



International Union  
Against  
Tuberculosis and  
Lung Disease

Egos, GE, Evasco, HI, Guray, CV, Bilangbilin, PC, Bernardino, ML, Magali SF, Evangelista, MS, Ferrera, VR, Quelapio, MIJD, Tupasi, TE, "The additionality of third sputum sample in the diagnosis of MDR-TB," *The International Journal of Tuberculosis and Lung Disease*, Vol. 11, No. 11, (November) 2007, Supplement 1: S212.

**Objective:** To analyze the cost incurred and the additionality of sputum culture and DST of a third specimen in the detection of MDR-TB.

Materials and methods: The results of screening 1208 MDR-TB suspects from 2002-2006 were retrospectively reviewed.

Results: Eight hundred fifty-eight patients (71.03%) were culture positive. Of these, 738 were confirmed to be MDR-TB including 640 (86.7%) patients with a positive culture by the first specimen, another 73 (9.9%) positive on the second specimen and an additional 25 (3.4%) positive in the third specimen (Table). The cost incurred in detecting 738 MDR-TB patients was US\$ 98, 220 including 3624 cultures at US\$ 20 each plus another 858 DSTs at US\$ 30 each with a unit cost of US\$ 133 per case of MDR-TB diagnosed. If only two specimens were processed, 96.6% of the 738 MDR-TB patients would have been detected with corresponding cost incurred of US\$ 73,040 and a unit cost of US\$ 102.44.

Conclusion: Two specimens are adequate to detect 96.6% of MDR-TB patients at a cost savings of 23%. A more extensive cost-benefit analysis is needed to determine whether this benefit can outweigh the clinical and public health consequences of missing 3.4% of cases.

Culture results of patients screened for MDR-TB

			All patients	MDR-TB
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Culture results of patients				
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Negative cultures in three specimens			350	0
Positive cultures in one or more specimens			858	738
First Specimen	Second Specimen	Third Specimen		
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Positive	Positive	Positive	615	541
Positive	Positive	Negative	38	30

Positive	Negative	Positive	44	37
Positive	Negative	Negative	42	32
Negative	Positive	Positive	58	54
Negative	Positive	Negative	27	19
Negative	Negative	Positive	34	25
TOTAL			858	738

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