing of external funds from donors to IndiaCLEN would serve to resolve this problem.

IndiaCLEN should accelerate its efforts to diversify its funding sources with its major initial effort focused on securing GoI resources rather than external financing. Building strong network and relationships with the line departments of the MOH at the central and state levels is crucial for the long-term sustainability of the organization.

There should be equitable distribution of overhead costs amongst all agencies that provide funds to IndiaCLEN.

Cost containment measures should be taken to reduce overheads. The frequency of routine meetings may be reduced. The academic activities (i.e. training programs, workshops, conferences) should have definite objectives and specific target groups (unnecessary repetitions must be avoided). Scientific evaluations should be inbuilt in these programs to assess the success. The participants must contribute partly towards the cost of these activities.

Mechanism for routing of funds to CEUs and individual members and SOPs for accounting may be finalized through a process of internal consensus.

These organizational costs would be paid through a small “tax” of the overhead on individual research studies, some focused fund raising for the core office and a redirection of much of the “program-related activities” of the IPHIDE grant.

Appendix

Major achievements of CEUs and their individual members as reported to the study team are enumerated in the following sections:

Clinical Epidemiology Unit (CEU), AIIMS

Training

The CEU, AIIMS has been organizing one week National Course in Epidemiology for last 10 years regularly.

- **Professor K.S. Reddy**
 - Preventive Cardiology, tobacco controls education, advocacy and policy development in India in many capacities.
 - Vice-Chair of the Scientific Council on Epidemiology and Prevention of the World Heart Federation (WHF).
 - Recipient of **PADMA BHUSHAN; Queen Elizabeth Medal** of The Royal Society for the Promotion of Health, UK; **Shakuntala Amirchand Research Award** by the ICMR

- **Professor C.S. Pandav**
 - Regional Co-ordinator (South East Asia and Pacific) for Iodine deficiency
 - Micronutrient Initiative consultant for WHO/ UNICEF/ ICC.
 - Founder Member of International Council for Control of Iodine Deficiency Disorders (ICCIDD).
 - Member of Strategic Planning Group and Capacity Building sub-committee of IndiaCLEN.
 - Recipient of **Dr. V. N. Patwardhan Prize of ICMR** for outstanding contribution in research on Environmental Iodine Deficiency; **Shri Mohan Lal Wig Medal; First Roberta Labelle Award (Runner Up)** for “Excellence in Research in Health Economics”.

- **Professor N. K. Arora**
 - Established & Coordinated Nation wide network called IndiaCLEN Program Evaluation Network with over 100 Partner Medical Colleges, Other Health Institutions & NGOs.
 - Currently Executive Director, INCLEN

- **Professor R.M. Pandey**
 - Co-ordinator- Regional Statistical Support Group for STEPS based studies by WHO in SEAR member countries

Clinical Epidemiology Unit (CEU), CMC, VELLORE

- **Dr. Kurien Thomas**
 - Consultant to the World Bank and Ministry of Health and Family Welfare on disease surveillance
 - Member of the World Bank Mid Term Review (MTR) team National AIDS Control Program Government of India
 - Editorial Board “ Indian Journal of Chest Diseases”
 - Editorial Board “ Post Graduate Medical Journal”
 - Coordinator INDIACLEN infectious Disease Program
 - Editorial Board “The Indian Journal of Medical Microbiology”.
 - Project coordinator- South Asian Pneumococcal Alliance

- **Dr. M.K. Lalitha:**
 - **Dr. B.C. Roy National Award** for the “ Eminent Medical Teacher” for innovation in medical education by the Medical Council of India for the year 2001.
 - Awarded the Fellowship in recognition of the eminence in the field by National Academy of Medical Sciences (NAMS) India in the year 2004.
 - Indian Association of Medical Microbiologists (IAMM) Endowment Oration Award, 2004 on “Application of newer molecular techniques in medical bacteriology”
 - Advisor to WHO on Anthrax
 - Consultant in the field of Hospital Infection control as well as antibiotic policy guidelines
 - Member of the Board of Research Studies, The Tamil Nadu Dr. MGR Medical University
 - Technical assessor for the National Accreditation Board for Testing and Calibration of Laboratories (NABL) under the auspices of Department of Science and Technology, New Delhi.

- **Dr. L. Jeyaseelan:**
 - Biostatistics department has been recognized by the World Health Organization (WHO) as Data Management Center in India

- **Dr. K.R. John:**
 - IMA award for Tsunami Relief work
 - Positions: Chairperson of south zone National Task force for implementing RNTCP
 - Member DOTS Plus committee, Govt. of India-Central TB Divisions

- **Dr. O.C. Abraham:**
 - Resource person for NACO, State Aids Control Societies (Kerala, Tamil Nadu, Karnataka and AP).
 - Member of the project implementation committee of CDC-GAP ITM Tambaram Collaborative project.

- **Dr. Jacob Jose:**
 - British Heart Foundation Study: Placental Weight and Ischemic Heart Disease

- **Dr. L. Jeyaseelan:**
 - Training and data management of USAID funded projects “AIDS Prevention and Control Projects - APAC, Tamil Nadu AIDS Initiative (TAI)
 - Member of Scientific Advisory Committee, Institute for Medical Research (Part of ICMR), member of the Scientific Advisory Committee (SAC) of IRMS, New Delhi & member in the Board of Studies in University of Madras, Chennai.
 - Member Scientific Advisory Group in AIDS Prevention Control Project – APAC (USAID Funded)
 - WHO recognized BRTC as Centre for Data Managements, Analysis and Report writing in India.

Bio statistics Resource and Training Centre (BRTC), Vellore

Trainings

The BRTC conducts following short courses regularly for last 8 years:

- Fundamentals of Biostatistics
- Principles of Epidemiology
- Statistical Packages for Social Sciences (SPSS)
- Clinical Trials
- Diagnostic tests
- Cluster Designs
- Multiple Linear Regression and Logistic Regression
- Survival Analyses.

Besides these 217 participants have been trained through workshops:

- 13 workshops of capacity building on recent developments in Biostatistics and Epidemiology for networking members
- Basic epidemiology, biostatistics and computers for AIDS Prevention and Control Project (APAC) NGOs
- WHO supported SAS software training program has been initiated in BRTC for Thailand, China, Columbia, Japan and Ethiopia. The BRTC has developed curriculum and a course book for the above.

Data Management Center

BRTC function as Data Management Centre for various multi-centre studies supported by IndiaCLEN and other agencies e.g.

- Survey of Abuse Family Violence in India (IndiaSAFE)
- A web based data entry and management system was developed for SAPNA study where 3 countries are involved.
- WHO sponsored Phase I and II study Measles Aerosol vaccine study is undertaken by BRTC for data management, analysis and report writing.

Development of Statistical Software

The centre developed software for Sample Size Calculation (**nMaster**) for the market in ASIA and Africa.

CEU, KGMC Institute of Clinical Epidemiology, KGMU, Lucknow

The CEU was upgraded to KGMC Institute of Clinical Epidemiology (KGMC ICE) in 1997.

Training/ Teaching

The Institute conducts M. Phil. Program in Clinical Epidemiology. 4 Post Doctoral Fellows from Indian Armed Forces have been trained in Epidemiology and one is being trained currently.

- ***Expansion of Research & Training Activities through Collaborations with Various Universities & Pharmaceutical Industries***
 - Community Based Research & Training in Neonatal Health – Collaboration between CEU, KGMC & Johns Hopkins Bloomberg School of Public Health, Baltimore, USA
 - Facilitation of creation & development of CEU and training of faculty in Clinical Epidemiology at BP Koirala Institute of Health Sciences, Dharan, Nepal
 - PG Distant Education Program for Disability management (PGDDM) – Manipal University
 - Ongoing collaboration with Ranbaxy Pharmaceutical Ltd. through Ranbaxy Centre for Excellence for Clinical Trials functioning in CEU for last 5 years.
- ***Participation in Public Health Programs & Policy related activities for State Government***
 - SWAJAL (World Bank)
 - Uttaranchal (13 Districts; 6 Districts)
 - Impact assessment of safe water & sanitation programs in above districts
 - IEC for IDD in 3 districts (GOI & Govt. of UP)
 - Evaluation of RCH sub projects in Raibareilly & Firozabad
 - Document entitled “State of population of UP 2005”
 - UNICEF Action Program on Vitamin A
- **Prof Shally Awasthi:**
lead the following activities through University Research Cell:
 - Ethical Review Board
 - Ph. D. program
 - Research Methodology Courses
 - Research Consultations for faculty and post graduates

Clinical Epidemiology Research and Training Centre (CERTC)
Thiruvanthapuram

Training and teaching

Conduct one-year full time M. Phil program in Clinical Epidemiology and short term training programs on research methods for postgraduate students and faculty of the medical college.

Dr K T Shenoy

- Trivandrum Tobacco Study: Prospective study on tobacco and adult mortality
- Tuberculosis and tobacco- Case control Study
- Rural Trivandrum Tobacco Study and follow up
- Global Youth Tobacco Survey
- Verbal autopsy and cause of death in Kerala
- Cardiovit, AVD, and HypeRhomocyst(e)inemia: An epidemiological study in Indians, additionally evaluating effect of Oral Vitamins and selenium. (CARDIOVIT study)
- Analytical Epidemiology and ascertain cause of Death in India
- Development of Food Frequency Questionnaire and validation using the biomarkers in the population of Kerala
- Non Alcoholic Fatty Liver and progression to cirrhosis and HCC in Kerala
- Making health systems in Developing Countries ready for meeting the challenge of Non Communicable Diseases: Issues and Options(Pilot Study)

Dr M K C Nair

- Neo Natal Health Research Initiative (NHRI)
- Prevalence of Poly Cystic Ovary Syndrome among Plus Two Girls with Menstrual Dysfunctions (PCOS)
- Markers of Foetal Onset Adult Diseases among Low Birth Weight Adolescents
- Adolescent Reproductive Sexual Health (ARSH) Study
- Adolescent Care Program Kerala Adolescent Health District Plan (AHDP) Project
- Oral Health Care (OHC) Project
- A Study on Adolescent Reproductive Sexual Health Education(ICMR - ARSHE) - 1st Year & 2nd Year
- Model Injection Centres (MIC Project)
- Played instrumental role in establishing Child development Center at Medical College Trivandrum

Dr Sheela Shenoy T

- WHO Collaborative study (HRP Project 34148) on comparison of two doses and two routes of administration of Mesoprostol after pre treatment with Mifepristone for early pregnancy termination and pregnancy with convulsions
- Reproductive Health Studies on Implanon

Dr Rajamohanam

- ISCAP II
- Wheezing Study

Dr Ghosh

- Quality of life of subjects in DOTS
- Prevalence of Asthma

Mrs Rema Devi

- Antibiotic Prescribing Practices in India
- Evaluation of Universal Immunization Programs in India
- Social and Cultural Aspects of women suffering from pulmonary tuberculosis
- Model Injection Centres (MICs) A Program to improve injection practices in the country

Unit for Evidence Based Medicine (UEBM), Madras Medical College

Impact of Collaboration in State Health Program and Policy of Department of Health, Government of Tamil Nadu

- In corporation of our recommendations on Maternal Anaemia has influenced the state health policy in the ongoing programme in Tamil Nadu state.
- Monitoring & evaluation of State Health Department's HIV/ AIDS programs to enhance efficiency, training needs of health care providers and improved patient care.

Strengthening of Social Science Program to develop a Centre of Excellence for Training in Social Sciences

- Regular short courses in Health Social Sciences from July 2006 for post graduate and Ph. D students of medical colleges and non governmental organizations.