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Measuring the performance of active TB case finding: programme managers need to be cautious

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In India, there is increasing emphasis on using the active case finding (ACF) strategy to detect tuberculosis (TB) in marginalised and vulnerable populations. ACF is being implemented in nearly 46% of districts through Project Axshya, a Global Fund Project,¹ and the Revised National Tuberculosis Control Programme conducted an ACF campaign for 15 days during the month of January 2017 in all districts in the country.

According to anecdotal evidence, the performance of ACF is assessed using two crude indicators: first, by comparing the crude proportion of TB cases detected by passive case finding (PCF) compared to ACF for a defined geographical area and period. If 'A' is the total number of TB cases detected in the area and 'a' and 'b' are the number of cases detected by ACF and PCF ($A = a + b$), the proportion of cases detected by ACF (a/A) is compared with the proportion of cases detected by PCF (b/A). Second, by the additional number of TB cases detected in a geographic area. This is calculated by assessing the difference between case detection rates in the time periods without ACF versus the time period with ACF, and/or by assessing the relative change in case detection rates with the neighbouring region where ACF has not been implemented.²

From the methodological perspective, we feel that these indicators are inappropriate. For the first indicator, the use of total TB cases as the denominator remains unjustified. For example, if an area with a population of 1000 is exposed to PCF throughout 365 days of a year, the denominator for PCF will be 365 000 person-days of PCF. If ACF activities are implemented twice yearly, then the denominator for ACF will be 2000 person-days of ACF in the corresponding year. We can presume the ACF leaves a residual effect, 'k', on the population, which may have a direct impact on the cases detected by PCF activities for a certain period of time. The residual effect 'k' can be measured in 'number of days'. 'k' can be multiplied by the number of ACF activities performed. For example, if ACF activities are performed

twice in the year and if ACF is determined/estimated to leave a residual effect for 5 days, then the denominator for ACF activities can be calculated as follows:

$$2 \times 5 = 10 \times 1000 \text{ population} = 10\,000 \text{ person-days of ACF.}$$

However, the 'k' factor is dynamic: it can differ according to region and it can be arrived at based on the temporary changes in health-seeking behaviour introduced by ACF. Hence, the appropriate denominator for calculating the crude proportion of cases detected by PCF and ACF is person-days of exposure for the specific method of case detection. For the second indicator, the calculation has a high probability of ecological fallacy: cases detected during ACF may not be truly 'additional', as some of these may have reached health facilities on their own. In a stricter sense, it is essential to determine at the individual patient level which cases would have reached health facilities on their own (and hence would have been detected by PCF) and which cases would not have reached on their own (and therefore were detected only due to ACF). This information can be obtained using appropriate research methods, and cannot be answered with aggregate data.

It would therefore be prudent for programme managers to be cautious in using routine programmatic data to interpret ACF performance. There is an urgent need to update administrators and programme managers by issuing relevant guidelines or methods of calculation to measure the performance of ACF activities.

References

- 1 Prasad B M, Satyanarayana S, Chadha S S, et al. Experience of active tuberculosis case finding in nearly 5 million households in India. *Public Health Action* 2016; 6: 15–18.
- 2 World Health Organization. Framework for conducting reviews of tuberculosis programmes. Annex: Assessing TB case-finding. WHO/HTM/TB/2014.05. Geneva, Switzerland: WHO, 2014. http://www.who.int/tb/publications/tb_framework_checklist3.pdf Accessed May 2017.

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