Note on Additionality for TB REACH Proposals

This note is to assist applicants applying to TB REACH Funding to better understand the concept of TB case detection additionality which is the primary outcome of TB REACH project evaluation.

Key terms to understand:

Project length: All TB REACH projects are evaluated over the course of one/two year project lifespan.

Target population: The population to which case finding activities/interventions are targeted (PLWH, migrants, SS- TB suspects, prisoners etc.)

Evaluation population: The population used in the evaluation of the project, containing the target population and usually consisting of a number of Basic Management Units (BMUs). The evaluation population is defined by the NTP reporting centers as all TB REACH evaluation is based on NTP data – not project data.

Control population: This is a population that should be similar to the evaluation population, but that will not benefit from the TB REACH intervention. It is comprised of one or multiple BMUs.

Direct yield: The number of TB patients that the project detects directly thought its intervention. This is sometimes easily quantified and sometimes virtually impossible.

Additional cases for TB REACH: Are generally defined as the difference in the number of cases reported by the NTP in the evaluation population during the intervention, and the number of cases that was reported by the NTP in the same area the year before.

The following examples may provide some help.
1. A TB REACH project is conducting chest camps to screen people with chest symptoms in an urban slum in a large city. The slum is served by 2 BMUs which report quarterly to the NTP. These BMUs also cover some other non-slum areas. These two BMUs make up the evaluation population, while the population of the slum itself is the target population.
In 2010 the 2 BMUs reported 600, and 450 TB cases to the NTP in total. The project identifies another slum area in another part of the city to serve as the control population. The project collects data from this control BMU for 2010 and finds that 512 cases were reported there.

The project carries out 45 chest camps during the year, and though these activities, detects 375 cases which are registered for treatment in the two BMUs. The 375 cases is the direct yield of the project.

At the end of the year the two BMUs have a total of 674 and 611 cases registered for treatment.
The crude additionality (unadjusted for changes in the control population TB cases) for this project is 2011 TB cases (674+611) minus 2010 TB cases (600+450) = 235. This can then be adjusted for changes in the control population.

2. A TB REACH project is scaling up TB screening in prisons. In 2011, there were 20 prisons in the country, but only 1 reported any cases to the NTP. The TB REACH project will implement case finding activities in the first prison and14 additional prisons in the country by mass screening inmates. The target population in this case is the same as the evaluation population – the total inmates in the 15 prisons. The five remaining prisons serve as the control population. In 2011 the one prison reported 26 cases to the NTP. This is then taken as the baseline figure for TB case finding. In 2012 the TB REACH project was able to scale up screening initiatives in all other 19 prisons and detected 175 cases. The 175 represents the direct yield. The control population has no cases reported.

The crude additionality for this project is 2012 TB cases (175) minus 2010 TB cases (26) = 149.

3. A TB REACH project uses community workers to go door to door in underserved areas, defined as those who live more than 8 kilometres from a health facility, to find TB suspects and refer them to a local NGO clinic which then can link to public facilities for treatment. The project also employs and health education and awareness campaign around TB diagnostic services to improve demand. The project works in a rural area and an urban area in two different NTP reporting districts. The target populations are those that live in the two districts that have poor access to service. The evaluation population is the BMUs catchment area for the two districts. In 2011 the rural district reported 321 TB case while the urban district reported 876 cases. The control area was picked as two other districts, one rural and one urban in another part of the country. In 2012, the project health workers identified 3488 TB suspects. 3000 of them arrived at the NGO clinic for testing. Of those were diagnosed with TB, and referred to the NTP clinic for treatment. This 480 is the direct yield from the door to door intervention. However, only 390 showed up to the public TB clinic for treatment, and were reported to the NTP and therefore are used in the reporting numbers. Direct yield numbers for the education campaign would be hard if not impossible to calculate. For 2012 the rural district reported 673 cases and the urban district, 799 TB cases.

The crude additionality (unadjusted for changes in the control population TB cases) for this project is 2012 TB cases (673+799) minus 2011 TB cases (321+876) = 275. Note that there are additional cases reported in the rural population but actually a lower number in the urban intervention area. The additional case numbers can then be adjusted for changes in the control population.

4. A TB REACH project rolls out GeneXpert as an add-on diagnostic test to smear microscopy in an area with a high prevalence of HIV/TB co-infection in three BMUs serving an evaluation population of 8 million mostly poor and rural individuals. Roughly 300,000 known HIV+ individuals attending five district level health centers in the evaluation population make up the target population. The control population is a neighbouring area composed of two BMUs.

In 2011, the year prior to the TB REACH project, the NTP notified 7,500 new smear positive TB cases in the evaluation population, and 1,100 smear positive TB cases in the control population.

In 2012 a total of 950 bacteriologically positive TB cases among SS-/HIV+ individuals were found directly by the TB REACH project's GeneXpert activities, also known as the direct yield. 90.0% of the 950 bacteriologically positive TB cases found by GeneXpert analysis (855/950) were initiated on TB treatment, and it is this number – 855 – that is included in NTP reporting data. In 2012, the NTP notified a total of 8,420 TB cases in the TB REACH evaluation population and 1,240 smear positive cases in the control population.

Because of variability in NTP recording and reporting standards, in some countries not all SS-/MTB+ cases are recorded as SS+/MTB+ in NTP registers, or inconsistently. Therefore TB REACH projects using GeneXpert have provided their own data to M&E to fully account for all the new bacteriologically confirmed cases found by the TB REACH project, marking those which were found by GeneXpert.

Crude additionality (without adjustment for changes in the control population) is the number of NTP notified cases found in 2012 (8,420) minus the number of cases notified in 2011 (7,500) = 920. This means that 855 of the 920 additional cases (93%) were found by TB REACH, because the project detected 855 cases that were then notified. It is important to note that in this evaluation population prior to 2012, SS-/HIV+ (truly bacteriologically positive but undetected) individuals would not have received further testing after a SS- diagnosis. If in fact the crude additionality had instead been negative, these 855 cases could still be considered additional because the TB REACH project was the first implementer of GeneXpert among SS-/HIV+ individuals in the evaluation population.

Please note that in many cases, what the project will find as direct yield will be higher than the additionality and projects should understand these concepts when submitting the application. This is because presumably, some of the cases would have been found anyway by passive case finding.
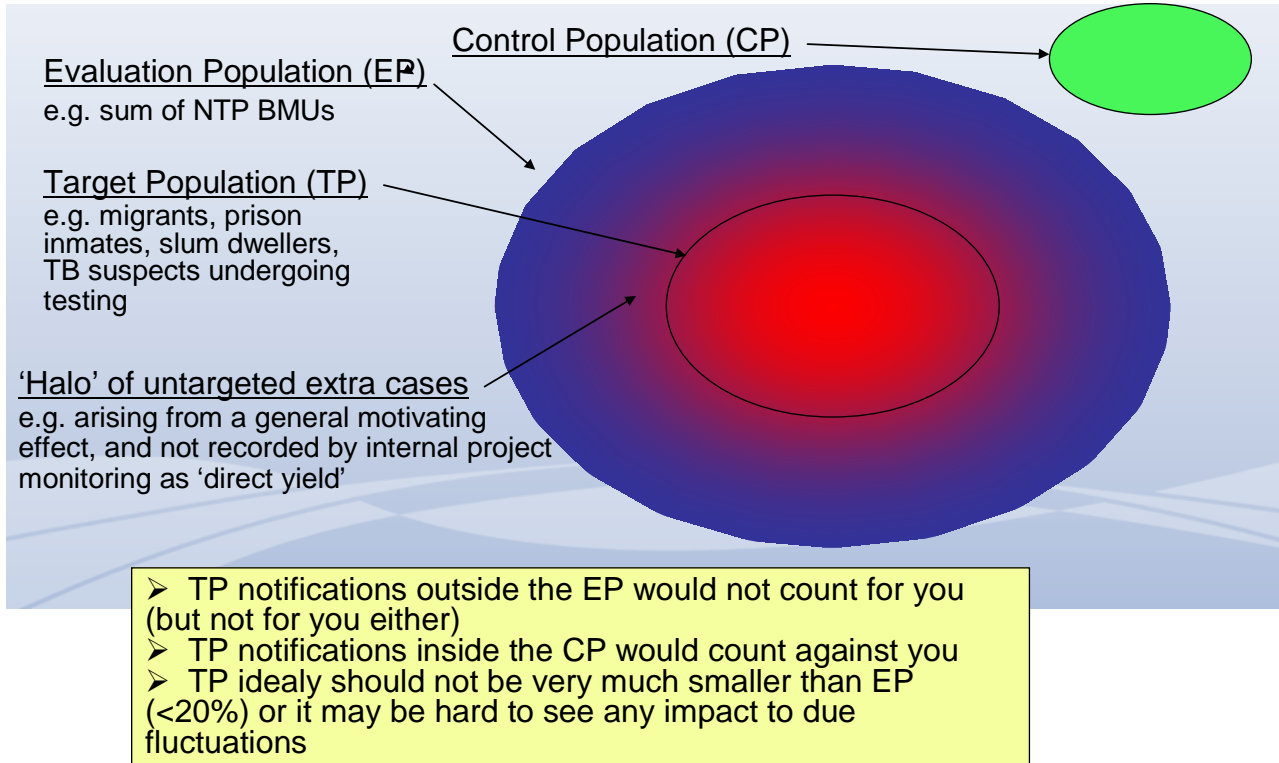
If your evaluation population is disproportionately larger than the coverage of your interventions it will be difficult to show an impact in a short time period, as small fluctuations in TB case reporting can mask the impact of a TB REACH intervention.

Only cases detected AND put on treatment reported to the NTP will be counted. TB cases that are found by project but not linked to a NTP register are not included in the M&E reporting for additional cases.

These examples are not meant to be indicative, and there are projects where there are many other ways of calculating additionality depending on the setting and the intervention type. Generally however, some form of comparison to earlier data is used.

On the following page is a representation of these terms for better understanding.

Populations for TB REACH

Control Population (CP)

Evaluation Population (EP)
e.g. sum of NTP BMUs

Target Population (TP)
e.g. migrants, prison inmates, slum dwellers, TB suspects undergoing testing

'Halo' of untargeted extra cases
e.g. arising from a general motivating effect, and not recorded by internal project monitoring as 'direct yield'

➢ TP notifications outside the EP would not count for you (but not for you either)
➢ TP notifications inside the CP would count against you
➢ TP ideally should not be very much smaller than EP (<20%) or it may be hard to see any impact to due fluctuations

The evaluation population should contain at least 95% of the notified cases arising from the target population. It should not be too big however, because if the proportion is less than about 20%, additionality is diluted out by 'random' fluctuations

A good control population is comparable to the evaluation populations in all aspects relevant to the notification of TB other than having a TB REACH project, and must be geographically isolated from it. It is more than just a non-intervention population because early and late project information needs to be collected on external factors, such as the opening and closing of TB projects that will affect notifications, and therefore the comparison. It must therefore be feasible to make enquiries or perform surveys in the control population.

The halo effect is particularly prominent where a project has Community Awareness Raising and/or Health Services Strengthening components. HSS projects that target service attenders may have fuzzy geographic boundaries, and some innovations are rapidly adopted by bordering services as a knock-on effect. This source of additionality is very much to be encouraged, but is can be hard to disentangle from general trends.

All projects should list the BMUs in the Evaluation Population and also have ready a table of disaggregated data with reporting center information with the application to assist the review.