

National TB Guidelines Implementation: Challenges, Deviations, and Strategies

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This research was designed to identify the implementation challenges of Indonesian National TB Guidelines. Research questions identifies the following:

1. Challenges of national TB program implementation in Bengkulu, Cirebon, and West Sumatera; and what technical deviations have been done by the health centers to overcome these challenges.
2. Dynamics between the Ministry of Health, the District Health Office and the community health centers.
3. The impact of Indonesian health reform to current practice of national TB program.

Why This Project

Indonesia is a developing country with double burden of both communicable and non-communicable disease. Tuberculosis is the top cause of death due to communicable disease, and the second highest cause of death in 2012.

My interest in TB started when I practiced medicine in Panguragan district, a rural area of Java. By analyzing Panguragan's TB program implementation, I found that local public health officers often don't do active household case finding as required by Indonesia's national healthcare guideline. This poor motivation of TB officers, as well as scarce availability of TB diagnostic kit and inadequate supply of TB drugs, causes suboptimal implementation of TB program.

I saw firsthand the depth of challenges Indonesia faces during my work as an officer in the Ministry of Health in 2012. In co-authoring the National TB Management Guideline, I learned that technical problems I met in Panguragan appear to happen all across Indonesia.

Since August 2013, while earning my MPH in Health Policy at Harvard, I have been collaborating with 5 project coordinators to implement improvements to MDR-TB screening and treatment for the NIH PEER health project in Padang, West Sumatra under the supervision of Megan Murray; Professor of Epidemiology at HSPH. As the project coordinator of advocacy and policy implementation, I successfully advised the project coordinators to reform their incentive scheme to improve the performance of TB officers in finding and screening cases and remotely advised the Indonesian local team in developing a working plan to conduct the MDR-TB project under the district health office while supporting the national guideline.

This project assesses implementation challenges to the national TB program. It serves as a policy input for the MoH's national TB guideline and as a research implementation

input for the NIH PEER health project in Padang.

Research Process

The study involves meetings and preliminary contact with actors from the Ministry of Health (MoH), which include: the Healthcare consortium (creates national guidelines), Healthcare Directorate officials, Public Health Directorate officials, and consultants within the MoH.

Other important actors include officials from Provincial Health Office (PHO) and District Health Offices (DHO), Puskesmas Heads, TB Officers, and Puskesmas Microbiology Lab Technician, Pulmonary Clinic Director, Arjawinangun Hospital Director, and Head of Microbiology Department in Universitas Andalas

Meetings, discussions, and informal interviews were conducted between January 6th to January 25th 2014. Sessions with MoH actors were conducted both in the MoH and online. Session with Bengkulu Puskesmas Head was conducted in Jakarta. Sessions with Panguragan Puskesmas Head and Arjawinangun Hospital Director were conducted by phone. Sessions with West Sumatera PHO, Padang DHO, Pariaman DHO, and Padang Pariaman DHO were conducted in their respective offices, West Sumatera. Sessions with BP4 Lubuk Alung, 6 Puskesmas heads, as well as TB officers and lab technicians in Lubuk Alung, Pariaman, Sungai Limau, Alai, Andalas, and Pauh were conducted during direct observation in West Sumatera. Crude observation on Pustu Air Manis and Puskesmas Bungus were also conducted but no interview sessions were possible due to the time constraint

Preliminary research for TB management involved analyzing Indonesia's 2011 National TB guidelines (Pedoman Penanggulangan TB), 2013 National Drug Resistant TB Regulation (Permenkes 13/2013), National TB Roadmap 2010-2014 (STRANAS TB), and 2013 National TB Management Guidelines (PNPK TB). Preliminary research for Indonesia's novel health system reform was proven to be more challenging as this new program has very limited source of information. This includes UU SJSN, UU BPJS, UU DJSN, SE Menkes, and multiple online news featuring ministerial actors. These preliminary research resulted in a flowchart of selected points within Indonesia's TB Management and TB Administration protocols.

Observed Challenges and Deviations

Puskesmas has very limited human capital. TB officers are overwhelmed with the tedious repetitive administrative duties, which resulted in less time conducting TB screening and catchment. Although TB-01 form involves direct observation to patients' close contact families, in reality many officers simply ask the patient if there is anyone at home with similar problem. They will then record the names of the people at home in the forms – and label them without conducting home visits.

Conflicting administrative flow was seen between the national TB guideline and the

Puskesmas' drug stock flow. The national guideline stated that for every new cases of TB, the puskesmas should request drugs from the district health office using drug form (LPLPO). Puskesmas guideline indicated that LPLPO is only requested the 10th day of the month. This causes problem as TB patients could come at day 12 and will need to wait almost a month before the next drug shipping comes. To alleviate this problems, the DHO and Puskesmas deviate from the guideline, and instead request a drug stock for 3 months prospectively – with several boxes of drugs as a buffer. This allows Puskesmas to stock up TB drugs for the next 3 months and is now able to provide treatment to new TB patients without waiting for periodic drug shipping.

National TB Guideline request Puskesmas without microscopic capacity to take TB sputum, do fixation, and send the slides for microscopic evaluation at more capable Puskesmas. However, the distance between Puskesmas is sometimes very far, and officers are not incentivized to timely send the slides. As a result, slides often stacked up at incapable Puskesmas for days, and only sent to bigger Puskesmas once or twice per week. This delays patient diagnosis and treatment.

Labs technicians in several small puskesmas are not adequately trained to collect, handle, and analyze sputum. Many suspected TB cases are smear negative in Puskesmas – while they independently re-check their sputum in BP4 and receive a positive smear. As a result, physicians and TB officers are encouraging patients to save up some money to conduct another check at BP4. Lab technicians are not incentivized to improve their skills and knowledge, which resulted in a lower Puskesmas capacity

Experiences from previous projects involving financial incentives to lab technicians prove to demonstrate a unique effect. Lab technicians are normally not financially well compensated. They tend to have a secondary source of income, such that financial incentives are very impactful to their performance. When lab technicians are financially incentivized, they tend to deliver more positive outcome. It is still unknown to what extent this financial incentives effect the technicians as the spectrum spans from improved motivation to conduct timely analysis and better sample collection, to fraud for receiving higher incentives. Similar trend is seen in TB officers receiving incentives from NGOs.

Recommended Remediation Strategies

Since previous experience shows that TB officers' and lab technicians' behavior is elastic to incentives, this should be used to improve the implementation of the TB national program. TB officers should receive financial incentives after conducting a home visit (which should be verified either by signature or picture). This will ensure that the whole household contact is adequately screened.

Similar incentives should be used for TB slides logistics and transportation. By incentivizing small Puskesmas to send the slides within 8 hours, we can improve logistic transportation of TB slides between Puskesmas and potentially expedite the process of

analysis to prevent diagnosis and treatment delay.

Lab technicians should be financially incentivized to improve their skills. By giving financial incentives for every result positive smear, Puskesmas lab technicians will inherently try their best to achieve that state; by improving their method of sputum collection, a better handling procedure, a more timely analysis, and to improve their skills by learning from BP4 officers.

These elasticity to financial incentives does not come without a cost. Fraud is a possibility. A technician could contaminate negative slides with positive smears to receive more incentives. Additionally, they can also fake the reporting so that they seem to screen more positive samples. Both to potentially increase the nominal amount of financial incentives they can receive. This is one possible consequences that every researcher trying to incorporate financial incentives needs to carefully decide.

Immediate Significance and Future Research Plans

This ASH Center Indonesia Program winter research grant allowed me to identify the challenges and deviations of current Indonesian TB guidelines and to provide constructive remediations. In addition, this grant also supported me in improving the implementation methodology of my NIH/PEER health research in MDR-TB molecular epidemiology.

Despite the success in this research, the effect of the current health reform to national TB guidelines is still unclear. Healthcare reform just started January 1st, and the implementation has been focused more on access to health care and not to improvement of national public health programs. Furthermore, technical guidelines for insurance access have yet to be finalized. It will be more plausible to observe the effect of this reform to TB management upon revisiting this research question after 6 months or 1 year.

Christian Suharlim, MD, MPH is a recent graduate of Harvard School of Public Health. He received a winter research grant from the HKS Indonesia Program in January 2014.