

Preliminary Cost-Benefit Analysis of Rapid Molecular Test for Diagnosing Tuberculosis

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Abstract

The commercial kit Xpert MTB/RIF is a *Mycobacterium tuberculosis* rapid molecular test recommended by World Health Organization (WHO) in 2010. There are some advantages of Xpert MTB/RIF, such as high sensitivity, easy manipulation, and short turn-around time. In order to understand whether adding Xpert MTB/RIF in Taiwan tuberculosis (TB) diagnosis procedure is cost-benefit, this report analyzed diagnosed sputum results and case management records of 15,685 TB cases during 2012 and calculated additional cost and saving expenses. The result shows people who infected by Nontuberculosis Mycobacteria (NTM) can be exclude as TB earlier and save unnecessary medical expenses and cost of contact investigation. People who infected by *Mycobacterium tuberculosis* can be diagnosed earlier, acquire appropriate medical service and contact investigation, and prevent transmission. Using Xpert MTB/RIF will make additional cost about 40,566,725 NTD, but it can save up to 69,868,508 NTD, and the final net saving is 29,301,783 NTD, which is cost-benefit. But the experience of Xpert MTB/RIF application in Taiwan is not enough, it is better to start a pilot project to collect data, and then implement progressively when evidence is sufficient.

Key words : Xpert MTB/RIF, rapid molecular test, *Mycobacterium tuberculosis* test

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