Part 1 - General Information

<table>
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<tr>
<th>Project Title:</th>
<th>Partnership for Interdisciplinary Approaches to Disease Control, Interventions and Public Health Training</th>
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<tr>
<td>Swiss Principal Investigator(s):</td>
<td>Mitchell G. Weiss</td>
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<tr>
<td>Project Start:</td>
<td>1 February 2009</td>
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<td>Project Duration:</td>
<td>3 years plus 1 year extension</td>
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<td>Indian Principal Investigator(s):</td>
<td>Sanjay Mehendale</td>
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<td>Director, National Institute of Epidemiology (ICMR), Chennai</td>
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Part 2 - Scientific Information

A) SYNTHESIS OF THE PROJECT

Motivated by complementary interests and shared features of the mission of the Swiss Tropical and Public Health Institute (Swiss TPH), Basel, and the National Institute of Epidemiology (NIE), Chennai, the two institutions developed this Indo-Swiss institutional partnership project (IPP). The project was designed with broad aims and interest in contributing to the public health agendas of Switzerland and India through a health science partnership. Rooted in the principles of classical epidemiology and social science (cultural epidemiology), the partners were guided by a framework in planning an agenda for productive collaboration (Figure 1).
Figure 1. Framework for the ISJRP Institutional Partnership Project of the Swiss TPH and the NIE.

The IPP initially addressed three designated interests in research, strengthening capacity for clinical trials and curriculum development. It served as a platform for various research and training activities. Research support initially focussed on cultural epidemiological studies of stigma and leprosy in primary care, and control of hypertension and cardiovascular disease (CVD) in urban Chennai and rural areas of Tamil Nadu. Both of these projects had roots in prior collaborations, and the IPP aimed to build on partnership interest previously documented in a Memorandum of Understanding of the two partners. Prior master’s student projects had completed cultural epidemiological pilot studies of leprosy, and of hypertension and CVD.

Second, the project aimed at the outset to strengthen capacity for clinical trials of traditional medicines, acknowledging the unique aspects of the aims and methods for such trials. NIE had responsibilities for strategic planning of scientific studies of traditional medicines in the context of India’s Golden Triangle Partnership (GTP). The GTP linked the interests and expertise of the Indian Council of Medical Research (ICMR) with the Department of AYUSH and the Council for Scientific and Industrial Research. Swiss TPH has expertise in the area of clinical trials for neglected diseases of neglected populations.

Third, the partnership examined the plans for the new MPH programme at NIE, which was in planning when the IPP began and is now fully operational. Prior interactions of Swiss TPH (then the Swiss Tropical Institute) and NIE had contributed to curriculum planning for the new offering, and modules in cultural epidemiology had been taught by the Swiss PI in the previous Field Epidemiology Training Programme of NIE. Curriculum development was considered with reference to the overall framework, and for course modules developed through the partnership.

Aims of an IPP are conceptualized more broadly by the funding programme than plans for a single research study. Over the course of the partnership project, an additional interest emerged concerning the health impact of air pollution and research prospects for control of noncommunicable chronic diseases. This followed from shared interests at both institutions and opportunities arising from
restructuring of the Swiss institutional partner after the merger of the former Swiss Tropical Institute and Institute for Social and Preventive Medicine in Basel. The new, expanded Swiss institutional entity, the Swiss Tropical and Public Health Institute (Swiss TPH) had additional capacity and interests that were relevant to emerging interests of NIE, which was planning to develop a local community cohort. That plan acknowledged community interests and an opportunity for research in a setting where the process of urbanization has been proceeding rapidly. Project interests of the designated study of hypertension and cardiovascular disease were broadened to develop additional studies of air pollution and NCDs. A symposium, coordinated by the Swiss partner and the Sree Chitra Tirunal Institute of Medical Sciences and Technology (SCTIMST) in January 2012, with participation of NIE, further acknowledged and developed this interest.

B) RESULTS

Project results are summarized with reference to research activities, curriculum development and other related activities. The research activities include the studies undertaken and planned by Swiss TPH and NIE, and additional studies facilitated by the IPP with Swiss TPH and other Indian partners.

Research at NIE

A multicentre ICMR-supported study, “Socio-cultural features and stigma of leprosy for treatment & control in general health services in India: Cultural epidemiological study,” has been led at NIE by Dr P Manickam. This project involves participation of 5 other sites. It was developed after Dr Manickam’s visit to Swiss TPH in year 1 of the project, and with the benefit of experience in cultural epidemiology teaching at NIE and other participating sites. Other partners included in the consortium led by NIE included the Maharashtra Association of the Anthropological Sciences (MAAS), Pune; the Foundation for Medical Research (FMR), Mumbai; Regional Medical Centre (ICMR), Dibrugarh; Rohilkhand Medical College & Hospital, Bareilly; and Regional Medical Research Centre (ICMR), Bhubaneswar. With the integration of leprosy into primary care, the study was developed to assess stigma and social support for leprosy, compared with TB, malaria and other skin conditions that affected the care of patients in primary care. M Weiss participated and facilitated a workshop on 25-26 April 2012 for training in the methods and planning pilot studies. A second workshop was held 16-18 July 2012 at NIE to evaluate pilot testing experience. The field work is underway.

Field research for cultural epidemiological study of hypertension and cardiovascular disease, led at NIE by Dr P Kaur, in urban Chennai and rural Tamil Nadu has been completed interviews with 370 community respondents. The Indian and Swiss research partners have been consulting to review the data and proceed with analysis and reports. An initial overview of preliminary findings was presented in an
IPP workshop at NIE, Chennai, 31 Jan – 2 Feb 2012. Meetings during subsequent visits of M Weiss and in teleconferences have reviewed these data and developed outlines for publications. The analysis is examining qualitative features of illness experience and perceived causes, and the pathways leading to diagnosis of hypertension. Gender comparisons are a focal interest. A manuscript is in preparation on “The role of illness experience and meaning of hypertension in urban Chennai with reference to gender and pathways to diagnosis.” The rural data collection was completed after the urban study, and a second paper will compare urban and rural findings to identify not only gender-related but also setting-relevant implications for prevention and case management. The focus on pathways to care arises from questions about case finding and management of an asymptomatic disease early enough to control it and limit sequelae.

Additional research activities of the two partners have addressed questions related to interests in the health impact of indoor air pollution, and data collection is complete for nearly 2500 subjects. An abstract based on interim data analysis has been accepted for the joint ISEE, ISES and ISIAQ Environmental Health Conference 2013 in Basel, Switzerland, 19 – 23 Aug 2013. This work has mainly involved Prof N Probst-Hensch and Dr H Phuleria from Swiss TPH, and the chronic disease research group led by Dr P Kaur at NIE. A joint scientific report has been drafted from studies of mosquito coils and effects on diabetes and insulin resistance, and a review paper on effects of exposure to mosquito coils is planned. A previously planned proposal for a case-control study of indoor air pollution and lung cancer in Manipur and Mizoram is being revised for resubmission and study at another site.

Development of cohort study interests to identify locally relevant risk factors for chronic diseases has been an interest of both partners. Ground work for the cohort 20,000 households has been initiated in in the Ayapakkam area where the NIE is located. Plans for assessing environmental risk exposures and cultural determinants of chronic diseases are being developed as a partnership activity of Swiss TPH and NIE. Joint funding opportunities are being explored to expand this partnership activity. The Swiss TPH and SCTIMST symposium on cohorts and biobanks, 29 – 30 Jan 2012, discussed with an attached report in our year-3 IPP interim report, provided a basis for developing partnership interests for cohorts and biobanking. N Probst-Hensch has been developing these interests in Switzerland, and P Kaur has been guiding development of the Ayapakkam cohort at NIE. H Phuleria followed up to advance this aspect of partnership activities, and he made a site visit after coming to India in Jan 2013 to examine prospects for including a component of air pollution assessment in the plan. Additional plans for integrating interests of mental health in the study of risk factors and chronic disease outcomes have been topics for discussion and development with M Weiss and other partners in Chennai at the Schizophrenia Research Foundation (SCARF).

**Research with other partners**

The multicentre study of stigma and leprosy described above also involves two research partners who are working with Swiss TPH on other complementary study interests. Research on community acceptance of nasal and injectable vaccines for H1N1 influenza, based on pandemic experience in Pune in 2010 and 2012, has been developed with MAAS and supported with funding from the CDC through the WHO. This work is ongoing, and like the other complementary research activities noted below, it was presented and discussed in the framework of the IPP at the NIE workshop reviewing accomplishments and plans in February 2012. Experience in the MAAS study led to the development of an Android tablet version of the EMIC interview for a community survey, and the validity of that approach is being examined in an ongoing master’s student project in Pune as a spin-off study.

A study in the framework of field trials of the Cultural Formulation Interview (CFI) for DSM-5 has been completed by Dr Vasudeo Paralikar in Pune. He is a psychiatrist whose PhD was supervised by M Weiss and defended in Dec 2011. Two products of the subsequent CFI research include analysis of the validity with reference to the acceptability, feasibility and clinical utility of the interview; and a study of the
cultural content of the data from the interviews. The two manuscripts are in preparation, and the work was presented in the IPP workshop at NIE and at the Annual Conference of the Indian Psychiatric Association in Jan 2013. Additional mental health research with partners in India has included training in the use of the CFI at KEM Hospital, Mumbai, and sociocultural analysis of underlying problems and triggers of suicide in Mumbai, based on long-standing collaboration in cultural psychiatry and urban mental health with Dr S Parkar, who heads the Department of Psychiatry at KEM and who has completed her PhD at Swiss TPH, Basel.

Curriculum and training

Curriculum-related partnership activities have included Swiss TPH involvement in NIE course modules, consultation on development of NIE curricula, and training in workshops to implement research plans.

NIE course modules

Two faculty members of NIE, Drs P Manickam and J Yuvraj, participated in a Swiss TPH training module on Health District Management (HDM) earlier in Nov 2010, as noted in our year-2 interim report. The aim of their training was to acquire skills and experience to develop a module for the MPH at NIE. Subsequently, in year 3 of the IPP, Dr A Hoffmann and B Peterhans, who developed and teach the course at Swiss TPH, came to NIE for 3 weeks in year 3 to teach the course and guide NIE colleagues so that they could subsequently teach the course on their own. That plan was accomplished, and the course was successfully piloted in 2012 at NIE. Key points of the feedback noted that the HDM in the present format builds key competencies necessary for District-level health planning of the National Rural Health Mission (NRHM). Feedback also noted that further “Indianization” of the resource materials for the module is very much needed (both in terms of more India-specific features of the setting and NRHM-based approaches to financial planning). NIE partners have planned to involve their graduates who have responsibilities for preparing District Health Action Plans or State level Project Implementation Plans for NRHM. They are developing a detailed proposal to address these objectives, and further collaboration with Swiss TPH is proposed as concrete plans develop for inputs in specific areas to carry the partnership forward in this important module. NIE plans to repeat the HDM module in April or May of 2013.

Figure 3. Bernadette Peterhans and Axel Hoffmann with students of the Health District Management course module at NIE, September 2010.

NIE had initiated and included cultural epidemiology training modules since 2008. Recognizing its relevance and the lack of expertise for integrated mixed methods social science research in India, NIE began planning over the past year to develop training capacity and disseminate knowledge of these methods to a wider group of public health professionals in India, in addition to NIE scholars and graduates. According to this plan, M Weiss for Swiss TPH will teach a cultural epidemiology module with NIE faculty for three years from the end of the IPP. Subsequently NIE faculty will take over the
complete teaching from the fourth year onward. The plan will provide training opportunities for participants from ICMR institutes and other researchers and public health professionals from government, NGOs and medical colleges. Over the past year, plans were also discussed for integrated training of qualitative and quantitative methods in the MPH curriculum enhanced for training in qualitative and mixed methods.

![Figure 4. NIE course module: students and facilitators (M Agashe and M Weiss).](image)

After attending a course in Bayesian statistics and geostatistical modelling at Swiss TPH, offered by Dr P Vounatsou, Dr V Joshua has proposed a similar course for the NIE curriculum. With case studies and a focus on practical applications, it aims to focus on cancer epidemiology with reference to demographic, climatic and environmental factors, with course content adapted for consideration of Indian conditions.

**Other training, workshop and dissemination activities**

Additional training workshops in cultural epidemiology and integrated qualitative and quantitative health research methods were conducted to support project development for the stigma and leprosy study at NIE, for the FMR research partner in that study in Mumbai, and for the MAAS study on community acceptance of influenza vaccines in Pune. A workshop at the National Institute of Mental Health and Neuro Sciences (NIMHANS), Bangalore, was presented in Jan 2013. Training workshops were also conducted for research participants in research validating the Cultural Formulation Interview in Pune. M Weiss also participated in teaching a pre-conference workshop in Chennai on qualitative research methods, prior to the International Conference on Schizophrenia (ICONS) conducted by SCARF in September 2012.

![Figure 5. Cultural epidemiology workshop at NIMHANS (M Leuthold, M Weiss, P Satishchandra, and J Ramakrishna)](image)
M Weiss made a presentation in a symposium on media and mental health at the ICONS conference with colleagues Dr M Agashe and Dr A Nadkarni. Other media-related activities included M Weiss chairing the Frame of Mind Film Festival, also organized by SCARF, and chairing the jury that awarded prizes for films contributing to public awareness of mental health, based on the theme of the festival in 2012, mental health in everyday life.

C) LIST OF PUBLICATIONS

Publications in reviewed journals


http://dx.doi.org/10.1016/j.socscimed.2012.07.002


**Poster presentations**

Exposure to biomass fuels and diabetes in a rural population in South India, 2013. Accepted for the joint ISEE, ISES and ISIAQ Environmental Health Conference 2013 in Basel, Switzerland (19-23 August 2013). Presenter: P Kaur; Authors: Kaur P, Grace AC, Rao SR, Govindsamy E, Kaliaperumal K.

Gaps in pesticide-related beliefs and perceived risks of farmer’s and their information sources. Accepted for the joint ISEE, ISES and ISIAQ Environmental Health Conference 2013 in Basel, Switzerland (19-23 Aug 2013). Presenter: Grace AC; Authors: Grace AC, Kaur P, et al.


Neurasthenia spectrum disorders and agreement among diagnoses. Oral presentation at the International Conference "Statistics in Action" at Nashik, Maharashtra, on 8 Mar 2013. Presenter: V Paralikar; Authors: V Paralikar, S Sarmukaddam, M Agashe, MG Weiss.
