Meeting report on IMPACT TB workshop Nepal

3rd April 2017

Yak and Yeti Hotel, Kathmandu.

www.impacttbproject.org

The IMPACT TB project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 733174

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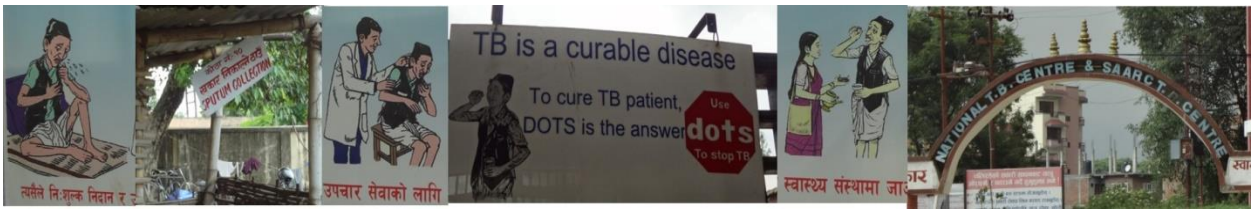

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Executive summary

IMPACT TB convened a workshop in partnership with the National Tuberculosis Centre of Nepal and relevant stakeholders. The meeting was attended by representatives of the Ministry of Health, Department of Health Services, World Health Organisation and relevant governmental and non-governmental organisations working in TB control in Nepal.

The meeting reviewed the current situation of tuberculosis in Nepal, the five-year national strategic plan and active case finding experience to date with a presentation from the National Tuberculosis Centre. Relevant global evidence and experience for active case finding in tuberculosis was also reviewed to provide a global context for the Nepal data, followed by panel discussion.

Break-out groups then discussed the evidence gaps for active case finding and linkage to care in Nepal and presented the future research priorities in this field. Groups were also invited to discuss the most effective strategies for IMPACT TB to continue engagement with the National TB Centre, Ministry of Health and relevant stakeholders to ensure relevance to policy.

A clear strategy for engagement was devised, with all stakeholders endorsing the relevance of the IMPACT TB project to TB control policy in Nepal.

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Objectives of the meeting:

1. Introduce the IMPACT TB project to stakeholders in TB control in Nepal;
2. Review current policy and experiences of active case finding implementation in Nepal;
3. Review perceived facilitators and barriers to active case finding scale-up through facilitated discussion with experienced stakeholders;
4. Identify how the research questions that will be addressed within the IMPACT TB project can help fill important knowledge gaps concerning active case finding in Nepal and facilitate future funding applications;
5. Develop a roadmap for how to translate IMPACT TB research findings into policy and practice.

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Participants and organisations:

The meeting delegates included representatives from the Ministry of Health, Regional Health Directorate, the National Tuberculosis Centre, I/NGOs and government organisations involved in TB control in Nepal and opinion leaders from the health sector.

Participants included:

Bhogendra Raj Dotel (Chief Policy Planning ICD, Ministry of Health), Dr. Sharat Chandra Verma (Director, National Tuberculosis Centre), Professor Dr. Buddha Basnyat (Director, Oxford University Clinical Research Unit, Nepal), Mr. Mahesh Sharma (Chairperson, Birat Nepal Medical Trust), Professor Knut Lonnroth (Karolinska Institute), Dr. Kashim Shah (Senior Programme Manager, Nick Simon Institute), Dr. Kulesh Thapa (Country Representative, Britain Nepal Medical Trust), Narayan Neupane (Ministry of Health), Gokarna Raj Ghimire (Laboratory Chief, National TB Centre), Sharan Gopali (Executive Director, Japan-Nepal Health and Tuberculosis Research Association), Bishwa Rai (Director, International Organisation for Migration), Gokul Mishra (Country Lead, LHL International Tuberculosis Foundation Norway), Kelly Smyth (IMPACT project administrator, Liverpool School of Tropical medicine), Dr. Ramesh Bikram Singh (Director General, Department of Health Services), Dr. Linh Nguyen (Technical Officer, World Health Organisation), Dr Tom Wingfield (Postdoctoral Researcher, Karolinska Institute), Dr Shiva Prasad Aryal (Department of Health Services), Dr. Ashish Shrestha (National Consultant, World Health Organisation), Dr. Bhola Ram Shreshta (Director Curative Division, Ministry of Health), Dr. Naveen Prakash Shah (Consultant chest Physician, National Tuberculosis Centre), Rajendra Basnet (Project Manager, National TB Programme), Dr. Mohan Prasai (Senior consultant Chest Physician, National Tuberculosis Centre), Dr. Basu Dev Pandey (Director Central Regional Health Directorate), Bhola Rai (Research Associate), Bibha Dhungel (Program Associate), Kritika Dixit (Monitoring & Evaluation Officer) Aroja Maskey (Mental Health and Psychosocial co-ordinator, Birat Nepal Medical Trust), Shikha Khatiwada (Psychosocial Councellor, Birat Nepal Medical Trust), Saki Thapa (Advocacy ,Networking and Resources Mobilisation Manager, Birat Nepal Medical trust), Laxmi Prasad Dahal (Finance Officer), Soma Rai (Legal Entity Appointed Representative, Birat Nepal Medical Trust), Raghu Dhital (Programme Manager, Birat Nepal Medical Trust), Suman Chandra Gurung (Executive Director, Birat Nepal Medical Trust).

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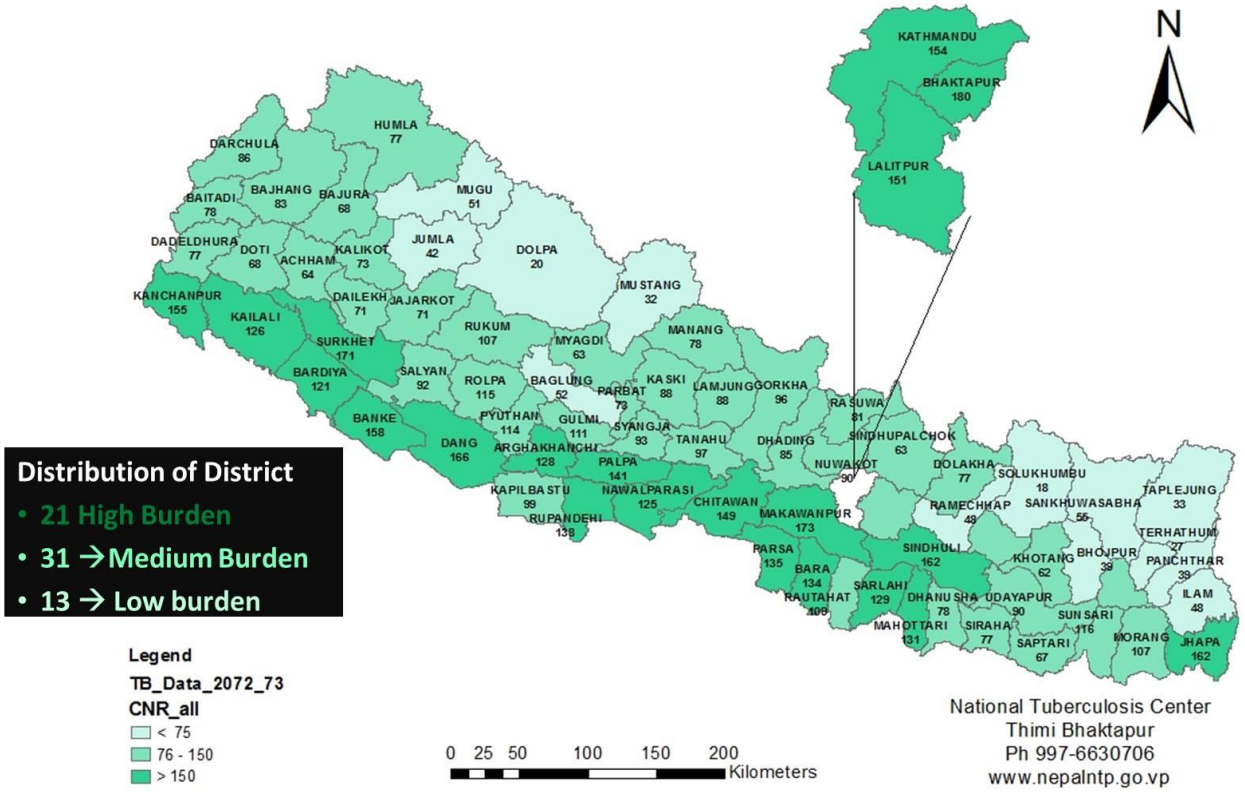
Summary of tuberculosis situation in Nepal

Tuberculosis is a priority of the Nepalese government. A prevalence survey is currently being undertaken by the National tuberculosis Centre to update the estimates of disease burden.

There were 32,056 cases notified in 2016, which is 73% of the 44,000 estimated cases. Each day there are 120 new cases of TB and 20 deaths from TB in Nepal. Of those individuals with TB who have a known HIV status, 5% are HIV positive, but testing is not systematic and the prevalence of HIV in the general population varies by region. Multi-drug resistance remains relatively low at 3.5% among new cases nationally, but of the estimated cases only 60% are diagnosed and treated each year. There are 4,221 DOTS centres in the network, with 14 MDR treatment centres and 81 MDR treatment sub-centres.

The male to female ratio among notified cases is 1.8 to 1, consistent with the global pattern. Childhood cases represent only 6% of the notified cases and are almost certainly under-diagnosed due to a lack of systematic approach to childhood TB. Case notification has declined nationally since 2014, with 37,015 cases notified in 2014 and only 32,056 notified in 2016. The proportion of cases diagnosed and treated in the private sector without notification through the national system is unknown.

Improving case detection and notification is a priority of the National TB Centre and the Nepalese government.



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National Strategic Plan of the Nepalese National Tuberculosis Centre (2016-2021)

- **Objective 1:** Increase case notification through improved health facility-based diagnosis; increase diagnosis among children (from 6% at baseline, to 10% of total cases by 2021); examination of household contacts and expanded diagnosis among vulnerable groups within the health service, such as PLHIV (from 179 cases at baseline to over 1,100 cases in 2020/21), and those with diabetes mellitus (DM).

- **Objective 2:** Maintain the treatment success rate at 90% patients (all forms of TB) through to 2021
- **Objective 3:** Provide DR diagnostic services for 50% of persons with presumptive DR TB by 2018 and 100% by 2021; successfully treat at least 75 % of the diagnosed DR patients
- **Objective 4:** Further expand case finding by eengaging providers for TB care from the public sector (beyond MoH), through results based financing (PPM) schemes, with formal engagements (signed MoUs) to notify TB cases.
- **Objective 5:** Strengthen community systems for management, advocacy, support and rights for TB patients in order to create an enabling environment to detect & manage TB cases in 60% of all districts by 2018 and 100% by 2021
- **Objective 6**: Contribute to health system strengthening through HR management and capacity development, financial management, infrastructure, procurement and supply management in TB
- **Objective 7:** Develop a comprehensive TB Surveillance, Monitoring and Evaluation system
- **Objectives 8:** To develop a plan for continuation of NTP services in the event of natural disaster or public health emergency

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Summary of pre-meeting opinion survey

Meeting delegates were invited to participate in an opinion survey prior to the meeting to assess current views on active case finding research priorities in Nepal.

Question 1. Important research priorities for improving **case detection**?	
Improving knowledge about TB in the community	32
Screening/active case finding in risk groups	24
Involving the community	15
Improving referral and notification systems	13
Improving general availability of health care services	11
Reducing direct and indirect costs of health seeking and diagnosis	10
Engaging all health care providers	10
Developing better diagnostic tools	6
Using enablers and incentives for health care staff for screening/diagnosis/detection	6
Question 2. Important research priorities for improving **linkage to care**?	
Improving monitoring and supervision of treatment (including DOT, e/m-health solutions, etc.)	38
Improving models of care, including decentralization of treatment, less hospitalization etc.	31
Improving support, training and supervision of health care staff	25
Reducing direct and indirect costs of care for patients	22
Involving the community	20
Developing better drugs/treatment regimens	16
Using enablers and incentives for patients	6
Using enablers and incentives for health care staff	5

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Question 3. What is the top (in terms of feasibility) from the improving early case detection research areas:	
Improving knowledge about TB in the community	14
Screening/active case finding in risk groups	11
Engaging all health care providers	7
Improving general availability of health care services	6
Reducing direct and indirect costs of health seeking and diagnosis	6
Improving referral and notification systems	6
Improving health care access specifically for hard-to reach groups	5
Improving lab capacity	4
Improving knowledge and practice among health workers to identify presumptive TB	3
Using enablers and incentives for health care staff for screening/diagnosis/detection	2
Using enablers and incentives for patients to initiative and complete diagnostic pathways	1
Question 4. What is the top (in terms of feasibility) from the **linkage to care** research areas:	
Improving support, training and supervision of health care staff	14
Improving models of care, including decentralization of treatment, less hospitalization etc.	13
Improving monitoring and supervision of treatment (including DOT, e/m-health solutions, etc.)	12
Involving the community	10
Reducing direct and indirect costs of care for patients	8
Using enablers and incentives for patients	7
Developing better drugs/treatment regimens	5
Using enablers and incentives for health care staff	2

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Overview of Active Case finding previous experience in Nepal

There have been several projects on active/intensified case finding in Nepal. The principal organisations which have conducted ACF projects in the past or have ongoing activity are the National TB Centre (NTC), HERD, JANTRA, International Organisation for Migration (IoM), NATA, Birat-Nepal Medical Trust (BNMT), and Naya Goreto. Projects are summarized in table 1, below.

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Table 1: Summary of identified active case finding projects for tuberculosis in Nepal.

Lead Implementer in partnership with NTC	funder	duration	Geographical area	Target population	Absolute yield reported to date	publication
International Organisation for Migration	TB reach wave 2 and 4	October 2011-july 2015	Eastern Development Region and two districts of Central Development Region.	Impoverished, vulnerable and hard to reach populations, including, but not limited to, residents of hilly and mountain districts, labor migrants and people living with HIV.	7215	Creswell et al. Introducing new tuberculosis diagnostics: the impact of Xpert(®) MTB/RIF testing on case notifications in Nepal. Int J Tuberc Lung Dis. 2015 May;19(5):545-51.
Japan-Nepal Health and tuberculosis Research Association (JANTRA)	TB Reach wave 4	July 16, 2014– July 15, 2015	Kathmandu valley	High risk groups: garbage collectors (15000), presumptive TB patients visiting private pharmacies (60000), street children (2000) and close contacts of index cases (4500),	168	n/a
Birat-Nepal Medical Trust	TB Reach wave 2	2012-2014	15 districts central and Eastern Nepal	TB case contacts, high risk groups and remote rural communities	2,342	n/a
Health Research and National Development Forum (HERD)	TB Reach wave 3	July 2013 to November 2015.	29 municipalities in 22 districts	urban slum dwellers, factory workers, prisoners, refugees, monks/nuns, PLHIV, household contacts of TB patients and patients with diabetes.	1239	Khanal S, et al. Yield of intensified tuberculosis case-finding activities using Xpert(®) MTB/RIF

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						among risk groups in Nepal. Public Health Action. 2016 Jun 21;6(2):136-41.
National Anti-tuberculosis Association (NATA)	NATA	ongoing	Kalimati district	Household contacts	unknown	n/a
Naya Goreto	TB reach wave 4	May 2014 and mid-September 2015	10 districts with high HIV prevalence	People living with HIV	287	Joshi B, et al. Impact of intensified case-finding strategies on childhood TB case registration in Nepal. Public Health Action. 2015 Jun 21;5(2):93-8
National tuberculosis Centre	NTC	2012	Pokhara	People living with HIV	11	Verma SC, et al. Prevalence of pulmonary tuberculosis among HIV infected persons in Pokhara, Nepal. J Nepal Health Res Counc. 2012 Jan;10(1):32-6
National Tuberculosis Centre	NTC	January 2004 and August 2005	Kathmandu	People living with HIV	23	Dhungana GP, et al. Tuberculosis co-infection in HIV infected persons of Kathmandu. Nepal Med Coll J. 2008 Jun;10(2):96-9.
National tuberculosis centre	NTC	Between December 2006 and May 2008,	Tribhuvan University Teaching hospital, Kathmandu; Regional Tuberculosis Centre, Pokhara and Shree Siddhanath	People living with HIV	32	Dhungana GP, et al.. Surveillance of tuberculosis among

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			Science Campus, Mahendranagar.			HIV infected persons in three different regions of Nepal. Nepal Med Coll J. 2013 Jun;15(2):113-6.
National Tuberculosis Centre (NTC)	SORT-IT WHO/TDR	January 2012 to December 2014	Sukraraj Tropical and Infectious Diseases Hospital (STIDH), Trivuwan University Teaching Hospital (TUTH) and Bir Hospital (BH)	People living with HIV	73	Dhungana GP, et al. Surveillance of tuberculosis among HIV infected persons in three different regions of Nepal. Nepal Med Coll J. 2013 Jun;15(2):113-6
University of Leeds	DFID UK	1998-2001	Lalitpur	Public-Private mix	1328	Newell JN, et al. Control of tuberculosis in an urban setting in Nepal: public-private partnership. Bull World Health Organ. 2004 Feb;82(2):92-8. Epub 2004 Mar 16
Birat-Nepal Medical Trust	BNMT	1990- 1993,	8 districts Eastern Nepal	Underserved rural populations	?	Harper I, et al.,. Tuberculosis case finding in remote mountainous areas--are microscopy camps of any value? Experience from Nepal. Tuber Lung Dis. 1996 Aug;77(4):384-8.

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Birat-Nepal Medical Trust	TB Reach wave 5	July 2017-Dec 2019	8 districts	TB case contacts, high risk groups and remote rural communities	Not yet started	N/a

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Future research priorities identified during break-out group discussion

Several research priorities which will be addressed during the Impact project were highlighted by group discussion as priority knowledge gaps including cost-effective models for scale-up of active case finding, understanding patient incurred and health system costs, evaluation of Xpert Omni testing and relative yield in sub-populations for more effective targeting of active case finding. It was noted that a national patient cost survey has not been performed for Nepal. Although a survey is planned, no funding has yet been secured. The health economic data collected by IMPACT can contribute to a national survey and the experience gained in performing the IMPACT evaluation will be shared to inform the national survey.

Other areas highlighted by group discussion included public-private models (PPM), mapping of vulnerable groups, social support intervention models, sample transport networks, role of prophylactic therapy, cross sector collaboration and integration of services and effective application of mobile health technologies. The strong priority which emerged from the group discussion which is not currently addressed by IMPACT is evaluation of models for engagement of the private sector. A number of models exist from countries in the region, notably Pakistan, Bangladesh and India. Understanding the proportion of missing case detection which is actually a case notification gap due to cases treated in the private sector should also be a priority to aid further research targeting for Nepal.

Plans for Future engagement with National TB Centre, stakeholders and policymakers in Nepal

Feedback from group discussion clearly indicated strong desire for future engagement via regular updates on IMPACT TB to relevant stakeholders through:

1) Regular (6 monthly) workshops to share experience and develop research strategy,
2) Training and updates on new technology and developments in ACF global guidelines
3) An internet resource of existing research an ACF in Nepal
4) Regular updates to the IMPACT TB website (www.impacttbproject.org)
5) Dissemination of relevant reports and publications.

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