ASSESSMENT OF LOCAL HEALTH SYSTEM'S RESPONSIVENESS TO TUBERCULOSIS IN SELECT MUNICIPALITIES IN PHILIPPINES

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Abstract

Tuberculosis (TB) remains one of the leading causes of morbidity and mortality in Philippines. The structure of the TB control delivery system in the Philippines is devolved that has led to some significant gaps in responding to the health needs of the population across the country. The study was carried out to assess how municipalities implement TB programs using the local health systems model; and to document existing policies and initiatives in the local government units. It also applied a desk review of existing practices in 20 municipalities, plus key informant interviews with 15 mayors, 20 municipal health officers and 15 TB coordinators. Findings indicated that less than a quarter of municipalities had investment plan for health on TB and 41% had local policy supporting TB program. Additionally, 25% had specifically allocated budget for TB, 82% had their facilities accredited by PhilHealth, and 59% had inadequate number of health workers for TB program. About 18% had x-ray facilities, and 41% had enough supply and buffer of medicines. Eighteen per cent (18%) had actively engaged private and

government hospitals for TB program, and 100% did not screen TB patients for HIV. Data showed the gaps in the municipal health systems to address TB issues. Thus, local leaders must be capacitated and supported by stakeholders to strengthen service delivery for TB. This underscores the big role of local leadership in TB prevention and control program being the frontline policy maker and service provider.

Keywords

Municipality, Local health systems, Tuberculosis

1. Introduction

1.1. National TB Profile of the Philippines

The Sustainable Development Goals (SDGs) for 2030 were adopted by the United Nations in 2015. One of the targets is to end the global tuberculosis (TB) epidemic (World Health Organization [WHO], 2016). TB still ranks as one of the leading causes of morbidity and mortality in the Philippines. Based on the 2016 WHO TB global report, there are approximately three hundred twenty two (322) cases of TB in every 100,000 population (2015 Philippine population is 101 million). In 2015, 14,000 registered deaths were attributed to TB (WHO, 2016). Over the last decade, there was a significant drop of TB prevalence. However, the prevalence of multi-drug resistant TB, a more fatal form of TB is increasing (Department of Health [DOH], 2012).

Although indicators on TB have improved, number of mortality and morbidity is still unacceptable given the fact the TB is highly preventable. Alarmingly, the rate of decrease in TB mortality and morbidity in the country is not fast enough. Directly Observed Treatment, Short-course (DOTS) strategy for TB control commenced in 1997 and nationwide coverage was achieved in 2003.

1.2. Structure of the Current TB Control Program

The National TB Control Program (NTP) is managed by a central team at the Disease Prevention and Control Bureau (DPCB) of the DOH which develops policies and plans and provides technical guidance to regional and provincial/ city-level NTP management teams,

overseeing the implementation of the program at the municipal and *barangay* (village) levels based on NTP policies and standards (DOH, 2011).

Under NTP, TB control services are provided mainly through public primary health care facilities (also called DOTS facilities) operated by Local Government Units (LGUs) like provinces and municipalities in a devolved set-up. There are additional DOTS facilities within the NTP's network of service providers that either refer diagnosed TB patients for treatment or directly provide TB treatment services using DOTS strategy (Vianzon, Garfin, Lagos, & Belen, 2013).

Although there are provincial and regional hospitals or medical centers that treat TB, most TB services are provided by city health office, rural health units (RHUs) as part of a package of Primary Health Care services (e.g., immunization and maternal and child health). Through the presence of several Barangay Health Workers (BHWs), usually volunteers, scope of services increases covering the geographical area. Each Provincial Health Office (PHO) monitors and reports on the TB control activities of those facilities. The PHOs typically also maintain a quality assurance center for the external quality assurance of direct sputum smear microscopy (DSSM) facilities in the province (USAID, 2012).

1.3. Financing for TB Control Strategy

Financing for health in the Philippines (3.3% of its Gross Domestic Product [GDP] in 2005) is below internationally recommended levels (5%) and far below the investments of industrial countries (between 8% and 12%) in the past decade. Among the Asian countries, the Philippines has one of the lowest government spending for health and with the highest for private and out-of-pocket spending, a trend that continues to increase (USAID, 2012).

The National Health Insurance Act of 1995 or Republic Act 7875 led to the creation of Philippine Health Insurance (PhilHealth). PhilHealth is a tax-exempt government-owned and controlled corporation, attached to the DOH, providing social health insurance coverage for Filipinos. It is mandated to provide universal coverage to all Filipinos in 15 years' time from its creation (USAID, 2012).

1.4. Health Leadership and Governance Structure of TB Control Program

Overall, the structure of the TB control delivery system in the Philippines is highly decentralized. The DOH at the Central Office develops the plans and policies, which is then

cascaded to regions. They also monitor and supervise the implementation of LGUs through the regional DOH offices. Allocation of funds, human resources and procurement of commodities necessary for TB program are the responsibilities of LGUs. However, the procurement of first line anti-TB drugs is centralized (Reyes & Amores, 2014).

Local leaders who are free to set their own priorities may not have the right health education, motivation and/or attitude (e.g. giving priority) towards the health conditions of their communities. WHO (2010) considers leadership and governance in health as comprising one of the six building blocks of an effective health system to address health issue like in the case of TB. Thus, the leadership training programs has been used and applied in several countries in effecting improvements in health status of populations. For example, Ghana adopted a training program developed by the Management Sciences for Health for leaders (Kwamie, Van Dijk, & Agyepong, 2014). This program called for a team to iteratively identify root causes, plan actions, monitor and evaluate programs.

In the Philippines, ZFF's Community Health Partnership Program advocates for leadership commitment on a higher level, that is, involving local leaders who are the real decision makers into the leadership training program (Fajutagana, Sarol, Sarol, & Fajutagana, 2016).

A number of studies have already been conducted to understand the TB profile of the Philippines (e.g. Collins, et al., 2016; Reyes and Amores, 2014; Vianzon, et al., 2013). However, these studies do not give focus on how municipalities respond to address TB issues. Since evidence suggests that access to quality TB services remains to be pressing problem and recognizing the important role of LGUs in the implementation of TB program; it is therefore important to examine how frontline LGUs in the Philippines manage their TB programs.

The objectives of this study were to assess how municipalities implement TB programs using the WHO health systems model; and to document existing policies and initiatives in the LGUs.

2. Methodology

This cross-sectional study used the WHO's six (6) building blocks framework of health systems (see figure 1): 1) health governance, 2) health financing, 3) health human resource, 4)

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access to medicines, 5) health information system, and 6) health service delivery; and municipal roadmap on TB, a tool developed by Zuellig Family Foundation and Innovations and Multi-Sectoral Partnerships to Achieve Control of TB (IMPACT) under the United States Agency for International Development (USAID). This performance management tool designed to check whether municipalities have achieved desired targets related to TB program implementation. It also applied a desk review of existing practices, regulations and programs to address TB issues in 20 partner municipalities of Zuellig Family Foundation, classified as geographically isolated and poor communities, plus key informant interviews with 15 mayors, 20 municipal health officers and 15 RHU TB coordinators.
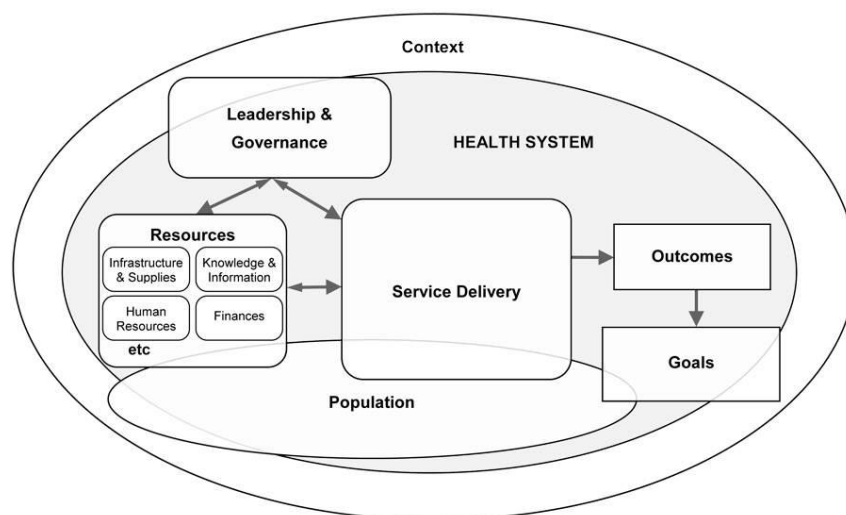

Figure 1. *World Health Organization's Health Systems Framework*

3. Results

3.1. Health Leadership and Governance

Based on the data reviewed, it was found that 75% of the municipalities had investment plan for health with multiyear sub-plan for TB program. All had no communication and social mobilization plan integrated in the municipal TB Annual Operations Plan (AOP). Significantly, more than a third of the Local Health Boards (LHBs) consistently discussed TB issues in their quarterly meeting. In particular, 40% of the municipalities had developed and implemented local policy in support of strengthening TB program.

Key informants were asked about how LHB members address TB issues in the community. Most local officials interviewed cited that TB issues were not consistently discussed in the LHB meeting. Below are some responses of the local health leaders regarding policy support, prioritization, and program planning to address TB:

"*I don't know about what data or program details should be discussed in the LHB meeting. And I believe it's already being addressed by DOH and we are willing to support what is lacking in terms of logistical needs."(mayor)*

"*As far as I can remember, we don't always discuss TB in our LHB meeting. We have to prioritize since we have several programs on health."(mayor)*

"*We were trained before by NGO and DOH on how to develop communication and social mobilization plan for TB; however, it didn't transpire in our operations. There was no follow-through and monitoring. So there was no municipal policy to institutionalize it." (MHO)*

3.2. Health Financing

Around three-fourths of the municipalities had TB-DOTS and PhilHealth-certified RHUs. More than half (60%) had trust fund for PhilHealth claims. It was also noted that 50% fully utilized PhilHealth reimbursements to support local TB program. A little less than half (45%) of the LGUs had budget as stated in the annual investment plan for health.

The following are actual responses from the local health leaders when asked about how LGUs provide financial support for TB program:

"*Every year, our LGU allotted around 400,000 pesos specifically for TB program from the LGU fund plus our PhilHealth claims. We usually use this fund for medicines, incentives and educational campaigns like TB congress."(MHO)*

"*Our total annual budget allocated for TB was about 20,000 to 30,000 pesos. We have a minimal budget since the medicines are free from DOH, so the budget is provided for our educational activities."(MHO)*

"*Our facility is not yet DOTS certified by DOH so we cannot proceed for the Philhealth accreditation. But we are now on the process of complying certain requirements in terms of structure and protocols within the RHU needed."(TB coordinator)*

Currently, we have no incentives for TB patients because we put our PhilHealth claims in our trust fund so we can use this in case we experience undersupply of medicines. That's how we prioritize." (TB coordinator)

3.3. Health Human Resource

Among the municipalities assessed, only a third had adequate municipal health workers for TB program based on the standard set by DOH. Around 75% had NTP core team who were trained on TB DOTS. Similarly, more than half (60%) had functional Community-Based Organizations (CBOs) to participate in TB control within the community.

Almost all LGU officials interviewed stated that they did not meet the DOH standard of health workers-to-population ratio. The following are actual statements by local health leaders regarding the health human resources of the municipalities:

"*Meeting the health workers to population ratio is admittedly a challenge for us given the Personnel Services limitation in our budget so we cannot hire more health workers."(mayor)*

"*Our total municipal population is about 45,000 and we have 2 doctors. So considering the standard of 1 MHO to 20,000 populations. We are definitely below the recommended ratio by DOH."(MHO)*

In a way to determine the functionality of CBOs in the municipalities, MHOs were queried about organization and functions of CBOs. Although most LGUs had organized CBOs, these were not operational as most of the members were BHWs who had many roles in health care. One MHO said that:

"We have already organized our CBO, but as always we have concern about its sustainability since these are volunteers. Thus, we are still considering different approach to encourage them and sustain the gains."

3.4. Access to Medicines and Technology

Table 1 show that most LGUs had inadequate diagnostic services using the standard laboratory services-to-population ratio. Similarly, most RHUs experienced undersupply of TB medicines.

Table 1. *Access to Medicines and Technology Indicators of Municipalities*

Health Systems building blocks	Performance Indicators	Frequency (n=20*)	Percent (%)
Access to	Meet the TB microscopy laboratory services to	6	30

Medicines & Technology	population ratio of 1:100,000 with remote smearing stations (RSS) for GIDA municipalities or municipalities with GIDA barangays		
	With accessible X-Ray equipment/facility either through RHU acquisition or Memorandum of Agreement (MOA) with private clinics with x-ray machines	9	45
	No stock-outs of TB drugs and laboratory supplies for the past 6 months with buffer stocks for at least 1 quarter	4	20
*20 ZFF partner municipalities			

In these LGUs, health workers interviewed generally report that they all experienced difficulty to screen patients particularly those in far-flung areas, as one TB coordinator points out:

"*It's quite difficult to meet the standard considering that we have many island and upland barangays (villages). Additionally, not all our midwives and BHWs were trained on remote smearing so patients still need to go to the main center to have their sputum examined."*

Aside from problem of access to diagnostic services, key informants also mention regarding instances of stock-outs due to delays in the delivery of mismatch of supply and the needs of the RHUs, as an excerpt from the MHO discussion goes:

"We experienced undersupply of TB medicines for category 2 and TB in children. One case was due to delay of delivery of supply from the regional office."

3.5. Health Information System

Data indicate that almost all LGUs had submitted both quarterly and annual NTP reports on time. All participated in the TB program implementation review. About three-fourths had utilized TB data for program planning.

Based on the interviews conducted, TB data were not always used for local program planning as RHUs highly depend on the logistical support from DOH. As some MHOs note:

"*One of our difficulties is evidence-based planning because of a lot of programs handled by RHU; our default activity is just collection of data. Hence, evidence-based program planning comes in if there's already emerging issue that needs urgent action."*

3.6. Health Service Delivery

About 60% of the municipalities had engaged hospitals for TB control strategy. Around half had 2-way functional referral system with all the engaged private facilities. All LGUs had no

screening system for HIV among TB patients. Significantly, 85% had TB services for vulnerable populations.

Lastly, health mangers were asked about how they deliver their TB services in their RHUs. The following are actual statements from the local health leaders regarding their health service delivery for TB:

"*We have no formal agreements through memorandum with hospital. But we do refer patients who require further tests. At the same time, we also accept patients from hospitals for their DOTS treatment.***" (MHO)**

"We had already a confirmed case of mortality related to AIDS in our town. We recognize the strong association between TB and AIDS; however, we have no equipment and capacity to screen TB patients for HIV/AIDS. We need still to refer cases to the city" (MHO)

"*We regularly conduct screening for TB inside the correctional facilities in coordination with concerned agencies.***"(MHO)**

4. Discussion

4.1. Health Leadership and Governance

Based on data, lack of local policy and social mobilization plan reflects how the LGU prioritizes the program. Local leaders have the power and responsibility to set their own priorities on health like in the case of TB (Chopra, Lawn, and Sander, 2009). Hence, local leaders need to be capacitated to understand the urgency of the problem and their roles on program implementation. The Local Government Code of 1991 changed the delivery of the health services and devolved local government units with more responsibilities that were earlier vested with the central government like developing local health plan (Kwon and Dodd, 2011).

A considerable number of municipalities in this study had weak leadership and governance structure in terms of planning, prioritization and policy support. It was noted that TB issues were not frequently discussed in the LHB meeting. In the Philippines, the priority for TB control like the staffing and funding for local TB services varies significantly from LGU to LGU, and the election of a new local chief executive may lead to changes in terms of political, funding and logistical supports. As a result, the performance of the program shows significant variations among LGUs (USAID, 2012).

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4.2. Health Financing

Data indicate that municipalities differ in terms of providing budget support for TB program. This can be attributed on how LGUs maximize resources to support TB program given the fact that TB program has been traditionally a vertical program; which means health spending comes from the national government. But generally, it appears that the impact of government investments in health have been affected by the devolution of health services, which has unintentionally splintered health planning and financing since they have administrative and fiscal autonomy. Local health sector budgets were also integrated in the internal revenue allotment received by LGUs, making health expenditures dependent on the allotment of the elected mayor (Capuno, 2009; USAID, 2012).

An outpatient benefit package for TB DOTS was also rolled-out by the PhilHealth. Financing TB DOTS through social insurance facilitates the system to be more demand-driven. Both private and government primary care facilities can leverage this as an alternative means of sustainable financing. Over the years, the number of TB DOTS facilities accredited by PhilHealth is increasing (Reyes & Amores, 2014). As a mechanism for addressing the needs of TB patients; however, PhilHealth is not being fully leveraged by LGUs to support TB program due to lack of accreditation from PhilHealth or late submission of documents for reimbursement.

4.3. Health Human Resource

Although the NTP core teams of RHUs were trained, several LGUs lack adequate number of health workers to implement the program. Most LGUs did not meet the standard health workers-to-population ratio due to administrative and fiscal limitations (personnel services) set by the national government guidelines that hindered them to hire more workers. Although LGU spending on personnel services was originally limited up to 55 percent based on the income class of the local government, the cap was later relaxed to exclude items such as payment of benefits under the Magna Carta for Public Health Workers. This is consistent with the situational assessment for the 2010–2016 Philippine Plan of Action to Control TB (PhilPACT) which showed the shortages of health staff across the country. The adequacy and distribution of health workers for TB program depend on multiple factors—including the provision of enablers or incentives by some LGUs; leadership and support from local leaders; geographic accessibility; and personal commitment and initiative. This is also in consonance

with the study conducted in the TB high-burden countries including the Philippines which showed considerable variations in staff numbers and proportions of competent health workers due to weak human resource management, poor salary and political support (Munoz, et al. 2005).

USAID support for TB from 2006–2011 did not finance TB control human resources, but funds were used for 1) capacity building of existing staff; 2) the engagement of volunteers to provide support for TB program operations in communities; and 3) advocacy to LGUs for increased funding for the staff (USAID, 2012).

4.4. Access to Medicines and Technology

Although medicines for the entire duration of treatment are provided free of charge to the patients in DOTS public facilities, several LGUs encounter shortage of some anti-TB drugs since they depend on the medicines provided by the national government and limited resources of the LGUs. Under NTP, drug supplies for Category I and II cases are procured and financed by the national government from regular funds, while drugs for Category III cases are expected to be sourced from LGUs. Shortages were and continue to be addressed by the procurement of TB drugs by many LGUs (USAID, 2012).

All LGUs have extensive network of DSSM laboratories for diagnosing drug-susceptible TB, but these are below the recommended equipment to population ratio. According to PhilPACT, high-quality DSSM is available in most municipalities, but not universally accessible. (USAID, 2012). This can be attributed to geographical inaccessibility of some municipalities or *barangays* (villages) within the municipalities since most of these LGUs have island and upland villages.

4.5. Health Information System

Data indicate that almost all LGUs had submitted both quarterly and annual NTP reports on time. However, the submission of case reports are still paper-based, particularly at the peripheral level, which are prone to errors in reporting. Not all regional health units have the capacity to consolidate their data in an electronic format because of gaps in infrastructure and equipment (Vianzon, et al., 2013). Significantly, TB data were not fully utilized for policy development and program planning at the LGU level. This reflects how local leaders perceive the urgency of the problem and prioritize TB program given the fact that LGUs handle several health and social services. Responsibility for planning and delivery of health services in the

Philippines is devolved to the local government level (La Vincente, et al., 2013). Given the recognized need to strengthen capacity for local planning and budgeting, evidence-based action planning must be introduced to the local leaders.

4.6. Health Service Delivery

Significant number of RHUs refer Filipino TB symptomatic to public hospitals. Also, strong cooperation was observed between public and private providers in several municipalities which is consistent to the evaluation conducted by USAID (2012) in Region 6, where high referrals from private physicians and volunteerism from non-government sector contribute to high TB cases detected.

The NTP should continue to strengthen the referral system from private health facilities, and aim to expand DOTS coverage to all public facilities, especially hospitals. Significant efforts have been made to engage the private sector in the last decade, even with earlier USAID TB projects.

Data indicate that all municipalities had no available HIV screening services for TB patients. Testing centers are available in the highly urbanized cities or areas identified as highest priority for HIV interventions by DOH. Globally, people living with HIV are 29 times more likely to develop TB disease than those who are HIV-negative (WHO, 2014). Although HIV prevalence remains low, at 0.036% of the general population in 2011, the Philippines is witnessing a rapid acceleration of the epidemic among key affected populations. The HIV response in the Philippines is still critically underfunded. Although domestic spending by the central government, local governments and the private sector is growing, it is not fast enough to meet the need (UN AIDS, 2015).

There are several vulnerable populations living in the Philippines, including indigenous people, children, prisoners, the poor, and people living in remote locations, among others. There does not appear to be formal strategies or policies at any level for tailoring TB case finding and treatment to the needs of vulnerable populations, with two exceptions: piloting workplace strategies (such as mines, factories and shopping malls) and strategies for prisons. The most important emerging strategy in targeting vulnerable populations is the PhilHealth effort to provide services to the poorest Filipinos (USAID, 2012).

This study has limitations. The fact that the study only involved 20 municipalities which were selected using non-probability sampling technique means that the findings that are derived from the study cannot be generalized and are not representative of the entire Philippine regions and LGUs. Additionally, participants being from selected LGUs, and their experiences and opinions may not be representative. The data mostly relied on interviews of mayors, MHOs, and client representatives. The use of these interviews had some limitations. There could have been recall bias as drawn from short responses of respondents. On most instances, interviews with client respondents and occasionally with MHOs were done at the municipal office although care was taken to make these interviews in private in the municipal office.

5. Conclusion

This study found that the effective and efficient provision of TB healthcare services has been a major challenge particularly to the local governments. Lack of evidence-based program planning, budget constraints, insufficient medicines and equipment were common gaps in the municipal health system to address TB. These challenges are seen to be compounded by weak leadership, governance and health financing at the municipal level. Primarily, LGUs experienced several challenges to set up a health system that is responsive to TB issues. Thus, there is a need for local government officials to understand systemic challenges in TB program implementation such as political support, logistical issues and sustainability measures brought about by decentralized health system and limited resources.

To effectively implement TB program, LGUs must: a) localize TB program with policy and financial support; b) establish functional information systems and regular monitoring that can track TB patients, medicines utilization, and quality of medicines use; and c) engage hospitals and private health facilities to strengthen TB DOTS service delivery network. Following the health governance paradigm, collaboration among the national and local governments, private sector and civil society is needed to see these health reforms and sustainability mechanisms into reality.

Further studies on the implementation of municipal TB programs with inclusion of more variables such as socio-demographic profile of the LGUs and data on coordination between LGUs and regional agencies are needed to generate more systematic assessment on how

programs are implemented at different levels. Similar study can also be scaled up to include more LGUs from different regions to determine the magnitude and scope of local health system's responsiveness to TB.

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