FINAL REPORT

WHO PROJECT

Mapping of National Tropical-Disease Centers / Institutions in Nepal

Prof Dr Suman Rijal

Professor in Internal Medicine
& In-charge of Tropical Diseases

B.P.Koirala Institute of Health Sciences

Dharan, Sunsari, Nepal
EXECUTIVE SUMMARY

Nepal, the land of Himalayas and natural beauties, also harbors communicable diseases more commonly labeled as "Neglected Infectious Diseases". The tropical disease centers included in this mapping contribute significantly, in research, training, clinical services or policy making, to the diseases that are relevant in the context of tropical diseases in Nepal and are endemic to the region. Eleven (11) communicable diseases were chosen because of their significance in shaping Nepalese public-health policy. As these diseases are seen in close association with HIV/AIDS and tuberculosis, we have also included the centers that commit to the latter as well.

To initiate the mapping we divided the country profile into 5 development regions. Centers that are included are Government managed, NGO's, Medical Schools and Universities contributing to tropical disease activities. Most of the key institutes that contribute significantly are in the central region in the country's capital, Kathmandu, with only a couple of centers outside the capital. Most of the institutes do contribute to clinical care services but only few are currently actively involved in training or research.

In this report the SCOPUS database was used to enlist the publications in tropical disease from each institute over the last 10 years. Some of the local medical journals which were not included in this database would have been missed. The publications from Nepal are limited in number and also most of the contributions have been made from a handful of institutes. Significant research outputs are also mainly limited to few diseases namely leprosy, visceral Leishmaniasis and enteric fever. The majority of the publications come from 4 institutes namely Anandaban Leprosy Hospital, BPKIHS, Institute of Medicine (Tribhuvan University) and Patan Academy of Health Sciences. These centers have excellent collaboration with reputed tropical diseases institutes which has proved to be very fruitful.

It was also observed that some of the institutes have excellent laboratories but do not have access to field sites or hospitals e.g. NPHL while some have a strong government mandate and good field sites but lack adequate trained manpower and well equipped laboratories e.g. VBDRTC.

Majority of the training in tropical diseases currently ongoing are refresher or short courses mainly provided by the disease specific programmes. MPH in public health is available in 3 institutes and PhD in tropical diseases from 2 universities in Nepal.

There is definitely a need to augment the tropical diseases activities within the country. Key scientists, experts and policy makers need to identify and prioritize the research agenda taking into consideration the country and programme needs. The strengths of the individual institutes should be capitalized and collaborations and networking should be formed to conduct joint activities which include research and training programmes. Investment in training scientists in the universities and upgrading and development of research laboratories is essential. Most of the institutes lack adequate resources to undertake these activities so external funding would be required. In the long term it will be important to develop more centers especially from the endemic areas and in areas deprived of tropical disease centers like Mid-west and Far-west regions of Nepal.
TEAM MEMBERS

The project entitled “Mapping of National Tropical-Disease Centers / Institutions in Nepal”, commissioned by WHO/SEARO, has been prepared by Tropical and Infectious Diseases Unit, B. P. Koirala Institute of Health Sciences, Dharan, Nepal. The report was drafted from 15th May to 30th June 2012.

The team members were:
1. Prof. Dr. Suman Rijal, Professor, Dept. of Internal Medicine, & In-charge Tropical and Infectious Diseases Unit, BPKIHS
2. Dr. Kanika Deshpande Koirala, PhD research Fellow, BPKIHS.
3. Dr. Deepak Kumar Roy, Dental Surgeon, BPKIHS.

DISEASES COVERED

The following diseases were selected, based on their key significance to Nepal. Further, we have classified those diseases in two broad categories: (1) Vector borne disease and (2) Diseases other than vector borne diseases. The disease covered were not only neglected tropical diseases (NTDs) but also those diseases which had a major role in reference to Nepalese population and government policies.

Vector-borne diseases:
1. Malaria
2. Visceral leishmaniasis
3. Dengue
4. Filariasis
5. Japanese Encephalitis

Diseases other than Vector-borne diseases:
1. Leprosy
2. Intestinal helminth infections
3. Tuberculosis
4. Diarrheal diseases
5. Typhoid
6. HIV/AIDS

PROJECT OUTLINE

The project “Mapping of National Tropical Disease Centers / Institutions in Nepal” aims to identify Government Institutes, NGO’s, Medical schools and research institutions involved in tropical diseases research and training in Nepal. The centers were included by their contributions to tropical medicine in terms of publications, trainings given and capacity of the scientists.
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<td>AFRIMS</td>
<td>Armed Forces Research Unit of Medical Sciences</td>
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<td>AES</td>
<td>Acute Encephalitic Syndrome</td>
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<td>ALH</td>
<td>Anandaban Leprosy Hospital</td>
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<td>ART</td>
<td>Anti-Retroviral Therapy</td>
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<td>BNMT</td>
<td>Britain Nepal Medical Trust</td>
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<td>BPKIHS</td>
<td>B P Koirala Institute of Health Sciences</td>
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<tr>
<td>CB-IMCI</td>
<td>Community Based Integrated Management of Childhood Illness</td>
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<td>CFR</td>
<td>Case Finding Rate</td>
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<td>DF</td>
<td>Dengue Fever</td>
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<td>DFID</td>
<td>Department for International Development</td>
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<td>DHF</td>
<td>Dengue Hemorrhagic Fever</td>
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<td>DHO</td>
<td>District Health Office</td>
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<tr>
<td>DoD-GEIS</td>
<td>Department of Defense - Global Emerging Infections Surveillance &amp; Response System</td>
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<tr>
<td>DOTS</td>
<td>Directly Observed Treatment Short Course</td>
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<td>DPHO</td>
<td>District Public Health Office</td>
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<td>DSS</td>
<td>Dengue Shock Syndrome</td>
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<td>EDCD</td>
<td>Epidemiology and Disease Control Division</td>
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<td>EHCS</td>
<td>Essential Health Care Services</td>
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<td>EPI</td>
<td>Expanded Program on Immunization</td>
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<td>EQAS</td>
<td>External Quality Assurances</td>
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<td>FCHV</td>
<td>Female Community Health Volunteer</td>
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<td>FY</td>
<td>Fiscal Year</td>
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<td>HIV/AIDS</td>
<td>Human Immunodeficiency Virus/ Acquired Immuno Deficiency Syndrome</td>
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<td>HPs</td>
<td>Health Posts</td>
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<td>INGO</td>
<td>International Non Government Organization</td>
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<td>IOM</td>
<td>Institute of Medicine</td>
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<td>JE</td>
<td>Japanese Encephalitis</td>
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<td>JICA</td>
<td>Japan International Co-operation Agency</td>
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<tr>
<td>KCH</td>
<td>Kanti Children’s Hospital</td>
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<tr>
<td>KUSMS</td>
<td>Kathmandu University, School of Medical Sciences</td>
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<tr>
<td>LEC</td>
<td>Leprosy Elimination Campaign</td>
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<tr>
<td>LF</td>
<td>Lymphatic Filariasis</td>
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<tr>
<td>MC</td>
<td>Microscopy Center</td>
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<tr>
<td>MCOMS</td>
<td>Manipal College of Medical Sciences</td>
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<tr>
<td>MD</td>
<td>Doctor of Medicine</td>
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<td>MDA</td>
<td>Mass Drug Administration</td>
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<td>MDG</td>
<td>Millennium Development Goal</td>
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<td>MDT</td>
<td>Multi Drug Therapy</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<td>MPH</td>
<td>Masters in Public Health</td>
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<td>MS</td>
<td>Master Of Surgery</td>
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<tr>
<td>MSc</td>
<td>Master of Science</td>
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<tr>
<td>NAMS</td>
<td>National Academy of Medical Sciences</td>
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<td>NCASC</td>
<td>National Centre for AIDS and STD Control</td>
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<td>NEQAS</td>
<td>National External Quality Assurance Scheme</td>
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<td>NGO</td>
<td>Non Government Organization</td>
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<td>NPHL</td>
<td>National Public Health Laboratory</td>
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INTRODUCTION
NEPAL AND TROPICAL DISEASES

Geographical Location

Nepal, officially the Federal Democratic Republic of Nepal, is a landlocked sovereign state located in South Asia. It lies between latitudes 26° and 31°N, and longitudes 80° and 89°E. It covers an area of 147,181 square kilometers and is located in the Himalayas and bordered to the north by the People's Republic of China, and to the south, east, and west by India.

Environment

The differences in elevation found in Nepal result in a variety of biomes, from tropical bordering the Indian states Bihar and Uttar Pradesh in the south, to subtropical in the Hill Region, to temperate on the slopes of the Himalaya, to grasslands and shrub lands and rock and ice at the highest elevations.

Population

Nepal's population was around 26.6 million in 2011. The Nepalese are descendants of three major migrations from India, Tibet, and North Burma and the Chinese province of Yunnan.

Among the earliest inhabitants were the Kirat of east mid-region, Newar of the Kathmandu Valley and aboriginal Tharu in the southern Terai region. The ancestors of the Brahmin and Chetri caste groups came from India, while other ethnic groups trace their origins to North Burma and Yunnan and Tibet, e.g. the Gurung and Magar in the west, Rai and Limbu in the east (from Yunnan and north Burma via Assam), and Sherpa and Bhutia in the north (from Tibet).

Nepal is a multilingual society. The major languages of Nepal are Nepali, Maithili, Bhojpuri, Tharu, Tamang, Newari/Nepal Bhasa, Magar, Rai, Awadhi, Limbu, and Bajjika.

Religion

There is diversity in religion beliefs also with Hinduism being the most practiced followed by Buddhism, Islam, Mundhum, Christianity and other religions.

Economy

Nepal's gross domestic product for 2008 was estimated at over $12 billion. About 25% of the population lives below the international poverty line of $1.25 a day. Agriculture accounts for about 40% of Nepal's GDP. The country receives foreign aid from India, Japan, the United Kingdom, the United States, the European Union, China, Switzerland, and Scandinavian countries. The government's budget is about $1.153 billion, with expenditure of $1.789 billion (FY05/06).
ORGANISATION OF HEALTH STRUCTURE IN NEPAL

The Department of Health Services under the Ministry of Health and Population is responsible for the curative and preventive care activities in Nepal. The DHS comprises 7 divisions and 5 centers. The Epidemiology and Disease Control Division (EDCD) holds the responsibility of controlling endemic diseases including vector borne diseases as well as treatment of animal bites and prevention and tackling epidemics or pandemics. The five Centers involved in tropical and infectious diseases and with a degree of autonomy in personnel and financial management include: National Health Training Centre (NHTC), National Health Education, Information and Communication Centre (NHEICC), National Tuberculosis Control Centre (NTC), National Centre for AIDS and STD Control (NCASC) and National Public Health Laboratory (NPHL).

Figure 1 Organization of Health Structure in the Ministry of Health and Population
At the regional level there are five Regional Health Directorates (RHDs) providing technical supports as well as program supervision to the districts. There are regional and zonal hospitals (15), which have been given decentralized authority. In addition, there are training centers, laboratories, TB centers (in some regions) and medical stores at the regional level.

At the district level, the structure varies between districts. Sixty-one districts are managed by the District Health Office (DHO) with support of the District Public Health Office (DPHO), whereas the remaining 14 are managed solely by the DPHO. The DPHOs and DHOs are responsible for implementing essential health care services (EHCS) and monitor activities and outputs of District Hospitals, Primary Health Care Centers (PHCCs), Health Posts (HPs) and Sub Health Posts (SHPs).

The service delivery outlets in the country include 3,129 SHPs, 676 HPs, 209 PHCCs, 65 district hospitals, 10 zonal hospitals, 2 sub regional hospitals, 3 regional hospitals, and 8 central level hospitals.

In addition there are autonomous health institutes/universities under the Ministry of health and Population namely BPKIHS, NAMS, KCH and PAHS which provide tertiary care services.
BRIEF PROFILE OF TROPICAL DISEASES IN NEPAL

Profile of the various disease included in the report was acquired from the Annual Health Report of the Ministry of Health and Population.

MALARIA

Malaria control project was first initiated in Nepal in 1954 with the support from USAID (then USOM). The objective of the project was to control malaria mainly in southern Terai belt of central Nepal. In 1958, national malaria eradication program, the first national public health program in the country was launched with the objective of eradicating malaria from the country within a limited time period. Currently malaria control activities are carried out in 65 districts at risk of malaria. The districts are divided into four different categories as follows:

• **High risk districts** (13): Ilam, Jhapa, Morang, Sindhuli, Dhanusa, Mahottari, Kavre, Nawalparasi, Banke, Bardiya, Kailali, Kanchanpur, and Dadeldhura

• **Moderate risk districts** (18): Panchthar, Dhankuta, Sunsari, Saptari, Siraha, Udayapur, Sarlahi, Rautahat, Bara, Parsa, Makawanpur, Chitwan, Sindhupalchowk, Rupandehi, Kapilvastu, Dang, Surkhet, and Doti

• **Low risk 34 Districts (Minimal transmission)** (34)

• **No risk Districts** (10)

The Global Fund is supporting malaria control program in the high risk 13 endemic districts and moderate risk 18 endemic districts. Annual Parasite Incidence (API) increased from 0.14 per 1,000 in 2009/2010 to 0.16 in 2010/2011.

KALA-AZAR

The government of Nepal has committed to the regional strategy to eliminate Kala-azar and with India and Bangladesh and is signatory of the memorandum of understanding that was formalized during the World Health Assembly held in May 2005 on Kala-azar elimination, with the target of achieving the disease elimination by 2015.

In 2005, Epidemiology and Disease Control Division (EDCD) of Department of Health Services formulated a National Plan for the Elimination of Kala-azar divided in it into three phases:

Kala-azar is considered a major public health problem and is endemic in 12 districts of eastern and central Terai. Incidence of Kala Azar has decreased from 1.71 per 10,000 areas at risk population in 2008/2009 to 1.33 in 2009/2010 and to 0.94 in 2010/2011.
Though the overall cases and incidence has been decreasing new endemic foci particularly in the hilly districts are being reported.

**LYMPHATIC FILARIASIS (LF)**

Lymphatic Filariasis is a public health problem and main cause of morbidity, primarily, lymph edema of legs and hydrocele in many endemic areas of the rural and slum areas of the country. The government had initiated implementation of Mass Drug Administration (MDA) in Parsa district in 2003.

Since then the program has expanded gradually in other endemic districts as well. MDA has stopped in 5 districts (Parsa, Makawanpur, Chitwan, Nawalparasi, and Rupandehi) in fiscal year 2010/2011 after completion of 5 rounds of MDA.

*Wuchereria bancrofti* is the only recorded parasite in Nepal. The mosquito, *Culex quinquefasciatus*, an efficient vector of the disease has been recorded in all the endemic areas of the country.

**Goal**

Elimination of lymphatic filariasis from Nepal by the year 2020 by reducing the disease in population to such a level that there will be no transmission of the disease to the people living in Nepal.

**DENGUE**

Dengue, a mosquito-borne disease emerged in Nepal in the form of Dengue Fever (DF), Dengue Hemorrhagic Fever (DHF) and Dengue Shock Syndrome (DSS). The earliest cases recorded were only in 2006. The sporadic cases continued and outbreaks occurred in 2009-2010. Dengue outbreak in 2006 had shown its face with 32 confirmed dengue cases followed by 27 cases in 2007, 10 cases in 2008, 30 cases in 2009 and 917 cases in 2010 with major outbreak in Chitwan and Rupandehi districts.

*Aedes aegypti* (mosquito-vector) has been identified in 5 peri-urban areas of Terai region (Kailali, Dang, Chitwan, Parsa and Jhapa) during entomological surveillance conducted by EDCD during the year 2006-2010, indicating local transmission of dengue. Studies carried out in close collaboration of WARUN/AFRIMS in the year 2006 by EDCD/NPHL showed all 4 sub-types (DEN-1, DEN-2, DEN-3 and DEN-4) of Dengue virus circulation in Nepal.

**TUBERCULOSIS**

Tuberculosis (TB) is a major public health problem in Nepal. About 45 percent of the total population is infected with TB, of which 60 percent are adult. Every year, 40,000 people develop active TB, of whom 20,000 have infectious pulmonary disease. These 20,000 are able to spread the disease to others.
Treatment by Directly Observed Treatment Short course (DOTS) has reduced the number of deaths; however 5,000-7,000 people still die per year from TB. Expansion of this cost effective and highly successful treatment strategy has proven its efficacy in reducing the mortality and morbidity in Nepal. By achieving the global targets of diagnosing 70 percent of new infectious cases and curing 85 percent of these patients will prevent 30,000 deaths over the next five years.

Short course (DOTS) has been implemented in all 75 district of the country and TB patients are being treated with DOTS at 1,118 treatment centers and 3,103 sub centers. The Treatment Success Rate (TSR) stands at 90 percent and Case Finding Rate (CFR) at 73 percent.

**Targets**

Targets linked to the MDGs and endorsed by the Stop TB Partnership:

- by 2005: detect at least 70 percent of new sputum smear-positive TB cases and cure at least 85 percent of these cases
- by 2015: reduce prevalence of and death due to TB by 50 percent relative to 1990
- by 2050: eliminate TB as a public health problem (<1 case per million population)

**HIV/AIDS AND TUBERCULOSIS**

The prevalence of HIV is rising rapidly in Nepal, and effective control measures – for AIDS as well as for TB – are more important now than ever before. NTP is conducting regular surveys to find the extent of HIV among TB patients. In 2006, 2.4 percent of tuberculosis patients also had HIV infection. This could rise rapidly if HIV increases. Fourth sentential site survey of HIV in Tuberculosis patients was conducted. This survey is conducted in every two-year interval of time.

**HIV/AIDS**

HIV in Nepal is characterized as concentrated epidemic, where majority of infections are transmitted through sexual transmission. Prevention of HIV among key population is the key programmatic strategies, while providing quality treatment, care and support for infected and affected is equally important strategic directions to achieve the end results of national response.

Since the detection of the first AIDS case in 1988, the HIV epidemic in Nepal has evolved from a low prevalence to concentrated epidemic. As of 2011, national estimates indicate that approximately 55,600 adults and children are infected with the HIV virus in Nepal. A total of 18,396 cases of HIV out of them 7,437 advanced HIV infection cases had been reported as of 2011. The estimated prevalence of HIV in the adult population is 0.33 percent.
LEPROSY
Nepal Leprosy Control Program was started in the country in 1966. The country conducted Leprosy Elimination Campaign in 1999 (LEC-1) and again in 2001 (LEC-2) which was an active case detection activity. Leprosy has been declared as being eliminated from Nepal in 2009.

DIARRHOEAL DISEASES
Diarrhea is still a leading killer disease in Nepal. CB-IMCI program intensely focuses on management of diarrheal diseases among the under-five year’s children. Standard diarrhea case management with Oral Rehydration Therapy (ORT) continued feeding and Zinc tablet have been providing in the health institutions. All health facilities and community health volunteers have been serving as the primary health providers in the treatment of Diarrhea with Low Osmolar Oral Rehydration Solutions (ORS) and Zinc supplementation.

Incidence of Diarrheal Diseases
Annual incidence of diarrhea per 1,000 under-five years’ children has decreased from 598 in FY 2009/2010 to 500 in 2010/2011. However cases of ‘Severe Dehydration’ have remained constant at 0.4 percent in two consecutive years.

JAPANESE ENCEPHALITIS
In fiscal year 2010/2011 a total of 1,367 AES cases were reported from 62 districts of which 88 were laboratory confirmed JE cases from 29 districts. JE surveillance started in 2006 in high risk districts, following which the number of JE cases has drastically reduced.
Mapping of National Tropical Disease Centers/ Institutions in Nepal

Mapping Strategies

Nepal is divided administratively into 5 regions and 75 districts, the latter being the administrative unit. Topographically there are 3 ecological zones that run from east to west. Altitude increases from south to north: 20 districts in Terai plains in the south, 39 districts in the hill region in the middle, and the 16-district mountain region in the north.

Figure 2: Topographic Map of Nepal

Districts by Topographic Regions

<table>
<thead>
<tr>
<th>Mountain Region</th>
<th>Hill Region</th>
<th>Terai Region</th>
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<tr>
<td>Darchula</td>
<td>Baitadi</td>
<td>Dhading</td>
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<td>Bajhang</td>
<td>Dadeldhura</td>
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<td>Bajura</td>
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<td>Baglung</td>
<td>Udaypur</td>
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AREAS ADDRESSED IN THIS REPORT

This report enumerates the number of institutes in the country actively involved in tropical medicine activities. Profile, strengths, funding and outputs have been measured. Regional comparison has been made. The number of institutes' present, infrastructure available, strength of the institutes, number of scientists involved, and output in terms of publications has been taken under consideration. Information regarding funding was limited.

Publications are presented based on the number of papers each institutes published, the journals they were published in, citations, disease of interest of the various institutes as far as possible.

Lastly, the institutes were compared on the basis of the publications in the field of tropical medicine.

- **Profile and Strengths**
  - Regional comparisons
  - Comparative summary of the key institutes
  - Name of Institution / University
  - Address and Contact Information
  - Vision and Mission
  - Tropical Diseases Studied
  - Infrastructure – Facilities, Services
  - Funding
  - Prominent Scientists

- **Outputs**
  - Publications
METHODOLOGY

Mapping of the various institutes working in research related to tropical medicine was done by gathering the information from Nepal Health Research Council and looking for related publications from databases like SCOPUS and Pubmed. Institute websites were referred to attain the institutes vision and goals and determine their contribution for tropical medicine. Information was also collected using the Questionnaire attached in Annex II, by telephone contact and sending out Emails. Further information was filled after personal communication with the Principal Investigators.

The institutes that were included to make this report are listed below with those making significant contribution to tropical disease research and training in bold:

1. Anandaban Leprosy Hospital
2. B P Koirala Institute of Health Sciences
3. Chitwan Medical College
4. CIWEC clinic
5. College of Medical Sciences
6. Epidemiology and Disease Control Division
7. Gandaki Medical College
8. Institute of Medicine, Tribhuvan University
9. Janaki Medical College
10. Kanti Children's Hospital
11. Kathmandu University School of Medical Sciences
12. Kathmandu Medical College
13. Kist Medical College
14. Lalgalad Leprosy Hospital
15. Lumbini Medical College and Research Center
16. Manipal College of Medical Sciences
17. National Academy of Medical Sciences
18. National Center for AIDS and STD control
19. National Medical College
20. National Public Health Laboratory
21. National Tuberculosis Center
22. Nepal Health Research Council
23. Nepal Public Health Foundation
24. Nepalgunj Medical College
25. Nobel Medical College Teaching Hospital and Research Center
26. Nyaya Health
27. Patan Academy of Health Sciences
28. Sukraraj Tropical and Infectious Disease Hospital
29. Tribhuvan University
30. Universal College of Medical Sciences
31. Vector Borne Disease Research and Training Center, Hetauda
SECTION I
INSTITUTES PROFILE AND STRENGHTS
INTRODUCTION

The comparison in this section of the report is to note the institutes in each of the developmental regions of Nepal. The infrastructures of the institutes and trainings imparted in the field of tropical medicine in undergraduate and postgraduate levels were estimated. It includes the effort for the disease control and elimination of tropical diseases. In this chapter, the institutes are analyzed and compared.

KEY INSTITUTES IN TROPICAL MEDICINE

For this mapping, 31 institutes were included, comprising of universities, medical colleges, governmental organizations, NGO's and a few hospitals. The institutes were analyzed by their profile and strengths, profile of scientists, research conducted, publications, available infrastructure, contribution in control and elimination of these diseases. The funding sources could not be obtained for most of the institutes.

The output was measured in terms of publications and the platform of dissemination of information. Researches in relation to tropical medicine were included, from basic science, clinical and community level studies as well as research done by International organizations.

Of the 31 Institutes mapped, 17 key institutes were noted because of their significant contribution in research, number of publications, training programs in tropical medicine. Most of the listed institutes are relatively new and are planning to expand their infrastructure and laboratory facilities in to well equip to take effective measures to work in eliminating and treating tropical diseases.

We have listed the key institutes as Government, Non Government, Medical Schools and Universities.

<table>
<thead>
<tr>
<th>Government</th>
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<tbody>
<tr>
<td>1. Epidemiology and Disease Control Division</td>
</tr>
<tr>
<td>2. Kanti Children's Hospital</td>
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<tr>
<td>3. National Center for AIDS and STD control</td>
</tr>
<tr>
<td>4. National Public Health Laboratory</td>
</tr>
<tr>
<td>5. National Tuberculosis Center</td>
</tr>
<tr>
<td>6. Nepal Health Research Council</td>
</tr>
<tr>
<td>7. Sukraraj Tropical and Infectious Disease Hospital</td>
</tr>
<tr>
<td>8. Vector Borne Disease Research and Training Center, Hetauda</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>NGO and INGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anandaban Leprosy Hospital</td>
</tr>
<tr>
<td>2. CIWEC clinic</td>
</tr>
</tbody>
</table>
### Medical College

1. Institute of Medicine, Tribhuvan University
2. Manipal College of Medical Sciences

### Universities

1. B P Koirala Institute of Health Sciences
2. Kathmandu University School of Medical Sciences
3. National Academy of Medical Sciences
4. Patan Academy of Health Sciences
5. Tribhuvan University
TROPICAL MEDICINE RESEARCH AND TRAINING INSTITUTES OF NEPAL, KATHMANDU IN A SEPARATE MAP. (GOOGLE MAPS)

Figure 3 Mapping of Key Institutes in Tropical and Infectious Disease Centers in Nepal

Of the 17 institute that have significantly contributed 16 are located in the central region and one each in the Eastern and Western regions. In the Central Region all except one are located in the Kathmandu valley.
REGIONAL COMPARISONS

It is clear that the bulk of tropical medicine institutes in Nepal are in the Central developmental region, as shown in Figure 4. Out Of 31 institutes reviewed for this report, 23 were in the Central region, 4 in the Western, 2 in the Eastern, and 1 each in the Mid-western and Far-western development region. Kathmandu belongs to the Central region and almost all of the institutes in this region are situated in and around the Kathmandu valley.

Figure 4 The number of Institutes in the various regions of Nepal

![Pie chart showing distribution of institutes by region](image1)

Figure 5 The number of publications of key institutes in tropical and infectious diseases by regions in the past 10 years.

![Bar chart showing number of publications by region](image2)
Of the 17 key institutes that were noted because of their significant contribution in research, number of publications, training programs in tropical medicine, 16 are located in the Central region, one each in the Eastern and Western region. The publications from the 3 regions are shown in Fig 5.

**Figure 6 The number of publications in Specific Diseases by Regions in the Past 10 years**

![Bar chart showing publications by region and disease category.](image)

Most of the papers published in visceral leishmaniasis or Kala Azar are from BPKIHS. The research published has helped shaping the health policy for VL and thus also has a role in reducing the burden of the disease in the country.
BPKIHS has the maximum number of publications in the past 10 years among the key institutes listed in this report. The strength of BPKIHS is that it is situated in an endemic area and has adequate number of scientists, good infrastructure and well-equipped laboratories. Its research is mainly conducted in VL and JE with the support of good international collaboration.

This is followed by IOM, the oldest medical school and has a research department with adequate number of scientists including clinicians, microbiologists and epidemiologists conducting research in tropical medicine.

PAHS has expertise in Enteric fever and Anandaban a leprosy hospital does most of its research in Leprosy.
# COMPARATIVE SUMMARY OF THE KEY INSTITUTES

<table>
<thead>
<tr>
<th>Profile Page No</th>
<th>Name Of Institute</th>
<th>Region</th>
<th>Main Diseases Covered</th>
<th>Strengths</th>
<th>Publications No. in last 10 Years</th>
<th>Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>ALH</td>
<td>Central</td>
<td>Leprosy</td>
<td>Scientists, research laboratories, specialized hospital</td>
<td>33</td>
<td>Refresher trainings.</td>
</tr>
<tr>
<td>30</td>
<td>BPKIHS</td>
<td>Eastern</td>
<td>VL, JE, TB</td>
<td>Scientists including entomologist, Endemic location, tertiary care hospital, VL specialized centre, research laboratories, and international collaboration.</td>
<td>147</td>
<td>MD (Micro.), MPH, PhD and short courses for doctors.</td>
</tr>
<tr>
<td>37</td>
<td>EDCD</td>
<td>Central</td>
<td>VBD, diarrheal diseases</td>
<td>Surveillance data, develop policies, trained epidemiologists</td>
<td></td>
<td>Refresher courses in VBD.</td>
</tr>
<tr>
<td>28</td>
<td>IOM</td>
<td>Central</td>
<td>Malaria, Diarrheal diseases, helminthiasis and TB</td>
<td>Scientists, research laboratories, tertiary care hospital</td>
<td>82</td>
<td>MD (microb.), and MPH</td>
</tr>
<tr>
<td>46</td>
<td>KCH</td>
<td>Central</td>
<td>JE, diarrheal diseases</td>
<td>Tertiary care hospital facilities.</td>
<td></td>
<td>MD and short term trainings.</td>
</tr>
<tr>
<td>51</td>
<td>KUMS</td>
<td>Central</td>
<td>Malaria, Dengue, Helminthiasis Tuberculosis, Typhoid Tuberculosis,</td>
<td>Tertiary care hospital</td>
<td>11</td>
<td>MD (Micro.)</td>
</tr>
<tr>
<td>52</td>
<td>MCOMS</td>
<td>Western</td>
<td>HIV/AIDS, Malaria, Leprosy, Helminthes, TB, Filariasis</td>
<td>Tertiary care hospital</td>
<td>31</td>
<td>MD (Micro.)</td>
</tr>
<tr>
<td>49</td>
<td>NAMS</td>
<td>Central</td>
<td>HIV/AIDS, Japanese Encephalitis</td>
<td>Tertiary care hospital</td>
<td>3</td>
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<tr>
<td>38</td>
<td>NHRC</td>
<td>Central</td>
<td>Dengue, Malaria, Tuberculosis, HIV</td>
<td>Trained researchers, provide funding, monitor biomedical research</td>
<td>2</td>
<td>Short trainings in research methodology.</td>
</tr>
<tr>
<td>35</td>
<td>NPHL</td>
<td>Central</td>
<td>VBD, JE, diarrheal diseases.</td>
<td>Well equipped laboratories and lab. Personnel, Expertise in Quality control.</td>
<td>6</td>
<td>Refresher trainings for laboratory personnel</td>
</tr>
<tr>
<td>40</td>
<td>NTC</td>
<td>Central</td>
<td>Tuberculosis</td>
<td>Well equipped laboratories and lab. Personnel, Expertise in Quality control.</td>
<td>7</td>
<td>Refresher trainings.</td>
</tr>
<tr>
<td>47</td>
<td>PAHS</td>
<td>Central</td>
<td>Enteric fever</td>
<td>Scientists, Tertiary care hospital, research laboratories, international collaborations</td>
<td>31</td>
<td>PhD, Refresher trainings.</td>
</tr>
<tr>
<td>43</td>
<td>STIDH</td>
<td>Central</td>
<td>HIV/AIDS, Malaria, Japanese Encephalitis, Leishmaniasis</td>
<td>Hospital services in tropical diseases</td>
<td>12</td>
<td>Short term trainings</td>
</tr>
<tr>
<td>45</td>
<td>VBDRTC</td>
<td>Central</td>
<td>Kala Azar, Malaria, JE, Dengue</td>
<td>Location in endemic region, equipped laboratory, entomologist.</td>
<td>5</td>
<td>Refresher trainings</td>
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INSTITUTE OF MEDICINE,
TRIBHUVAN UNIVERSITY

Registered Date: 1978

Contact Information
Address: Maharajgunj, Kathmandu
Phone: +977-01-4410911/4413729
Email: iomdean@healthnet.org
Fax: +977-01-4418186

Dean: Professor Dr Kumud Kumar Kafle

Vision and Mission:
To play a role model in providing excellent medical education, health services and research work, not only in Nepal, but in the whole world.

**Tropical Diseases Studied:**
Vector borne: Malaria, leishmanisis, Filariasis, Japanese encephalitis and Dengue
Diarrheal diseases: Rotavirus, Bacteria and intestinal parasites
Others: HIV/ AIDS, TB, Enteric fever, Helminthiasis and Coccidian parasites

**Infrastructure, Hospital facilities and training programmes:**
IOM has a 444 bed tertiary level hospital. The institute conducting four programs in Certificate level, 11 programs in Bachelor level, 26 programs in Masters Level including MPH and 4 programs in MCh. IOM has already started the process of starting DM (Doctor of Medicine) in medicine, postgraduate programme in dental, PhD programme in nursing and microbiology. There is a separate Research Department established in 2008.

Research:

**Objectives of Research Department**
- To activate and promote research activities of various Campuses and their Departments
- To provide technical expertise as per their need
- To conduct research methodology workshops and trainings for faculties and post graduate students
- To build up collaboration in research with various national and international organizations
- To identify and explore research areas.
- To support teaching/learning activities.
- To monitor the progress of enrolled research work in the institute
- To help in the publication of research articles
Activities of the department:
Conduct workshop on Research Methodology for Postgraduate Students and Faculties, Joint research with various agencies like Nick Simons Institute, Research Conference on Health Science

More than 15 projects in Tropical Diseases have been handled by the Institute

Sources of Funding:
National: University commission grant (UCG); NHRC, Ministry of Science and Technology

International: WHO-TDR, JICA, USAID, DFID

Prominent Researchers:
Prof. Dr. Jeevan B. Sherchand: A microbiologist currently the Research Director at IOM and has been a PI of several research projects. His field of research includes malaria, lymphatic filariasis, and diarrheal diseases including Rota virus, helminthiasis and TB-HIV co-infection.

Professor Chitra Kumar Gurung: A Statistician and has conducted several operational research in visceral leishmaniasis as PI.
B.P. KOIRALA INSTITUTE OF HEALTH SCIENCES

Registered Date: 1994

Contact Information
Address: Dharan
Phone: +977-025-525555/521017
Email: bpkihs@bpkihs.edu
Fax: 025-520251

Website: http://www.bpkihs.edu/

Vice Chancellor: Prof. Dr. B P Das

Vision and Mission:
An autonomous Health Sciences University with a mandate to work towards developing socially responsible and competent health workforce, providing health care & involving in innovative health research. A centre of national importance to produce skilled health workforce to meet the country's need and also to function as a centre of excellence in the field of tropical and infectious diseases.

Tropical Diseases Studied: Leishmaniasis, Japanese Encephalitis, Leprosy, Helminthiasis and Tuberculosis.

Infrastructure, Hospital facilities and training programmes:
A 700-bedded Central Teaching Hospital with state of the art facilities. It has well equipped Specialized Laboratories like a Molecular Biology Laboratory and a Japanese Encephalitis Reference Laboratory.

It conducts more than 30 postgraduate, undergraduate, and university certificate programs. It has four colleges: Medical, Dental, Nursing, and Public Health. The medical college has well-established major clinical and basic science departments.

Postgraduate programs (MD, MS, and MSc) were started in 1999. The School of Public Health was established in 2005, and it runs a two-year MPH program. Doctor of Philosophy (PhD) program in Tropical Medicine has also been introduced. The Institute has innovative approach of community-based training of students, and providing services to the local people through the concept of Teaching District Hospitals (learning by doing at community level).

Centre of Tropical and Infectious Diseases has been established in 2012 which is equipped with a molecular laboratory, inpatient ward and training centre which includes a library and computer laboratory. Since 2009 a 5 week short term training in tropical diseases for Nepalese doctors is being conducted. Since 2012 a PhD programme in Tropical Diseases has also been started.
Research:
Along with teaching and clinical services research is one of the core activities here at BPKIHS. BPKIHS has established itself not only as a National referral centre for VL but also conducted over 15 research projects over the last 10 years. The field of research includes epidemiological and socio-economic studies, operational research, clinical trials of VL drugs, community trials of LLIN, pharmacovigilance, validation of diagnostic tests, drug resistance studies in Leishmania, entomological and molecular biology studies.

These collaborative research projects have been supported by European Commission, WHO, WHO/TDR and other foundations. Research work has been conducted in collaboration with reputed institutes in Asia (BHU, Varanasi and ICDDR, Bangladesh) Europe (Institute of Tropical Medicine, Antwerp, Geneva University Hospital, Switzerland, London School of Hygiene and Tropical Medicine, London, etc). Around 90 research publications have been made over the last 10 years in international peer reviewed journals.

In Japanese encephalitis a project on surveillance of Acute Encephalitis syndrome and Hib meningitis supported by WHO-IPD is ongoing. A randomized clinical trial of intravenous immunoglobulin is being conducted in collaboration with Liverpool University.

Sources of Funding:
National: Research grant from BPKIHS; Indo-Nepal Corpus Fund; NHRC
International: WHO-TDR, European Commission, Institute of tropical Medicine, Belgium.

Prominent Researchers/Clinicians:
Dr. Suman Rijal is Professor in Department of Internal Medicine and In charge of the Tropical and Infectious Diseases Unit at BPKIHS. The field of research expertise is VL and fever syndromes. He has been the PI in more than 10 research projects in the tropics. He is also a member of the WHO expert committee on Leishmaniasis and the Regional Technical Advisory Group on Kala-azar elimination.

Dr Rupa Rajbhandari Singh is Professor in Department of Pediatrics and Rector BPKIHS. Her field of expertise is in Japanese encephalitis in which she conducted a clinical trial as Principal Investigator and in VL.

Dr Basudha Khanal is Professor in Department of Microbiology and her field of expertise is in Japanese encephalitis and VL mainly in validation of diagnostic tests. She is the focal person for MoH/ WHO-IPD surveillance of AES and Hib meningitis. Her expertise also extends in the field of GLP.

Dr Murari L Das is Professor of Microbiology (Entomology) and has conducted several researches in vector studies as Principal investigator.

Dr Nisha K Bhatta is Professor of Pediatrics and her expertise is in JE and diarrheal diseases.
Dr Narayan Bhattarai, Associate Professor, Department of Microbiology is a molecular biologist and his expertise is in VL. He has participated in several research studies and currently is a PI in a collaborative research project supported by ITM, Antwerp.

Dr Nilambar Jha, Professor in School of Public Health is an epidemiologist and his expertise includes epidemiology of tuberculosis and TB-HIV co-infections.

Dr Nirmal Baral is Professor of Biochemistry and he has conducted several basic researches in VL
TRIBHUUVAN UNIVERSITY

Established: 1959

Contact Information:
Address: Kirtipur, Kathmandu, Nepal
Phone: +977-1-4331869
Website: http://www.tribhuvan-university.edu.np/
Vice-Chancellor: Prof. Dr. Hira Bahadur Maharjan

Vision and Mission:
Tribhuvan University (TU) is the first national institution of higher education in Nepal. The Central Administrative Office and the Central Campus of the university are located on the north east of Kirtipur, five kilometers from Kathmandu. The university at Kirtipur is spread over an area of 154.77 hectar.

Objectives:
- To produce skilled manpower essential for the overall development of Nepal
- To preserve and develop historical and cultural heritage of the nation
- To accumulate, advance and disseminate knowledge
- To encourage and promote research in Arts, Science, Medicine, Engineering, Agriculture, Management, Education and other vocational fields

Tropical Diseases Studied: Malaria, Visceral Leishmaniasis, Lymphatic Filariasis

Infrastructure and training programs:
There are 5 technical institutes and 4 general faculties, 38 Central Departments, 4 Research Centers and 60 Constituent campuses in TU and out of them 1 Institute, 3 Faculties, 32 Departments, 3 Research Centers and 2 Constituent campuses are at Kirtipur. The university offers 115 courses for the technical proficiency certificate level. TU offers 1079 courses at Bachelor’s level and 1000 courses at Master’s level. It offers Ph.D. degree in different disciplines both at the Technical Institutes and Faculties.

Academic Institute with post graduate research students and faculties involved in research leading to Ph D / Masters Degree in Microbiology (Medical/Public Health & Environment)

Research:
Research Coordination Council: It formulates policies on TU research activities, approves guidelines for researchers and coordinates the functions of university level research organizations. The Research Division is the secretariat of the council which publishes TU Journal, Research Bulletin and Statistical Bulletin. Besides, it monitors mini-researches for teachers. It consists of 27 members.
More than 5 projects have been handled by the Institute in Tropical Medicine in the past 10 years.

Sources of Funding:
National: Nepal health Research Council, Tribhuvan University, IoST, University Grants Commission, VBDRTC, EDCD /MoHP

International: WHO Country Office and TDR

Prominent Researchers/Clinicians:
Dr Prakash Ghimire, A Microbiologist with expertise in the field of Malaria, Leishmaniasis, Filariasis and Tuberculosis. He has conducted and has been involved in many related projects.

Dr Megha Raj Banjara: An Epidemiologist and Lecturer in TU, has conducted several operation research in VL as PI.
NATIONAL PUBLIC HEALTH LABORATORY (NPHL)

Established: 1968

Contact Information
Address: Teku, Kathmandu
Telephone: 977-1- 4261712
Fax: 977-1- 4262038
Email: info@dohs.gov.np

Website: http://www.nphl.gov.np/

Director: Dr. Geeta Shakya

Vision and Mission:
National Public health Laboratory (NPHL) is a government national reference laboratory under the Department of health services (DoHS) and Ministry of Health and Population (MoHP). It is directly linked to different levels of 277 government laboratories in the country. Networking, licensing, monitoring, supervision, capacity strengthening and conducting research activities and National External Quality Assessment Scheme (NEQAS) of the laboratories are the major functions of NPHL.

Tropical Diseases Studied: Japanese Encephalitis, Diarrheal diseases.

Infrastructure:
Currently, NPHL has facility of biosafety level (BSL) II lab with real time PCR (RT-PCR) which is in use for testing viral load & Avian Influenza including Swine flu (H1N1). BSL III Lab has been proposed for culture of viruses.

Services:
National Public Health Laboratory (NPHL) is apex lab of MOHP it functions both as reference lab and public health lab. It has following facilities.

1. WHO SEARO Accredited Measles/ Rubella lab.
2. National Influenza Center with BSL 2 lab, tissue culture facility, Characterization by HAI and IFT testing and facility of nucleic acid sequencing
3. BSL 2 plus equivalent to BSL 3 lab constructed and will be functional after certain modification.
4. BSL 2 lab (molecular biology) as HIV reference lab (Diagnostic service, EQAS, CD4 count/CD4 % and viral load)
5. Routine/specialized lab facility.
6. Secretariat of laboratory containment for wild polio virus.
7. Secretariat for NSC and NTAC of Blood Transfusion Service.
Besides routine/diagnostic services, NPHL provide following public health related services.

1. Lab based surveillance on Acute Encephalitis syndrome/ Japanese encephalitis
2. Lab based surveillance on measles/rubella surveillance
3. Influenza surveillance through ten sentinel sites of National Influenza surveillance Network.
4. Outbreak investigation for diarrheal diseases (Shigella, salmonella, Cholera, campylobacter, Pathogenic E-coli, Febrile/ haemorrhagic fever (salmonella, Malaria, Dengue, leptospira etc)
5. Water analysis for coli form
6. Organization of NEQAS on different disciplines of clinical pathology (Hematology, Microbiology, Biochemistry).
7. Supervision and monitoring of peripheral labs

**Research and Training:**

- MD thesis
- Msc Microbiology thesis
- PhD thesis
- Training
  - In service and refresher training for lab assistant and lab technician.
  - HIV, VCT /STI training
  - CD4 training
  - ART monitoring training
  - Training on influenza for sentinel sites of National Influenza Surveillance Network
  - Training on emerging infectious zoonotic diseases (Avian influenza, Brucellosis, Leptospira, Dengue, Japanese encephalitis)
  - Quality assurance training for laboratory and blood transfusion services
  - Training on MAC Elisa for JE/Measles/ Rubella
  - Bacteriological training
EPIDEMIOLOGY AND DISEASE CONTROL DIVISON

Contact Information:
Address: Department of Health Services, Teku, Kathmandu
Phone: 00977-1-4262268, 4255796

Director: Dr G D Thakur

Vision and Mission:
EDCD a division under the Department of Health Services has a Disease Control Section, which looks after the vector borne diseases (Malaria, Dengue, Filariasis, Japanese Encephalitis and Dengue) control program. It also holds the responsibility of investigating endemic diseases and prevention and tackling epidemics or pandemics.

Services:
- The institute is involved in planning, management, execution and supervision of control programmes.
- Training of health programmes.
- Respond to outbreaks and epidemics.
- Collaboration with research institutes on operational research
NEPAL HEALTH RESEARCH COUNCIL

Established: 1982

Contact Information
Address: Nepal Health Research Council, Ramshah Path, Kathmandu, Nepal
Telephone: 977-1-4254220/4227460
Fax: 977-1-4262469/4268284
Email: nhrc@nhrc.org.np

Website: http://www.nhrc.org.np/

Director: Prof. Dr. Chop Lal Bhusal

Objectives:
- To do or cause to do study and research on problems in the field of health being encountered or likely to be encountered in future.
- To conduct programs relating to consultancy service and information in order to make the study and activities relating to health more useful, and
- To acquire information about studies, researchers and works on various problems relating to health in the world and inform it to HMG from time to time.

Tropical Diseases Studied: Dengue, Malaria, Tuberculosis, HIV

Infrastructure:
NHRC is conducting researches on different tropical diseases since long time. There is a tropical disease section at NHRC which works collaboratively with other government agencies. NHRC hires the required human resources as per needed for study.

Services:
1. Screening, reviewing and approval of research proposals.
2. Providing technical guidance and possible support including services for scientists, researchers.
3. Conducting training workshops in Health Systems Research Methodology, Research Management and other fields of research.
4. Providing e-mail, photocopying and Med-line search facilities and other information for researchers for a free.
5. Monitoring and evaluation of all the researchers conducted at the field level.
6. Providing various kinds of Research Grants to the most deserving researchers.
7. Compiling research related books, research reports, national and international scientific journals and Bulletins.
8. Publishing and archiving research related materials including publication of Research Journals, Bulletins and Reports.
9. Networking of health researchers and research institutions / agencies / organizations involved in health research.
10. Serving as a repository for research related information and resources.
11. Disseminating activities for research based information.
12. Development of research proposals on health related sciences.
13. Developing and conducting collaborative research with research institutions / agencies / organizations within and outside Nepal.
14. Making collaborative work with WHO, bilateral, multilateral and other funding agencies / organizations.
15. Developing the research units in the five development regions of Nepal and coordinating the overall aspects of health research in these regions.

**Research:** Tropical Disease Research project, Nepal Health Research Council. The project was implemented in different parts of Nepal.

**Sources of Funding:**
**National:** Government of Nepal

**International:** World Health Organization, Maryknoll Father and Brothers, USA

NHRC has funded research in various tropical and infectious diseases such as Malaria, JE, VL, Dengue, TB, and HIV at various institutes within the country. It provides grants to undergraduate as well as postgraduate researchers to encourage research activities in Nepal.

**Prominent Researchers:**
**Prof. Dr. Chop Lal Bhusal,** currently the Executive Chairperson of NHRC has conducted research in various Tropical Diseases like Dengue, Malaria, Tuberculosis, and HIV. He has mainly focused on epidemiological studies.
NATIONAL TUBERCULOSIS CENTER

Established: 1989

Contact Information
Address: Thimi, Bhaktapur Nepal
Ph: 00977-1-6630033, 6630073
Email: info@nepalntp.gov.np

Website: http://www.nepalntp.gov.np/index.php

Director: Dr. K. K. Jha

Vision and Mission:
To make Nepal free of TB. To reduce the mortality, morbidity and transmission of tuberculosis till it is no longer at public health problem in Nepal.

- To achieve 85% treatment success rate in new smear positive pulmonary tuberculosis cases and to achieve 70% case detection ratio in new smear positive pulmonary tuberculosis cases.
- Achieve universal access to high-quality diagnosis and patient-centered treatment
- Reduce the human suffering and socioeconomic burden associated with TB
- Protect poor and vulnerable populations from TB, TB/HIV and multidrug-resistant TB
- Support development of new tools and enable their timely and effective use

Tropical Diseases Studied: Tuberculosis

Infrastructure:
The most efficient and cheapest mean for diagnosis of TB is sputum smear microscopy. Well functioning laboratories with quality control is fundamental requirement for any TB control programme.

The Nepal National Tuberculosis Control Programme operates a network of laboratories with a well established quality control system throughout the country. The NTP laboratory network is comprised of a well-functioning laboratory at the National Tuberculosis Centre and 315 laboratories at the peripheral level, all of these integrated with the government General Health Service’s laboratories or those run by NGO/INGOs.

NTP is aiming to upgrade the status of the Central Laboratory at NTC to becoming National Reference Laboratory (NRL) which should be linked to a Supra National Reference Laboratory (SNRL). NRL should be able to provide culture and drug sensitivity testing under internationally acceptable quality assurance by SNRL.

Research:
Family and Community Volunteer based DOTS research is in progress in the remote hilly areas of Nepal where institutional based DOTS are not feasible.
Research is also underway to link private practitioners and the services they provide with the NTP, to ensure that all patients receive a high standard of care and their results are properly recorded and reported.

The NTP has carried out frequent surveys of drug resistance both in central as well as in periphery level. The latest survey conducted in 2001/2002 showed multi drug resistance (MDR) of 1.30% compared to 3.60% in 1998/1999 and 1.20% in 1996/1997. The latest survey shows that Multi-Drug Resistant (MDR) TB is decreasing in newly registered cases and it is a sign of good DOTS programme.

**HIV/AIDS and Tuberculosis:**

The prevalence of HIV is raising in Nepal and effective control measures for AIDS as well as for TB is more important now than ever before.

Sustaining and further enhancing partnership remains one of the primary objectives of the NTP. In this regard initiation of collaboration with National AIDS Programme (NAP) is one of the key achievements. A Core Group consisting members from NTP, NAP and other partners has been established which is aiming to facilitate the formation of a National TB HIV Collaboration Committee. Steps were also initiated to develop a joint collaboration strategy document by both programmes.
NATIONAL CENTER FOR AIDS AND STD CONTROL

Contact Information
Address: Teku, Kathmandu
Telephone: +977-1- 426 1653, 426 2753, 425 8219
Fax: +977-1- 4261406
Email: info@ncasc.gov.np
Website: www.ncasc.gov.np

Director: Dr Krishna Kumar Rai

Vision and Mission:
The National AIDS Research Centre (NARC) aims to serve as one point source of authentic, appropriate and viable information in different contents, categories for all HIV and AIDS topics and will build a comprehensive database of information generated in Nepal in the area of HIV and AIDS. The centre will feature an extensive collection of national and global reports, surveys, national policies, strategies, protocols, guidelines, videos and electronic information on important HIV and AIDS issues. This is believed to co-ordinate all the HIV and AIDS related researches, research papers, and related publications. It is also to ensure all HIV and AIDS researchers are based on the needs to improve the national response to HIV and AIDS, and are conducted with high quality.

Vision
Nepal will become a place where new HIV infection are rare and when they do occur, every person will have access to high quality, life extending care without any form of discrimination.

Goal: To achieve universal access to HIV prevention, treatment, care and support.

Objectives
- Reduce new HIV infections by 50% by 2016, compared to 2010;
- Reduce HIV-related death by 25% by 2016 (compared with a 2010 baseline) through universal access on treatment and care services;
- Reduce new HIV infections in children by 90% by 2016 (compared with a 2010 baseline).
- To strengthen HIV and AIDS information resources and co-ordinate for all HIV and AIDS related researches are conducted with high quality; and
- To provide authentic information necessary for understanding the epidemic and devising/reviewing effective health programme interventions to combat HIV and AIDS.

Tropical Diseases Studied: HIV/AIDS
SUKRARAJ TROPICAL & INFECTIOUS DISEASE HOSPITAL

Established: 1933

Contact Information
Address: Teku, Kathmandu, Nepal
Tel: 977-1-4253395, 977-1-4253396
E-mail: info@istidh.org

Website: http://www.istidh.org/index.php

Director: Dr Indra Prasad Prajapati

Vision and Mission:
The STIDH development board has planned to develop the STIDH to an Institute of Tropical Medicine (ITM).

Objectives:
- Improvement of the quality of the existing services.
- Expansion of the services in the field of infectious and Tropical diseases in the regional, zonal and districts levels.
- Teaching and training for the undergraduate and post graduate students both national and international
- Research activities
- Collaboration with national and international stakeholder
- Community services including mobile services.

Tropical Diseases Studied: HIV/AIDS, Malaria, Japanese Encephalitis, Leishmaniasis

Infrastructure and Hospital Facilities:
STIDH is a 100 bedded hospital and provided all the services related to Tropical and Infectious Diseases. The hospital is located at the center of Kathmandu having out patient’s services, laboratory, X-ray services and 24 hrs emergency services. The hospital runs DOTS clinic & HIV/AIDS counseling and clinic every day. The major disease are Typhoid fever, Leishmaniasis (Kala-azar), Malaria, Tetanus, Rabies, Snake bite, Many animal bites(dog bite, Monkey bite, leopard bite, Bear bite, Rat bite, etc), Meningitis, Encephalitis etc. As per hospital record, 17578 received OPD services last year (including children).

Services:
Hospital provides quality services and also parted scientist research activities with the collaboration of national and international collaborator.
Research and Training:
Availability of fellowship and internship and training programs:

Hospital have own training hall with the capacity for 100 trainees at a time. It runs training on Infectious and Tropical Diseases, HIV/AIDS, Rabies, Snake bites etc. Facilities are available for foreigners for fellowship, internship and after related trainings.

Development of STIDH to an Institute of Tropical Medicine

The STIDH development board has planned to develop the STIDH to an Institute of Tropical Medicine (ITM).

Objectives:

- Improvement of the quality of the existing services.
- Expansion of the services in the field of infectious and Tropical diseases in the regional, zonal and districts levels.
- Teaching and training for the undergraduate and post graduate students both national and international
VECTOR BORNE DISEASE RESEARCH AND TRAINING CENTRE

Contact Information:
Address: Bhutan devi – 8, Hetauda, Makwanpur District
Tel. No. : 977057521826
E. mail: pathakchandraram@yahoo.com
Director: Ram Chandra Pathak

Vision and Mission:
The Vector Borne Diseases Research and Training Center (VBDRTC) is a semi-autonomous institution of the MOHP. It was created with the support of USAID in the context of the extinct Environmental Health Program (EHP).

Tropical Diseases Studied: Kala-azar, Malaria, Japanese Encephalitis, Dengue

Infrastructure:
Laboratory equipped with PCR, Elisa test, Training halls.

Research and Training:
Basic malaria microscopic lab training, Refresher training, Middle level health worker orientation, community level health worker orientation, Vector control inspector/Malaria inspector orientation

Sources of Funding:
National: Government of Nepal
International: WHO, USAID

Prominent Researchers:
Ram Chandra Pathak, an Epidemiologist and the Director of VBDRTC have conducted surveillance and epidemiological studies in Vector borne diseases.
Shisir Kumar Pant, an Entomologist works with the institute and is a part of the research conducted at the institute.

Tropical Diseases studied: Malaria, Filaria, Dengue, Japanese Encephalitis, and Kala-azar
KANTI CHILDREN’S HOSPITAL

Established: 1963

Contact Information
Address: Institute of Child Health Secretariat, Kanti Children’s Hospital
PO Box: 2664, Maharajgunj
Kathmandu 3
Fax: 977-1-442927
Phone: 977 1 4411140
Email: ich/kch@subisu.com.np


Chairman: Mr. Sagar Chandra Rai

Vision and Mission:
The policy of the Board is to upgrade the KCH facilities, add more manpower and technologies to better the quality of delivery of child health care to cater the growing demand of the day.

Tropical Diseases Studied: Japanese Encephalitis, diarrheal diseases

Infrastructure and Hospital Facilities:
A 300-bed hospital and it is planned to upgrade into 500-bed hospital in the near future. KCH is managed by Kanti Children’s Hospital Development Board (Board), which is an autonomous corporate body under the Ministry of Health (MOH), Government of Nepal (GON). KCH is the only children’s hospital of the nation.

Training:
KCH provides excellent facilities for those students who wish to do MDs in child health in Nepal. In addition, it is also offering elective courses on child health care for foreign and domestic students whoever wishes to join ICH/KCH. The institute will be the center of learning for all post-graduate, under-graduate pediatric clinicians, paramedics and nurses.
Patan Academy of Health Sciences

Registered Date: 2010

Contact Information
Address: Patan, Lagnkhel, Lalitpur
Phone: +977-01-5545112
Email: pahs@pahs.edu.np
Fax: +977-01-5545114

Website: http://www.pahs.edu.np/

Vice Chancellor: Dr Arjun Karki

Vision and Mission:
The Patan Academy of Health Sciences is dedicated to sustained improvement of the health of the people of Nepal, especially those who are poor and living in rural areas, through innovation, equity, excellence and love in education, service and research.

Tropical Diseases Studied: Typhoid

Infrastructure and Hospital Facilities:
Patan Hospital is one of the largest hospitals in Nepal. It uses modern equipment and facilities to provide treatment for almost 320 000 outpatients and 20 000 inpatients every year. Patan Hospital staff conducts more than 10 000 operations annually. The hospital has been operating with annual revenue of around US $3.5 million.

Research:
Oxford University Clinical Research Unit – Nepal hosted by Patan Hospital and the Patan Academy of Health Sciences in Kathmandu Nepal works in close collaboration with the Nepal Health Research Council at the Nepalese Ministry of Health and Population.

Established: 2003

Infrastructure: Laboratories including Microbiology, Biochemistry, Hematology and Pathology, in the Clinical Research Unit

Research and Training:
PhD Training of clinicians and scientists. Research focus has been on enteric fever (Typhoid and Paratyphoid) and other causes of febrile illness including typhus, infections of the central nervous system and Hepatitis E. Plan to expand this work to include viral causes of pneumonia, TB, emerging illnesses and other public health priorities in Nepal.
Prominent Researchers:

Prof. Dr. Buddha Basnyat currently a consultant Physician at Patan Hospital leads the Oxford University Clinical Research Unit- Nepal. His research interest lies in febrile illness in the tropics. He is also the Medical Director of the Nepal International Clinic.

Dr. Amit Arjyal a PhD student and lecturer at PAHS conduct research in Enteric fever at the Oxford University Clinical Research Unit- Nepal.

Abhilasha Karkey and Sabina Dangol are Microbiologists and PhD students at Oxford University Clinical Research Unit – Nepal and a part of the team conducting research in Enteric fever.
NATIONAL ACADEMY OF MEDICAL SCIENCES (NAMS)

BIR HOSPITAL

Registered Date: 2004

Contact Information
Address: Bhotahity, Kathmandu
Phone: +977-01-4221119/4221988
Email: names@healthnet.org.np
Fax: +977-01-4247032

Website: http://nams.org.np/

Director: Prof Dr Buland Thapa

Vision and Mission:
- To make available quality medical service in the whole country
- To produce highly trained manpower in the medical field in the country, and
- To develop the academy as the national source center to conduct research studies in the field of medical sciences.

Tropical Diseases Studied: HIV/AIDS, Japanese Encephalitis

Infrastructure and Hospital Facilities:
400 bed hospital with the new Trauma and Emergency Block, a further 200 beds will be added. Beside the general medical service, Bir Hospital provides services in highly specialized areas like Neurology, Neuro-Surgery, Cardiology, Cardio-thoracic and Vascular Surgery, Burn and Plastic Surgery, Nephrology, Urology, G.I. surgery, Gastroenterology, Hepatology (separate unit) and Radiotherapy.

Services:
Serves the community in most medical and surgical specialty and super-specialties through emergency, outpatient and impatient facilities. Majority of outdoor examination service and indoor beds in Bir Hospital are free. This is the only tertiary referral center in the country which provides such free service.

Trainings:
MD/MS is a three year clinical training programme. The MD/MS clinical training programme has been running in twelve subjects of medicine like Anesthesiology, Dermatology, General Practice, General Surgery, Internal Medicine, Obstetrics & Gynecology, Ophthalmology, Orthopedics, Pediatric, Pathology, Radiology and Radiotherapy.

Fellowship programme of 4 years duration is running in Neurosurgery. Higher specialist training programme is being planned in nephrology, gastroenterology medicine,
cardiology, diabetes and endocrinology, hematology, tuberculosis and respiratory medicine, burns and plastic, urology surgery, CTVS and gastroenterology surgery.

Three years Certificate Nursing and two years Post basic Bachelor Nursing programmes are currently running in the institute. Master nursing programme is also planned.

Higher specialist training program in tuberculosis and respiratory medicine is planned.
KATHMANDU UNIVERSITY SCHOOL OF MEDICAL SCIENCES

Registered Date: 2001

Contact Information
Address: Dhulikhel, Kavre
Phone: 011-490497/490727
Email: kums@ku.edu.np
Fax: 011-490707

Website: http://www.ku.edu.np/KUSMS/ http://www.dhulikhelhospital.org/

Dean: Dr. Narendra Bahadur Rana

Vision and Mission:
Kathmandu University, School of Medical Sciences (KUSMS) is an autonomous, independent academic institution established in collaboration between Kathmandu University and Dhulikhel Hospital. Aims to become a world-class university devoted to bringing knowledge and technology to the service of mankind.

Tropical Diseases Studied: Malaria, Dengue, Helminthiasis, Tuberculosis, Typhoid

Infrastructure and Hospital Facilities:
The school has infrastructure and physical facilities at two locations: Basic sciences building at a hilltop at Chaukot, Panauti Municipality-1 and the main teaching hospital is situated at Dhulikhel. Both locations are in close access to the Kathmandu University Complex.
MANIPAL COLLEGE OF MEDICAL SCIENCES

Registered Date: 1994

Contact Information
Address: Pokhara
Phone: +977-061-440387/440600
Fax: +977-061-440260
Email: mcoms@mos.com

Website: http://www.manipal.edu.np/Pages/welcome.aspx

Dean: Dr. B. M. Nagpal

Vision and Mission:

VISION
Global leadership in human development, excellence in education and health care

MISSION
- To be the most preferred destination for students and teachers of health sciences at all levels of medical education in Nepal.
- International bonding to achieve all round recognition for excellence in health care delivery among Southeast Asian Nations.

Tropical Diseases Studied: HIV/AIDS, Malaria, Leprosy, Helminthiasis, Tuberculosis, Filariasis

Infrastructure and Hospital facilities:
The 700-bed Manipal Teaching Hospital (MTH) has been set up with the modern facilities for medical education and health care.
SECTION II
NGOs, INGOs Working in Nepal in Tropical Diseases and Funding
NON GOVERNMENT ORGANISATION

CIWEC Clinic

Contact Address:

Address:
British-Indian Embassy Road, Lainchaur
P.O. Box 12895, Kathmandu, Nepal

Telephone: 977-1-442 4111/977-1-443 5232/977-1-441 3163/977-1-620 2217 (UTL)
Fax: 977-1-441 2590
Email: info@ciwec-clinic.com

Website: http://ciwec-clinic.com/

Director: Dr. Prativa Pandey

Tropical Diseases Studied: Malaria, Diarrhea, Leishmaniasis, Filariasis, Typhoid

Infrastructure and Hospital Facilities:
The clinic provides emergency medical care 24 hours a day 365 days a year and also serves as a family practice for the foreign residents and some Nepalese communities. The clinic has a number of beds that are used when admission for more intensive monitoring and treatment is required.

Research:
CIWEC clinic is renowned for its expertise & research in tropical illnesses associated with travel and altitude
INTERNATIONAL ORGANISATIONS IN NEPAL

ANANDABAN HOSPITAL (LEPROSY MISSION NEPAL)

Established: 1957

Contact Information:
Address: Anandaban Leprosy Hospital, The Leprosy Mission Nepal
Lele, Lalitpur
P O Box 151, Kathmandu
Telephone: +977 (1) 429-0545 / 212-2379
Fax: +977 (1) 429-0538
Email: Anandaban@TLMNepal.org

Website: http://www.tlmnepal.org/index.htm

Executive Officer: Mr. Shovakhar Kandel

Medical Superintendent: Dr Timothy G. Lewis

Vision and Mission:
- To maintain Anandaban Leprosy Hospital as the major leprosy referral hospital for the Central Development Region (CDR).
- Operates under a series of 5-Year Agreements with the Ministry of Health, HMG/Nepal (currently renewed 23 Nov 2000) and works to support the National Leprosy Control Programme of HMG/Nepal.
- To provide additional technical support to Leprosy Elimination Programme in the Central Development Region of Nepal.
- Through a project started in 1995, TLMI is involved in: capacity building; supervision and monitoring; drug distribution to districts; and, extending disability care to the periphery.
- Promising progress continues to be made in new case detection and treatment and this has been demonstrated in the decreasing prevalence rates.
- Ongoing disability assessment and management remains poor amongst government health workers and is a key to anticipating future workloads.
- Training continues to be a high priority and coverage of staff within high prevalence districts is achievable.

Contribution to Tropical Medicine
Early diagnosis and treatment since 1978 has resulted in the elimination of disease as a public health problem in Lalitpur district since 1995. In 2003, only 17 new cases were found in this district (2003 population: 351,688).

Tropical Diseases Studied: Leprosy

Infrastructure and Hospital Facilities:
The largest Leprosy Hospital in Nepal, with 100 beds for leprosy patients and a further 25 for general admissions, situated 16km south of the capital, Kathmandu.
Services:
Comprehensive leprosy care, including MDT (362 received MDT and 634 received specialized services during hospitalization in 2003), disability prevention and correction (226 major and 217 minor operations in 2003), small-scale rehabilitation projects.

To date, 247 children of leprosy-affected families have received financial help to attend school and 123 leprosy-affected people have been given loans to start a business, house repair etc.

Research and Training:
Research is divided into Leprosy and Clinical groups. The Lab also publishes a number of scientific papers.

Research Conducted:
Studies with regard to Skin tests, methyl prednisolone, Genetic susceptibility, Tiggers in relation to Leprosy have been done with international collaborators.

Training
Basic health services staff, community volunteers and others have been trained in leprosy. National level leprosy courses for doctors are run annually, and the hospital is recognized by IOM for leprosy training of MDGP candidates. Workshops on specialist topics for staff and NGOs supporting the government leprosy control programme (e.g. last year a workshop was run for programme managers).

NETHERLANDS LEPROSY RELIEF (NLR)

Contact Address:
Chhaku Baku Marga, New Baneshore, Kathmandu
Dr K P Dhakal, Country Representative
kpdhakal@wlink.com.np, kpdhaka12001@yahoo.com

Tropical Diseases Studied: Leprosy and TB
Walter Reed / AFRIMS Research Unit Nepal (WARUN)

Website: http://www.afrims.org/warun.html

**Tropical Diseases Studied:** Diarrhea, Typhoid

**Infrastructure:**
WARUN, the AFRIMS satellite laboratory in Nepal occupies a four storied building with laboratories and a staff of 25 available to support the conduct of studies within Nepal.

**Research:**
Research in diarrhea and typhoid have been conducted by the institute in collaboration with various hospitals in Nepal with funding from DoD-GEIS
## OTHER INGOs working in Nepal in Tropical Diseases

<table>
<thead>
<tr>
<th>Organizations</th>
<th>Programs</th>
<th>Coverage</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britain Nepal Medical Trust (BNMT)</td>
<td>Tuberculosis</td>
<td>&gt;35 districts – 5 regions</td>
<td>Lazimpat, Kathmandu, Nepal&lt;br&gt;POB: 20564&lt;br&gt;www.britainnepalmedicaltrust.org.uk&lt;br&gt;<a href="mailto:cd_po@bnmt.org.np">cd_po@bnmt.org.np</a>&lt;br&gt;<a href="mailto:cd_era@bnmt.org.np">cd_era@bnmt.org.np</a></td>
</tr>
<tr>
<td>Leprosy Mission Nepal</td>
<td>Leprosy</td>
<td>15 districts</td>
<td>Tikabhairav, Lele VDC, Lalitpur, Nepal&lt;br&gt;<a href="mailto:shovakhark@tlmnepal.org">shovakhark@tlmnepal.org</a></td>
</tr>
<tr>
<td>Nepal Leprosy Trust (UK)</td>
<td>Leprosy</td>
<td>7 districts</td>
<td>Satdobato, Lalitpur, Nepal&lt;br&gt;Tel: 01-5521622, 5523322&lt;br&gt;<a href="mailto:nlt@mail.com.np">nlt@mail.com.np</a></td>
</tr>
<tr>
<td>Netherlands Leprosy Relief (NLR)</td>
<td>Leprosy and TB control</td>
<td>All districts and VDCs of eastern and far western regions</td>
<td>New Baneshwor, Kathmandu, Nepal&lt;br&gt;Tel: 01-6227564&lt;br&gt;<a href="mailto:kpdhakal2001@yahoo.com">kpdhakal2001@yahoo.com</a></td>
</tr>
<tr>
<td>Population Services International/Nepal (PSI/Nepal)</td>
<td>HIV</td>
<td>75 districts</td>
<td>Shree Mahalaxmi Sadan&lt;br&gt;GPO Box: 21976&lt;br&gt;Mahalaxmisthan, Lagankhel&lt;br&gt;Lalitpur, Nepal&lt;br&gt;Tel: 977-1-5553190/ 5550620&lt;br&gt;<a href="mailto:info@psi.org.np">info@psi.org.np</a></td>
</tr>
<tr>
<td>United Mission to Nepal (UMN)</td>
<td>HIV/AIDS</td>
<td>10 districts</td>
<td>Thapathali, Kathmandu, Nepal&lt;br&gt;Tel: 01-4228118, 4268900&lt;br&gt;<a href="mailto:netraprasad.bhatta@umn.org.np">netraprasad.bhatta@umn.org.np</a></td>
</tr>
</tbody>
</table>
SECTION III
OUTPUT
PUBLICATIONS PAST 10 YEARS

In his report the SCOPUS database was used as a tool to estimate the output of publications each institute produced about each particular tropical disease.

“AFFIL (name) AND TITLE-ABS-KEY (disease or pathogen name) AND PUBYEAR > 2001” Wherein, ABS stands for abstract, KEY for keywords, AFFIL for affiliation and “PUBYEAR > 2001” to include only publications of the last 10 years.

Publications by the Listed Key Institutes by the Tropical Diseases included in this report

Figure 8 Publications by Institutes in Leishmaniasis

From a total of 117 publications 90 were from BPKIHS alone. BPKIHS has contributed immensely in the research related to Leishmaniasis. There are Clinicians, Molecular biologists, Epidemiologists, Entomologists involved in the research. The publications from the Institute have made an impact on the country program and helped shaping the health policies in VL.
Various projects have been handled by IOM in regard to Helminthiasis. The studies conducted are mostly epidemiological studies.

Anandaban Leprosy Hospital is the largest leprosy hospital of the Nation and has conducted lots of research in this regard. There are many INGOs and NGOs who have played an important role in providing services to the people affected with leprosy as well as conducting research in this field. International Nepal Fellowship (INF) is one such organization; hence appreciating the work done in the field we have included the contribution to the chart though the institute was not listed as a key institute in this report.
The burden of Diarrhea in Nepal is great among children with especially by pathogens like V cholera and Rota virus. Maximum research and publications are from IOM.

The earliest recorded cases in Nepal were only in 2006. The sporadic cases continued and outbreaks occurred in 2009/2010. Initially most of the reported cases had travel history to neighboring country (India), however lately indigenous cases were also reported. Studies carried out in close collaboration of WARUN/AFRIMS in the year 2006 by EDCD/NPHL showed all 4 sub-types (DEN-1, DEN-2, DEN-3 and DEN-4) of Dengue virus circulation in Nepal.
IOM has been conducting research in Malaria in four districts of southern Nepal. From a total of 26 publications in Malaria 8 are from IOM.
Under the National Center for AIDS and STD control, The National AIDS Research Centre (NARC) aims to serve as one point source of authentic, appropriate and viable information in different contents, categories for all HIV and AIDS topics and will built a comprehensive database of information generated in Nepal in the area of HIV and AIDS.

Most of the publications related to HIV/AIDS are by NACSC followed by IOM and TU. HIV/AIDS is an area that has received a lot of contribution from INGOs and NGOs.

In order to improve the quality of care for people with tuberculosis in Nepal and to assist in effective planning and implementing the TB control program, the NTP has been carrying out the research on:

- MDR Surveillance
- Assessment of HIV among sputum smear pulmonary TB patients regularly.
- There are numbers of operational research in NTP work plan which has been implementing in Collaboration with sub-recipients.
Out of 75 districts 60 are endemic for lymphatic filariasis in the country. The disease has been detected in different topographical areas. More filarial cases are seen in Terai when compared with the hills.

Kathmandu being the typhoid capital of the world, lots of research has been done by PAHS (OUCRU-NP) in this regard. Research related to drug efficacy, burden of enteric fever, PCR amplification of the pathogen have been conducted.
ANNEX I

PUBLICATIONS BY DISEASES WITH CITATIONS

BPKIHS

HIV/AIDS

MALARIA

JE

DIARRHOEA

LEPROSY

HELMINTHIASIS

LEISHMANIASIS


TUBERCULOSIS


FILARIASIS

Kumar B., Karki S., Yadava S.K. Role of fine needle aspiration cytology in diagnosis of filarial infestation (2011) Diagnostic Cytopathology, 39 (1), pp. 8-12


TYPHOID


ALH

LEPROSY


**CIWEC**

**MALARIA**


**DIARRHOEA**


Yates JA, Stetz LC. Reiter’s syndrome (reactive arthritis) and travellers’ diarrheoa. J Travel Med. 2006 Jan-Feb;13(1):54-6

**LEISHMANIASIS**


**FILARIASIS**


**TYPHOID**


**KANTI CHILDREN HOSPITAL**

JE


**TYPHOID**


**KUMS**

**MALARIA**


**DENGUE**

HELMINTHIASIS

TUBERCULOSIS


TYPHOID


MANIPAL COLLEGE OF MEDICAL SCIENCES
HIV/AIDS


MALARIA


LEPROSY


HELMINTHIASIS

TUBERCULOSIS
FILARIASIS

NPHL
JE

DIARRHOEA

TYPHOID

Leprosy

PAHS
MALARIA

JE

TUBERCULOSIS

TYPHOID


Mapping of National Tropical Disease Centers/ Institutions in Nepal

Jan;102(1):91-5.


SUKRARAJ TROPICAL AND INFECTIOUS DISEASE HOSPITAL

HIV/AIDS


MALARIA


JE

LEISHMANIASIS


TUBERCULOSIS


TU

JAPANESE ENCEPHALITIS

FILARIASIS

HIV/AIDS


MALARIA

LEPROSY

HELMINTHIASIS

LEISHMANIASIS

TYPHOID

DENGUE
IOM

HIV/AIDS


MALARIA


JE

DIARRHOEA


LEPROSY


HELMINTHIASIS


**LEISHMANIASIS**


**TUBERCULOSIS**


FILARIASIS


TYPHOID


VBDRTC

MALARIA


NAMS

HIV/AIDS


JE


NATIONAL TUBERCULOSIS CENTRE


NCASC


Panda S., Azim T., Rehman N.U., Poudel G., Chaudhuri A. Reaching out to the regular female sex partners of non-injecting and injecting drug users (IDUs): A need highlighted by research findings and ways to address it demonstrated by a regional HIV intervention project from South Asia(2007) Substance Use and Misuse, 42 (5), pp. 895-898. Cited 1 time.


LEISHMANIASIS


LEPROSY

TYPHOID


TB

COLLEGE OF MEDICAL SCIENCES
TB
Gautam M.P., Gautam S., Sogunuru G., Subramanyam G. Constrictive pericarditis with a calcified pericardial band at the level of left ventricle causing mid-ventricular obstruction (2012) BMJ Case Reports.

KIST
TB

NEPALGUNJ MEDICAL COLLEGE
TB

SHREE BIRENDRA HOSPITAL
TYPHOID

KANTIPUR COLLEGE OF MEDICAL SCIENCES
TYPHOID
Mapping of National Tropical Disease Centers/ Institutions in Nepal


NEPAL MEDICAL COLLEGE
DIARRHOEAL DISEASES

MALARIA

HIV/AIDS

HELMINTHIASIS

TYPHOID

TB

CHITWAN MEDICAL COLLEGE
DENGUE

LEPROSY
TYPHOID

UCMS

FILARIASIS

HIV/AIDS

TB

NEPAL POLICE HOSPITAL

DENGUE

NATIONAL COLLEGE

DENGUE

OTHERS

TYPHOID
Duke University Medical Center, Durham, NC, USA.

DIARRHOEAL DISEASES
Save the Children/Saving Newborn Lives, Kathmandu, Nepal

HELMINTHIASIS
Mapping of National Tropical Disease Centers/Institutions in Nepal

Department of Veterinary Science and Microbiology, University of Arizona, Tucson 85721, USA.

Walson JL, Marshall B, Pokhrel BM, Kafle KK, Levy SB. Carriage of antibiotic-resistant fecal bacteria in Nepal reflects proximity to Kathmandu. J Infect Dis. 2001 Nov 1;184(9):1163-9. Epub 2001 Sep 26. Departments of Molecular Biology and Microbiology, Tufts University School of Medicine, 136 Harrison Ave., Boston, MA 02111, USA. wals001@mc.duke.edu


UNICEF

HIV/AIDS


Blue Diamond Society, Kathmandu, Nepal


Mannohman Memorial Institute of Health Sciences, Purbanchal University, Nepal


Geography and Population Department, Mahendra Ratna Campus, Tribhuvan University, Kathmandu, Nepal


Mannohman Memorial Institute of Health Science, Kathmandu, Nepal


Ministry of Health-Infectious Disease Control, Kathmandu, Nepal


Rsrc. Centre for Primary Health Care, Kathmandu, Nepal

JE


LEISHMANIASIS


TB

Yoshiyama T., Shrestha B., Maharjan B. Risk of relapse and failure after retreatment with the Category II
Maping of National Tropical Disease Centers/ Institutions in Nepal


German Nepal Tuberculosis Project, Kathmandu, Nepal


Save the Children, Nepal.


Health Research and Social Development Forum, Kathmandu, Nepal


National Tuberculosis Programme, Kathmandu, Nepal


Medicare National Hospital and Research Centre, Chabahil, Kathmandu, Nepal


Health Research and Social Development Forum, PO Box 24133, Kathmandu, Nepal


Department of Microbiology, Siddhanath Science Campus, Mahendranagar, Kanchanpur, Nepal.


Health and Social Development Forum, Kathmandu, Nepal


Health Research and Social Development Forum, Kathmandu, Nepal


Health Research and Social Development Forum (HERD), PO Box 24133, Kathmandu, Nepal


Health Research and Social Development Forum, Kathmandu, Nepal


Health Research and Social Development Forum, PO Box 24133, Kathmandu, Nepal


National Zoonosis and Food Hygiene Research Centre, Chagal, Kathmandu, Nepal


Hospital and Rehabilitation Centre for Disabled Children, Banepa, Nepal


EPI and Polio Eradication, World Health Organization, Kathmandu, Nepal


Ger. Nepal TB Project (GENETUP), Kalimati, Kathmandu, Nepal

WHO

JE

Council for Technical Education and Vocational Training

JE

EDCD

JE

NYAYA HEALTH

LEISHMANIASIS

TB

INTERNATIONAL NEPAL FELLOWSHIP


NEPAL LEPROSY TRUST

NEPALGUNJ MEDICAL COLLEGE

LEPROSY

NATIONAL LEPROSY CONTROL PROGRAMME, KATHMANDU, NEPAL

NETHERLANDS LEPROSY RELIEF (NLR), BIRATNAGAR, NEPAL
ANNEX II QUESTIONNAIRES USED IN THE SURVEY

APPENDIX – I:

Two sets of Questionnaires were prepared, one for Heads of Institutions and the other for Principal Investigators. These two types of Questionnaires are represented below.

1. Questionnaire for Institutional Head

Mapping of National Centers/Institutions on Tropical Diseases in Nepal

QUESTIONNAIRE

SECTION – A

INSTITUTE’S PROFILE

1. Name of the University:

2. Name of the Director

3. Present Address

4. Tel. No. :

5. E. mail:

SECTION – B

PROJECT PROFILE

1. Number of Project(s) handled in the Institute on Tropical Disease in last 10 years

2. Name of the Tropical Disease(s):
   i) ..............................................................................................................................
   ii) ..............................................................................................................................
   iii) ..............................................................................................................................

3. Total number of Scientists in the institute

4. Number of Scientists working on Tropical Diseases

5. Infrastructure and services
SECTION – C

FUNDING PROFILE

1. Sources of Funding:

   i. National: ______________________________________________

   ii. International: __________________________________________

   iii. NGO: __________________________________________________

2. Total Funding for the institute in the past 10 years (Rs in Lakhs):

   ____________________________________________________________

3. Funding allotted for Tropical Diseases in the past 10 years (Rs in Lakhs):

   ____________________________________________________________

SECTION – D

OUTPUT OF THE PROJECT

No. of Research Paper(s) published in the last 10 years:

<table>
<thead>
<tr>
<th>National</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Published in Journals</td>
<td></td>
</tr>
<tr>
<td>b) Presented in conference(s)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Product(s) developed:</td>
<td></td>
<td>Please attach separate sheets with complete details</td>
</tr>
<tr>
<td>New Process(es) developed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Instrument(s) developed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prototype(s) developed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPR’s registered:</td>
<td></td>
<td>Please attach separate sheet with complete details</td>
</tr>
<tr>
<td>Patents filed:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National</td>
<td></td>
<td>Please attach separate sheet with complete details</td>
</tr>
<tr>
<td>International</td>
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<tr>
<td>Patents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sealed/granted:</td>
<td></td>
<td>Please attach separate sheet with complete details</td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>International</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copyright(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Principle/Theory developed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Trials completed</td>
<td></td>
<td>Please attach separate sheet with complete details and ongoing</td>
</tr>
</tbody>
</table>
Brief Description of the problem(s)/constraints faced in implementing the project:

________________________________________________________________________________________

________________________________________________________________________________________

Any other specific comment(s)/suggestion(s) (please specify):

________________________________________________________________________________________

2. Questionnaire for Principal Investigator

Mapping of National Centers/Institutions on Tropical Diseases in Nepal

QUESTIONNAIRE

SECTION – A

PRINCIPAL INVESTIGATOR’S (P.I.) PROFILE

1. Name of the Principal Investigator:

________________________________________________________________________________________

2. Present Address of P.I.

________________________________________________________________________________________

3. Tel. No. : __________________________

4. E. mail: __________________________

SECTION – B

PROJECT PROFILE

1. Number of Project(s) handled on Tropical Disease in last 10 years

2. Name of the Tropical Disease(s):
   i) ____________________________________________
   ii) ____________________________________________
   iii) ____________________________________________

3. Title of the project and its duration:
   i) ____________________________________________
   ii) ____________________________________________
   iii) ____________________________________________
   iv) ____________________________________________
   v)  ____________________________________________

4. Department & Institute, where project was implemented:

________________________________________________________________________________________
SECTION – C

FUNDING PROFILE

1. Sources of Funding: ________________________________________________________________
   i. National: ______________________________________________________________________
   ii. International: __________________________________________________________________
   iii. NGO: _________________________________________________________________________

2. Total Funding allotted for Tropical Diseases in the past 10 years (Rs in Lakhs):
   _______________________________________________________________________________

SECTION – D

OUTPUT OF THE PROJECT

No. of Research Paper(s) published in the last 10 years:

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<thead>
<tr>
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<tr>
<td>b) Presented in conference(s)</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>c) Top 5 most cited papers</td>
<td>i.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iii.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>iv.</td>
<td></td>
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<tr>
<td></td>
<td>v.</td>
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</table>

Any Monograph /Book/Technical report produced out of the project (Please give numbers):  

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<td>[ ]</td>
</tr>
</tbody>
</table>
Mapping of National Tropical Disease Centers/ Institutions in Nepal

International

Copyright(s)

New Principle/Theory developed:

Brief Description of the problem(s)/constraints faced in implementing the project:

__________________________________________________________________________________________

Any other specific comment(s)/suggestion(s) (please specify):

__________________________________________________________________________________________

APPENDIX – II: Private sector organizations that contribute to Tropical Diseases in the area of Drugs, Diagnostics and Vaccines

Drugs

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Company</th>
<th>Web-link</th>
</tr>
</thead>
</table>

Diagnostics

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Company</th>
<th>Web-link</th>
</tr>
</thead>
</table>

Vaccines

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Company</th>
<th>Web-link</th>
</tr>
</thead>
</table>

APPENDIX – III: List of institutes and allied information

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Name of Institution/ University/ School/ Division/ Department</th>
<th>Web-link</th>
<th>Name of Scientist / Clinical Investigator / Doctor</th>
<th>Web-link</th>
</tr>
</thead>
</table>