ANNUAL REPORT
2014-15
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<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>CORDS</td>
<td>Connecting Organizations for Regional Disease Surveillance</td>
</tr>
<tr>
<td>CL</td>
<td>Cutaneous Leishmaniasis</td>
</tr>
<tr>
<td>DRAP</td>
<td>Drug Regulatory Authority Pakistan</td>
</tr>
<tr>
<td>DHIS</td>
<td>District Health Information System</td>
</tr>
<tr>
<td>DHQ</td>
<td>District Headquarters Hospital</td>
</tr>
<tr>
<td>DOH</td>
<td>District Officer Health</td>
</tr>
<tr>
<td>EDO-H</td>
<td>Executive District Officer (Health)</td>
</tr>
<tr>
<td>FATA</td>
<td>Federally Administered Tribal Areas</td>
</tr>
<tr>
<td>HMIS</td>
<td>Health Management Information System</td>
</tr>
<tr>
<td>HIS</td>
<td>Health Information System</td>
</tr>
<tr>
<td>IRS</td>
<td>Indoor Residual Spraying</td>
</tr>
<tr>
<td>INGO</td>
<td>International Non-Governmental Organization</td>
</tr>
<tr>
<td>KPK</td>
<td>Khyber Pakhtunkhwa</td>
</tr>
<tr>
<td>LHW</td>
<td>Lady Health Worker</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goal</td>
</tr>
<tr>
<td>ML</td>
<td>Mucocutaneous Leishmaniasis</td>
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<tr>
<td>MNHSRC</td>
<td>Ministry of National Health Services, Regulations and Coordination</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
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<td>OHASA</td>
<td>One Health Organization of South Asian Region</td>
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<td>PHC</td>
<td>Primary Health Care</td>
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<td>POHA</td>
<td>Pak OneHealth Alliance</td>
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<td>SECID</td>
<td>SouthEast European Center for Surveillance &amp; Control of Infectious Diseases</td>
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<td>SDPs</td>
<td>Service Delivery Points</td>
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<td>THQ</td>
<td>Tehsil Headquarters Hospital</td>
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<td>UNHCR</td>
<td>United Nation High Commission for Refugees</td>
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<tr>
<td>VL</td>
<td>Visceral Leishmaniasis</td>
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<td>WHO</td>
<td>World Health Organization</td>
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President’s Message

It gives me an immense pleasure to write few words for this very first Annual Report of Pak OneHealth Alliance for year 2014-15. Undoubtedly, POHA is a newly created organization, but it has occupied a unique role and position to strengthening the Public Health System by designing and implementing innovative model that aligning to national and international health priority.

It’s our pride that POHA in its first year of operation has earned the commendable collaboration of its international partner (SECID/CORDS) and organized a “Leishmania Disease Gap Analysis Study Pakistan - 2015”. Leishmaniasis is one of the neglected diseases and also to be known a disease of poor.

Through this our very first project, we identified the gaps between management and control of this infectious disease and provided a set of recommendations for immediate actions by Public Health Management.

Based on the experience, we are committed to continue our dedication aiming at to supporting the national health policy makers, the healthcare providers and the ultimate service users (community) to help curtail the national disease burden.

Here we would like to invite the national and provincial governments, valued partners and the community based local organizations to “Unite for Cause” and support POHA for developing community beneficial programmes in onward years.

At the end, I would like to thank all my team members for their hard work and dedication they have shown throughout the year and ask them to keep up their commitment and devotion during the years to come, for achieving the set objectives through respectful and reputable means. I’m confident that their hard work and devotion will make POHA a credible name in the list of Non-Governmental organizations.

Dr. S. M. Mursalin
President
Pak OneHealth Alliance
1- Organizational Overview

Pak OneHealth Alliance (POHA) is a Non-Governmental Organization (NGO) that draws its strength from the affiliations and connections it has with multiple governmental, national and international organizations. It is primarily working for the promotion of one health concept in the country by enhancing coordination among various disciplines and departments.

It is guided by a Program Governing Body comprising 13 Professionals derived for diverse disciplines. These disciplines include; Public Health, Animal Health, Agriculture, and Wildlife, Management and Information Technology and Health Biotechnology (Representation from concerned Government departments has also been ensured.

Pak OneHealth Alliance is determined to curtail illness/disease spread either through human wildlife or human-ecosystem interface. This would be accomplished by implementing multiple interventions, including advocacy seminars, community based projects, research studies or capacity building initiatives using interdisciplinary or “One health approach”. This would also mean developing linkages with like-minded national & international organizations and partners tied for multiple outcomes.

The overall scope of work under POHA is;

- To devise ways and means to promote “OneHealth Concepts” mainly to prevent and control animal diseases transmissible to humans (zoonosis)
- To adopt a sustained multidisciplinary approach to coordinate efficient responses which are essential across various disciplines to combat these emerging zoonosis
- To work towards the establishment of broad-based partnerships across sectors and along the research-to-delivery continuum
- To promote Inter-agency cooperation among national and international partners working in the country
- To make the process efficient for human health information collection, analysis and use related to zoonotic diseases
- To develop training material and capacity building tools for promotion of “One Health”
- To review and disseminate international best practices and their adoption in Pakistan
1.1 Vision

“A National Health Sciences and Policy Network for Controlling Zoonoses”

1.2 Mission

To help curtail illness/disease spread either through human, wildlife, vector or human-ecosystem interface.

1.3 Core Objectives

✓ Advocacy seminars on OneHealth related health hazards/diseases
✓ Community based programs for OneHealth
✓ Research Studies
✓ Capacity building initiatives in OneHealth Approach
✓ Developing linkages with national and international organizations/partners working for diverse disciplines
2- Future Challenges

- Need for wider sensitization & advocacy/understanding
- Silos among departments, planners, policy makers, researches academicians and public-private sectors. Non-existence of culture of joint projects/ research/collaboration
- Capacities in OneHealth Interventions, Institutional arrangements for OneHealth Promotion, Re-vitalization of OHASA and regular interaction
- Lack of support for OHASA Roadmap
- Non-existence of Legal Framework for OneHealth

3- Approaches and Scope

- To work towards the establishment of broad-based partnership across sectors, provinces and along the research-to-delivery linkages.
- To promote Inter Agency Cooperation among National and International partners working in the country
- To improve coordination between human health information systems and animal health information for data collection and dissemination
- To draw inference on ‘OneHealth Problems’ from existing national data sources
- Develop and adapt training material and capacity building tools for ‘OneHealth’
- Organize Training Programs for trainers courses in ‘OneHealth Approaches’
- To review and disseminate national/international best practices
4- List of Partners

- Ministry of Health Services & Provincial Health Departments
- National Institute of Health Islamabad
- National Database and Registration Authority (NADRA)
- University of Animal Husbandry and Veterinary Sciences, Lahore
- National Agriculture Research Council, Islamabad
- Microbiology Departments, University of Karachi
- Agriculture University, Faisalabad
- Live Stock / Wildlife departments and institutes
- COMSATS Institute of Information Technology, Islamabad
- OHASA (One Health Alliance of South Asia)
- AeHIN (Phillipines Manila) Asian eHealth Information Network
- World Health Organization
- Connecting Organizations for Regional Disease Surveillance
- SouthEast European Center for Surveillance and Control of Infectious Diseases
- Food and Agriculture Organization of the United Nations
- United Nations High Commission for Refugees
- Médecins Sans Frontières (MSF) International
- Economic Cooperation Organization for Health USA
- International Committee of the Red Cross
5- Governance

5.1 Legal Status

Pak OneHealth Alliance is a non-governmental and not for profit organization registered under Societies Registration Act-1860 at Registrar, Joint Stock Companies, Lahore – Pakistan, vide Registration # RP/9053/L/S/14/2423 dated 25-10-2014.

5.2 Executive Body

POHA has a 13 members Executive Body comprising of experts from diversified field. The Executive Body elects a board of directors for three years and the board elects among themselves a Chairman/President who will appoint Executive Director to manage the affairs of organizations.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name</th>
<th>Position</th>
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<tr>
<td>1.</td>
<td>Dr. Syed Muhammad Mursalin</td>
<td>President</td>
</tr>
<tr>
<td>2.</td>
<td>Prof. Dr. Athar Khan</td>
<td>Senior Vice President</td>
</tr>
<tr>
<td>3.</td>
<td>Mr. Nasir Iqbal Toor</td>
<td>Vice President</td>
</tr>
<tr>
<td>4.</td>
<td>Dr. Zahid Noman</td>
<td>General Secretary</td>
</tr>
<tr>
<td>5.</td>
<td>Mr. Mohsin Arshad</td>
<td>Finance Secretary</td>
</tr>
<tr>
<td>6.</td>
<td>Dr. Muhammad Younus</td>
<td>Executive Member</td>
</tr>
<tr>
<td>7.</td>
<td>Mr. Imran Ahmad</td>
<td>Executive Member</td>
</tr>
<tr>
<td>8.</td>
<td>Mr. Mubashar Junaid</td>
<td>Executive Member</td>
</tr>
<tr>
<td>9.</td>
<td>Dr. Muhammad Munir</td>
<td>Executive Member</td>
</tr>
<tr>
<td>10.</td>
<td>Dr. Farooq Jan</td>
<td>Executive Member</td>
</tr>
<tr>
<td>11.</td>
<td>Dr. Nusrat Iqbal Shahid</td>
<td>Executive Member</td>
</tr>
<tr>
<td>12.</td>
<td>Ms. Salma Alvi</td>
<td>Executive Member</td>
</tr>
<tr>
<td>13.</td>
<td>Mr. Rao Suleman</td>
<td>Executive Member</td>
</tr>
</tbody>
</table>
6- Management Structure

6.1 Organogram

POHA has a qualified and experienced team to execute the designed activities duly approved by the management to achieve set objectives.

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Name</th>
<th>Qualification</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Dr. S.M. Mursalin</td>
<td>MBBS / MPH</td>
<td>Executive Director</td>
</tr>
<tr>
<td>2.</td>
<td>Dr. Muhammad Asif Awan</td>
<td>MBBS / MPH</td>
<td>Epidemiologist</td>
</tr>
<tr>
<td>3.</td>
<td>Mr. Khalid Hussain</td>
<td>MBA (HRM)</td>
<td>Manager Operation</td>
</tr>
<tr>
<td>4.</td>
<td>Mr. Mohsin Arshad</td>
<td>M.Sc. Biotechnology</td>
<td>Project Coordinator</td>
</tr>
<tr>
<td>5.</td>
<td>Mr. Imran Majeed</td>
<td>Graduation</td>
<td>Data Analyst</td>
</tr>
<tr>
<td>6.</td>
<td>Mr. Mubashar Junaid</td>
<td>M. Phil (IT)</td>
<td>Manager (IT)</td>
</tr>
<tr>
<td>7.</td>
<td>Mr. Asif Mehmood</td>
<td>Intermediate</td>
<td>Logistics Assistant</td>
</tr>
<tr>
<td>8.</td>
<td>Mr. Tanvir Ahmed</td>
<td>Middle</td>
<td>Office Boy</td>
</tr>
</tbody>
</table>
7- Activities Completed during the Period

7.1 Leishmania Disease Gap Analysis Study Pakistan - 2015

7.1.1 Background of the Study:
In April 2015, Pak OneHealth Alliance (POHA) earned an international collaboration and signed a Memorandum of Understanding (MoU) with SouthEast European Center for Surveillance and Control of Infectious Diseases (SECID) to conduct a “Gap Analysis Study in Pakistan for Leishmania Disease”. The CORDS (Connecting Organization for Regional Disease Surveillance) provided the overall funding support through a grant from the Bill and Melinda Gates Foundation.

In Pakistan Leishmaniasis is considered as one of the neglected diseases. The factors associated to its high prevalence are; illiteracy, low socio-economic conditions, insufficient disease awareness, non-availability of specialized healthcare providers/specific clinical Labs and relevant drugs. The core objectives of the study were to;

- Sensitize the health management and the community about Leishmania Disease
- Determine the burden and determinants of Leishmania Disease specially- the common cutaneous
- Identify the Gaps for Leishmania Control Measures at various levels of health systems (especially public sector) & draw recommendations for action

In addition to above, following were some specific objectives of this study;

i. To identify challenges of Leishmaniasis diagnosis, treatment during war, migration & refugee crisis and develop specific recommendations related to surveillance and treatment.

ii. To identify the challenges of integrated investigation of Leishmania infection among refugees and migrants in Pakistan as well as other population groups, reservoirs and vector species and ensure the development of operational protocols to implement one health surveillance and field investigation.

iii. To establish a data repository to ensure that relevant health data not lost during relocation and resettlement via connections with UNHCR and other actors collecting data to be shared via Leishmanix web platform.

For this study, Pak OneHealth Alliance in consultation with federal & provincial health departments and the donor organized following activities;-
7.1.2 **Study Brief**

Leishmaniasis is a disease caused by protozoan parasites of the genus *Leishmania* and spread by the bite of certain types of sandflies (Fig.1). This disease can present in three main ways: cutaneous, mucocutaneous, or visceral leishmaniasis. The cutaneous form presents with skin ulcers, while the mucocutaneous form presents with ulcers of the skin, mouth, and nose, and the visceral form starts with skin ulcers and then later presents with fever, low red blood cells, and enlarged spleen and liver.

Leishmaniasis can be partly prevented by sleeping under nets treated with insecticide. Other measures include spraying insecticides to kill sandflies and treating people with the disease early to prevent further spread. The treatment needed is determined by where the disease is acquired, the species of *Leishmania*, and the type of infection. Some possible medications used for visceral disease include liposomal amphotericin B, a combination of pentavalent antimonials paromomycin, and miltefosine. For cutaneous disease, paromomycin, fluconazole, or pentamidine may be effective.

About 12 million people are currently infected in some 98 countries. Around 2 million new cases between 20 and 50 thousand deaths occur each year. About 200 million people in Asia, Africa, South and Central America, and southern Europe live in areas where the disease is common. The World Health Organization has obtained discounts on some medications to treat the disease.

The disease may occur in a number of other animals, including dogs and rodents. Leishmaniasis is transmitted by the bite of infected female phlebotomine sandflies which can transmit the infection. The sandflies inject the infective stage, metacyclic promastigotes, during blood meals. In the sand flies midgut, the parasites differentiate into promastigotes, which multiply, differentiate into metacyclic promastigotes, and migrate to the proboscis (Fig.2).
This study in Pakistan was part of similar exercises in Jordan and Albania, which are considered as high endemic countries. This study was based on extensive literature review, stakeholders/key informants’ interview and field survey in 16 districts spread in all four major provinces. In total 173 data collection sites were selected ranging from strategic, operational and community levels.

Assessment of a number of areas including program management, case detection, surveillance, control of reservoirs, epidemic preparedness and response and capacity building was undertaken. To bring this study to a logical conclusion a SWOT (Strengths, Weaknesses, Opportunities, and Threats) was undertaken. Study put forth some of the startling revelations for government action. Some of these are;

a) No such study was carried in the past at national level so this was the first study of its kind.

b) Country has an adequate health infrastructure with country wide community health workers network with experience in surveillance- which could be mobilized for disease preventions and control.

c) Leishmania Disease is included in National Health Information Systems (NHIS) and geographical data is available for decision making.

d) There is dearth of either exclusive or merged Leishmania Control Program in the country Pakistan.

e) No reliable mechanism of inter sectoral coordination exist between departments to manage and control this preventable disease;

f) Country’s public health system is lacking of adequately trained human resources (both medics and paramedics), special care facilities and disease testing Labs establishment and regular essential drug supplies etc.

g) Lack of awareness among patients and community for prevention and appropriate treatment of disease was observed; The Inter-Sectoral collaboration for disease control is not very encouraging

h) Considerable gap in Management and Disease Control Refugees/IDPs Camps. No formal Cross Border mechanism for Disease Management,

i) Weak Diagnostic structure, issues with lab functioning, equipment, trained manpower and population coverage. No culture of District Epidemiologists.
7.1.3 **Planning & Coordination Meeting**

Prior to starting the activities a federal level planning and coordination meeting was organized at Islamabad Club on 23rd May 2015. The meeting was attended by a number of professionals including the high ranking officials from concerned federal and provincial Ministries/ departments and renowned international non-governmental organizations.

(Fig.1: A view of the Leishmaniasis Study Planning & Coordination Meeting - Islamabad)

7.1.4 **Operational Activities for the Study**

To achieve the set objectives, a Descriptive Research Methodology was adopted to be based on the below mentioned four-tier operational activities;

a) **Literature Review**

Under this activity past two studies; (a) A study by Simon Brooker et.al (2003-04); and (b) A study by Aneela Zameer Durrani (2007-08) were reviewed.

b) **Analysis of WHO Role in Supply of Essential Drugs**

World Health Organization’s essential drugs support during emergencies was examined.

c) **Disease Burden Analysis**

The data from DHIS (2014) and UNHCR-HIS (2014) was analyzed to assess the disease burden

d) **Disease Control & Management Gap Analysis**

The primary data was gathered through pre-designed data collection tool/Questionnaire by organizing a field survey covering;
7.1.5 **Study Methodology**

For this study, the Pak OneHealth Alliance adopted the following methodology;

a) **Strategic Approach for Gap Analysis**

In order to provide a strategic framework for a sustainable health system to health policy makers, SWOT analysis at each level of Leishmania disease control and management was conducted. It was a most appropriate method to draw a list of guidelines for devising a viable strategy for maximization of limited resources. Therefore, we designed the study questionnaires covering following key areas;

- Programme Management
- Case Detection and Management
- Disease Surveillance
- Control of Reservoir Hosts
- Integrated Vector Control
- Epidemic Preparedness and Response
- Operational Research
- Capacity Building
- Community Participation and Health Education

b) **Study Method**

A descriptive research methodology was adopted for which quantitative data from DHIS and UNHCR-MIS for Refugees Camps was analyzed. Subsequently, for qualitative data a field survey was conducted across the country where 173 interviews were conducted. The primary data collection was corroborated by the review of secondary data.

c) **Sampling Technique**

Since there were limitations of resources, so a Purposive Sampling Technique was used for the study. However, keeping in view the importance of the subject, an attempt was
made to cover all the key points, persons and regions directly linked to disease management and prevention. This includes; national, provincial and district health management at all four Provinces, Federally Administered Tribal Area, Azad Jammu & Kashmir and IDPs/Refugees Camps, Live Patients and respective Community.

d) Data Collection Methods

For primary data collection our dedicated team conducted a field survey where they interviewed all the desired respondents through pre-designed data questionnaires and collected 173 filled in forms. The detail of the total forms received from each level/category is given below:-

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Level</th>
<th>Total Points Visited</th>
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<tbody>
<tr>
<td>1.</td>
<td>Federal/Provincial Level</td>
<td>08</td>
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<tr>
<td>2.</td>
<td>District Level</td>
<td>16</td>
</tr>
<tr>
<td>3.</td>
<td>Hospital/Health Facility Level</td>
<td>29</td>
</tr>
<tr>
<td>4.</td>
<td>Refugee/IDPs Camps Level</td>
<td>18</td>
</tr>
<tr>
<td>5.</td>
<td>Patients Level</td>
<td>25</td>
</tr>
<tr>
<td>6.</td>
<td>Community Level</td>
<td>77</td>
</tr>
</tbody>
</table>

**Total Interviews Conducted/Forms Collected: 173**

e) Data Entry & Analysis

Computer software SPSS (V.16) was used for data entry and analysis, therefore for data entry SPSS screen development was prepared prior to field survey. Thus the collected data was imported into the computer and after a thorough data cleaning and consolidation process the desired analysis was carried out covering all the aspects of the Leishmania disease Gap Analysis Study.
### 7.1.6 Data Analysis and Key Findings

#### a) Case Load By District – DHIS Data 2014

<table>
<thead>
<tr>
<th>DISTRICTS WITH HIGH # OF LEISHMANIA CASES BY PROVINCE - 2014 (SOURCE: DHIS)</th>
<th>SINDH</th>
<th>CASES</th>
<th>PUNJAB</th>
<th>CASES</th>
<th>KPK</th>
<th>CASES</th>
<th>BLOCHISTAN</th>
<th>CASES</th>
<th>AJK</th>
<th>CASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyderabad</td>
<td>574</td>
<td>Chakwal</td>
<td>2825</td>
<td>Mardan</td>
<td>1402</td>
<td>Sibi</td>
<td>499</td>
<td>Kotli</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>Sanghar</td>
<td>437</td>
<td>Lahore</td>
<td>397</td>
<td>Nowshera</td>
<td>113</td>
<td>Kachhi (Bolan)</td>
<td>430</td>
<td>Bhimber</td>
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<td>Ghotki</td>
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<td>Khushab</td>
<td>396</td>
<td>Bannu</td>
<td>1002</td>
<td>Quetta</td>
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<td>Khairpur</td>
<td>261</td>
<td>Mianwali</td>
<td>387</td>
<td>Karak</td>
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<td>Killa Saifullah</td>
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<td>Mirpurkhas</td>
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<td>Jhelum</td>
<td>272</td>
<td>Hangu</td>
<td>373</td>
<td>Lasbella</td>
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<td>Dadu</td>
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<td>Multan</td>
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<td>Keich (Turbat)</td>
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<td>Sukkur</td>
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</tbody>
</table>

#### b) Geographical distribution of Cutaneous Leishmania Cases in Pakistan during 2014

(Source: District Health Information System)
Geographical distribution of CL Disease Incidence in Pakistan - 2014

Legend
Leishmaniasis Incidence/10,000 new cases
1 - 3
4 - 8
9 - 16
17 - 23
24 - 40

Province

(www.pakonehealth.org)
d) Type of Reported Cases of Leishmania Disease at Health Facilities

<table>
<thead>
<tr>
<th>Disease Prevalance</th>
<th>Cutaneous Leishmaniasis</th>
<th>Visceral Leishmaniasis</th>
<th>Mucocutaneous Leishmaniasis</th>
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</thead>
<tbody>
<tr>
<td>No</td>
<td>18</td>
<td>65</td>
<td>10</td>
</tr>
<tr>
<td>Yes</td>
<td>82</td>
<td></td>
<td>7</td>
</tr>
</tbody>
</table>

e) Common Type of Leishmania Disease Treatment in Pakistan

- Gention violet solut: 3.4
- Cleanliness populati: 3.4
- Amphoterin B: 3.4
- Ketoconazole: 3.4
- Antibiotic: 3.4
- Anti-malarial effect: 3.4
- Hypertonic NaCl Injection: 6
- Rifampicin: 6.9
- Allopurinol Itroconazole: 6.9
- Pentaivalent Antimonials: 13.8
- Cryotherapy (Liquid nitrogen gas): 14
- Meglumine Antimoniate (Glucantine): 48.3
- Intralesional antimony injection: 58

f) Programme Management

- Adequate health infrastructure with country wide community health workers network
- Disease Data (for CL) Available through National HIS
- Dearth of either exclusive or merged Leishmania Control Program in the country Pakistan
- The Inter-Sectoral collaboration is non-existent and not encouraging
- Considerable gap in Management and Disease Control Refugees/ IDPs Camps
- No explicit Cross Border mechanism for Disease Management, either inter-district, inter provincial or inter country

g) Case Detection & Management
- Standard Case Definitions, protocols available with WHO guidelines
- Experience with DEWS implementation, including CL
- Weak Diagnostic structure, issues with lab functioning, equipment, trained manpower and population coverage (25%), No District Epidemiologists
- Frequent drug shortages. Disparities of distribution of resources/Dermatologists (Urban-Rural)
- Patients delays in seeking care from formal sector

h) Availability of Essential Drugs in the Districts for Leishmania Disease Treatment

Regular supply of necessary drugs for treatment of Leishmaniasis at district level was observed in only two districts e.g. Multan and Muzaffargarh (12%). Partial supplies were observed in 38% districts, while most of the districts (50%) are deprived of uninterrupted supply of medicines. In most of the cases the drugs are being purchased by patients, however at some hospitals they are being provided by the Government, when available, with the support of international organizations. The major reasons for non-availability or provision of drugs are irregular supply and high cost.

i) Disease Surveillance
- National Health Information System (DHIS) is the only data system for CL Only with reporting system for VL
- DHIS shares all health data, including Leishmania cases to their respective Health Managers located at district/provincial level
- In adequate Surveillance and MIS for Leishmania Disease recording and reporting
- An adequate surveillance and management of Leishmaniasis is lacking at district level among IDPs/Refugee camps
- Disease data reporting is done as per health department protocol, but has no legal or constitutional coverage

j) **Leishmania Disease Reporting Mechanism**

Most of the districts included in the sample size were reporting Leishmania disease (68%). However, the same reporting is missing from many districts even where Leishmania is prevalent.

Moreover, the reporting mechanism was mainly dependent on DHIS (about 50%) and DEWS Surveillance system utilization (about 18%) was very low. It was disappointing that still a majority of staff at district level were not aware about reporting mechanism of Leishmaniasis.

k) **Integrated Vector Control**

- Demonstrated/ Effective vector control for dengue and malaria
- Fragmented and week coordination with health system
- Use of Nets in windows & sleeping under Bednets very low

l) **Epidemic Preparedness and Response**

- Significant Experience / Expertise (from Dengue, DEWS) willingness for improvement
- Need to re-instate DEWS and build emergency communication systems
- Dearth of Specialized Doctors. No training opportunity for Leishmania disease available for medics or paramedics
- Treatment follow up is quite discouraging, For 41% found with no follow up
- High chance of Relapse (66% reported by health facilities), No mechanism for relapse data at facilities

m) **Operational Research**

- No existent of baseline data. Neglected Disease
- Lack of research on treatment efficacy
- First ever Gap Analysis exercise for Leishmania
n) **Capacity Building**

- Availability of qualified and motivated trainers/staff
- Could be aligned with ongoing training programs with malaria and dengue
- Need update of knowledge about new developments

o) **Capacity Participation**

Infrequent Community Awareness Campaigns in majority of the surveyed districts (3 out of 16 Districts) were seen, which is insufficient.

p) **Challenges to Address**

- Political and financial Commitment for Disease Prevention & Control at all levels
- Promotion of inter sectoral collaboration (One Health Approach)
- Expansion of Geographical coverage/ treatment/diagnostic/facilities among urban-rural and deprived communities
- Adequate use of existing health infrastructure and community workforce.
- Drug availability by encouraging local manufacturing, registration and legal import than smuggling
- Challenges of integrated Disease investigation among provinces & countries (including, pops, reservoirs and vector species)
- Update of current guidelines and protocols as per new standards
- Use of innovative IT – Gadgets for Surveillance and Control

q) **Priorities /Next Steps (National)**

- Demand Generation Measures for Disease Prevention and Control for increasing allocations
- Study Dissemination and Provincial Roadmap Development Seminars. Business Plan
- Organization of baseline/ disease determinants studies in high risk areas
- Promotion of One Health Approach/ Best practices
- Development of National Pool of Experts
- Integration of Leishmania Control with ongoing National Malaria, Dengue/ Vector Born Programs
- Efforts for drug registration and local manufacturing

r) **Improving Follow - Up**

- Interaction with Federal/Provincial Ministries of Health
- Provincial Study Dissemination and Roadmap Workshops
- Technical Coordination with international partners (SECID, CORDS, UNHCR & WHO)
- Physical or Skype regional/international meetings/exchange
s) Demonstrate Fulfillment of Grant Purpose
   a) Advance internetwork research leading directly to operational activities
      o Develop a project proposal based on previous/current research and data analysis
      o Securing of funding from one or more funders (government support?) to allow for long-term operational initiatives to enhance disease surveillance (cross-border partnerships)
   b) Sustainable/Durable solutions
      o Continued liaison with like-minded national/international organizations with common goals

t) Concluding Remarks
   ▪ Special thanks to CORDs, SECID and Bill Gates for providing this opportunity to accomplish this gigantic task.
   ▪ This seems an important mile stone towards a long term strategy and control measures.
   ▪ CORDS/SECID/ WHO may assist for capacity building TOTs Workshops in Disease Detection and Response. (Regional/National)
   ▪ Collaborative Research Studies/Pilot Projects are strongly recommended. (e.g. LHW involvement and Mobile application)
   ▪ Continued coordination among partners is desired to address of this and other emerging diseases.

7.1.7 Conclusions
Although there are many gaps in the system at various levels, however, still there are numerous strengths that can be taken as opportunity for improvement. Since Leishmania is a neglected disease in Pakistan, many of the current gaps in leishmaniasis control result from a general lack of resources and capacity for health care delivery. There is an enormous gulf in local knowledge and practices regarding detection and treatment of cases at health sector. Lack of surveillance of cases and inadequate understanding of the risk factors could lead to further worsening of the situation.

There are certain strengths at health care providers' level having ability, to respond at community level as health education and vector control mechanisms. It is imperative to implement a suitable health education route that leads to enhanced people's knowledge resulting in early diagnosis, effective treatment and acceptable follow up.

Integrated disease management as one health approach might be considered as good opportunity. These gaps demand special attention in integrating the already functional disease
management programs like dengue and Malaria to save the limited resources and development of uniform strategy to combat the vector borne diseases.

The reporting mechanism needs to be reviewed holistically as underreporting of Leishmania cases and the actual disease burden might be worse than is being reported. Having said that, it is worth mentioning that in Pakistan a strong system (DHIS) of disease surveillance and reporting is implemented nationwide at all Districts. The mandatory reporting through DHIS may improve the under reporting and under estimation of Leishmaniasis in Pakistan.

This gap analysis study has shown availability of health care facilities for >80% of general community and patients. This is indeed a strength that larger proportion is covered to avail the treatment opportunity and this can be further strengthened by developing their capacity for diagnosis, treatment, case management and surveillance. The high endemic areas should be especially focused to expedite the response in case of emergency. As part of the process, epidemic thresholds will need to be agreed upon to differentiate seasonal increases in case loads from actual outbreaks.

Prevention is arguably the most neglected aspect of leishmaniasis control not only in Pakistan, but also in other regions around the globe. Current prevention activities are limited to small scale health education that mostly target individuals that are already infected with leishmaniasis. The impact of health education efforts has also not been assessed. Further highlighting the importance of prevention, high prices for treatment and scarcity of medicines and with problems of safety and efficacy demands a comprehensive health education system that leads to enhanced people's knowledge resulting in early diagnosis, effective treatment and acceptable follow up.

Despite the fact that cross border transmission is common, there is also a gap in cross border management of Leishmaniasis. Increased cross border communication and coordination is required in learning and sharing the experience of Leishmania prevention and control.

Management of Leishmaniasis in IDP/Refugee camps is another priority area due to high case load of new and old cases and further risk of transmission. Arrangements of Leishmania treatment/management at these camps are not adequate. The resources are mainly provided by UNHCR and to some extent by TRF, MSF and WHO. Disease prevention practices at these camps are also lacking. The inadequate management and prevention practices may give rise to co-morbid conditions like TB, malaria, diabetes etc.

Availability of funding from Government for this particular disease is not adequate. This greatly highlights the level of commitment from public sector and has direct impact on the interest of
donors/NGOs. Funding and interest of the Government will demonstrate to the health sector donors their commitment to prevention and control of this neglected infectious disease.

7.1.8 Recommendations

a. Proposal to MoH for legislation that Leishmaniasis should be a notifiable disease or added to the list of reportable diseases would strengthen Leishmania surveillance.

b. Limited and sporadic funding for leishmaniasis prevention and control leads to inconsistent intervention efforts. Therefore, it is recommended that commitment by the provinces should ensure appropriate budgeting for Leishmania management and control.

c. National advocacy with focus on increasing government commitment for neglected tropical diseases (NTDs) and provision of necessary funds to procure supplies and adequate case management.

d. Integrated disease management as one health approach through better coordination between Malaria, Dengue and Leishmania control program. Simultaneously, the integrated vector control program should be working in close collaboration with wildlife, environment and zoonotic diseases department to ensure the spread of disease through animals.

e. A vector control unit should be established (at national and provincial level) that will be responsible for the surveillance, management and control activities in the respective areas.

f. Where feasible, activities specific to leishmaniasis prevention and control, such as case management training, should be addressed as a component of health systems strengthening efforts conducted under the auspices of larger, better-funded programs (e.g. HIV/AIDS, tuberculosis or malaria).

g. Coordination meetings between provinces involving the partners and stakeholders for planning and strengthening the implementation of Leishmania management should be organized which will bridge the gaps identified in gap analysis survey.

h. Establishment of pool of experts or Technical Working Group at national level. At this forum the challenges/barriers and opportunities will be discussed and recommendations will be made for better management of neglected disease like Leishmania.

i. Increased cross border communication for management of Leishmania is recommended as important strategy for more coordinated approach for data sharing,
control mechanism and management of cases. In this regard the appropriate guidelines and SOPs should be developed and if already exist, should be updated and modified.

j. For uninterrupted availability of medicine, National and provincial Drug Regulatory Authority (DRA) should be approached to facilitate the registration and import of Leishmania Drugs in Pakistan.

k. MoH together with other stakeholders should consult with WHO on accessing best available drugs for treatment of leishmaniasis in Pakistan from manufacturers at WHO negotiated prices for lower income countries.

l. Coordination and communication with drug manufacturing companies to step forward for production and registration of Leishmania treatment drugs. This will give an opportunity to have readily available cheaper drugs.

m. Capacity building of health staff, managers involved in management and control of vector borne diseases at national/provincial level and health facility level to combat with Leishmaniasis according to global and national framework

n. Provision of diagnostic tools and consumables to health facilities where Leishmania disease is a concern and training of staff involved in diagnostic labs.

o. Strengthening the supply chain management of Leishmania drugs through a well-established mechanism

p. Accelerated use of GIS applications to be assured for ensuring mapping of geographical location and clustering. This should also lead to use of standardized codes for habitat mapping for all vector borne diseases.

q. Pakistan OneHealth organization should collaborate closely with organizations like Pakistan Dermatology Association for conducting joint research/studies on the subject.

r. Disease data from organizations like PPHI be integrated with the national database

s. Representative from Ministry of Planning and Reforms should develop long term strategic plan on control and management of neglected diseases. POHA may facilitate the process

t. To conduct operational research to study the behavior of the main sand fly vectors in Pakistan and to determine the effectiveness of potential prevention and control methods

u. Enhanced and effective awareness campaign to strengthen prevention of Leishmaniasis through coordinated efforts with INGOs/NGOs and community involvement.
v. Media (print and electronic) particularly at local level should be sensitized to create public awareness by focusing poor and rural community for neglected disease like Leishmania.

w. Efforts be made to make institutional arrangements for One Health promotions in Pakistan

x. Provision of basic epidemiological training to selected staff at District Health Offices to improve disease surveillance and data management

7.1.9 Final Report Development

The development of the final study report was the key task of this project, so special focus was made on the development of a standard format of the report. The report was made more meaningful and easy to understand by adding geographical maps, logical data tables and graphs to elaborate statistical information.

7.1.10 Dissemination Workshop – Pakistan

As part of the “Leishmania Disease Gap Analysis Study Pakistan – 2015” conducted by Pak OneHealth Alliance, a Dissemination Workshop was organized at Hotel Best Western, Islamabad on 3rd October 2015. This workshop was attended by a number of senior officials from federal and provincial ministries/departments of health and renowned international organizations, with a special guest (Mr. Jim Crilly, International Consultant - CORDs) from Albania. This workshop was chaired by Director General Health (Technical) Ministry of NHSRC.
8- Our Future Plans

1. Registration with SECP (Security Exchange Commission of Pakistan) that enables to expand the activities across the country.

2. Registration with Economic Affairs Division (Government of Pakistan) that enables to collaborate with Government and International donors and development agencies.

3. Registration with UNICEF - Pakistan under “Partnership Program” for serving the deserving and vulnerable communities (i.e. women and children) of Pakistan.

4. To develop POHA, “A recognized Health Research and Consultancy Forum” that support national health policy makers with evidence-based suggestions and recommendations to strengthening the National Healthcare Delivery System.

5. To develop linkages with existing local Community Based Organizations (CBOs) for learning from their experiences to design bring positive change in the field of community development.
9- Financial Statement for 2014-15

Audit Certificate

We have compared the annexed balance sheet of Pak One Health Alliance for the year as at 31st December 2015 and the related Receipts and Payments for the year then ended with the records and we state that we have obtained all the informations and explanations, which to the best of our knowledge and belief were necessary for the purpose of our report.

It is the responsibility of the management to establish and maintain a system of internal control, and prepare and present the above statements. Our responsibility is to express an opinion on these statements that these are in accordance with the details and records provided to us.

In our opinion, and to the best of our information and according to explanations given to us, the balance sheet and the related Receipts and Payments together with the notes forming part thereof are in agreement with the books and records provided to us.

Islamabad: 3rd March, 2016

Muhammad Hussain & Co.
Management Consultants

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PAK ONEHEALTH ALLIANCE
STATEMENT OF REVENUE AND EXPENDITURE FOR THE YEAR ENDED DECEMBER 31, 2015

<table>
<thead>
<tr>
<th>Note</th>
<th>2015 Rupees</th>
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<td>REVENUE</td>
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<td>Funds Received</td>
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<td>EXPENDITURE</td>
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<tr>
<td>Salary of staff</td>
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<td>Travelling and transportation</td>
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<tr>
<td>Miscellaneous expenses</td>
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<td>WHT Tax deducted on cash withdrawal</td>
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<tr>
<td>Surplus/ (deficit) transferred to accumulated fund</td>
<td>199,937</td>
</tr>
</tbody>
</table>

PRESIDENT

SECRETARY
10- POHA Pictographic

(POHA - International Participation)

(POHA - Local Participation)

(POHA – Leishmania Disease Survey Activities)