Perspectives

Multichannel Financing Reduces Economic Burden and Improves the Medical Security Level for Tuberculosis Patients

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Tuberculosis (TB) is one of the main infectious diseases to simultaneously cause poverty and be caused by poverty. Reducing the economic burden of TB patients in China is essential to improving patient compliance and reducing the impact of the TB epidemic. In accordance with the national reform of the medical and health system and the current status of the country's TB prevention and treatment service system, representatives of the government proposed the concept of a multichannel financing mechanism. This mechanism is in harmony with the overall government strategy for TB. Key provisions are that after accessing free government services, the medical expenses of TB patients should be reimbursed using medical insurance first and then the remainder should be covered by local funds. Three provincial-level administrative divisions (PLADs) have used this approach and introduced policy documents to improve the medical security and reduce the economic burden for TB patients.

Background

Tuberculosis is a major public health issue in China and a global public health problem. As a chronic infectious disease transmitted through the respiratory tract, TB is characterized by a long incubation period and a long course of disease. Most patients with TB are poor; the national TB epidemiological sampling survey in 2010 showed that the average annual household income of more than 80% of TB patients is lower than the local average (*1*), and one study in China showed that 15% of multi-drug resistant TB (MDR-TB) patients had to forgo treatment because of financial difficulties (*2*). TB is not only an infectious disease but also a socio-economic problem (*3*). Elimination of catastrophic expenditures for TB patients can help achieve the United Nations Sustainable Development Goal 3 target for TB: to end the epidemic by 2030.

In response to the World Health Organization's End TB Strategy and under the overall framework of China's National Tuberculosis Control Program, the National Health Commission and Bill & Melinda Gates Foundation cooperated to scale up a comprehensive TB control model in three PLADs in eastern, central, and western China: Jilin, Zhejiang, and Ningxia. This model included establishing a multichannel financing mechanism to improve the level of medical security and reduce the financial burden for TB patients, in line with Chinese government policy documents (*4*–*6*). As per the implementation requirements of the China-Gates Foundation TB Project (2016–2019), the three PLADs established their own multichannel financing mechanisms and successfully advocated their provincial governments to issue policy documents to improve the medical security level of TB patients. So far, the multichannel financing mechanism has been in operation for more than a year. This article aims to share the experience of establishing and implementing a multichannel financing mechanism in the project PLADs and provide reference for wider promotion.

Status of Medical Expenses for TB patients

China has implemented a policy of free diagnosis and treatment for TB since 2000, with Centers for Disease Control and Prevention (CDCs) throughout the country providing free screening, diagnosis, follow-up care, and first-line anti-TB drugs. With the deepening of the medical and health system reform, China's TB control and prevention service system has been continuously adjusted. The diagnosis and treatment of TB patients has been gradually transferred from the CDCs to designated hospitals. A new TB control and prevention service system has been established with clear divisions and coordination among the CDCs, designated hospitals, and primary

health care institutions. The central government continues to provide free smear test, chest radiography, and first-line anti-TB drugs; however, other tests such as liver and renal function test, electrocardiogram, and supplementary medication are reimbursed by basic medical insurance. Although some free examination items such as the liver function test and auxiliary medication have been added in different places throughout the country, the overall economic burden for TB patients remains heavy, and there is a large gap from the goal of the End TB Strategy (*7–8*).

Developing a Multichannel Financing Policy

The Chinese government launched the latest round of health system reforms in 2009, emphasizing the role of government in health investment and governance (*9*) and proposing to establish and improve a system to provide the urban and rural public with safe, effective, convenient, and affordable medical and health services. Based on this goal and combined with the current status of TB control and prevention in China, China CDC has formulated guidelines for multichannel financing of TB diagnosis and treatment. Accordingly, local governments have increased financial subsidies and established communication and coordination mechanisms among relevant departments such as finance, health, medical insurance, and civil affairs. The overall goal of financial subsidies at all levels and other funds from society is to improve the level of medical security for TB patients. To ensure this security, basic medical insurance and critical illness insurance should be appropriately tilted towards TB. At the same time, it is important to expand the scope of assistance and achieve targeted poverty alleviation for poor patients.

As participants in the China-Gates Foundation TB project, Jilin, Zhejiang, and Ningxia integrated the use of central financial funds, basic medical insurance, medical assistance, and local special funds for TB control and prevention. The PLADs also issued policy documents to establish a multichannel financing mechanism to reduce the financial burden of TB patients. The first step (Figure 1) is to access TB services through the central government, which provides free screening, follow-up, and first-line anti-TB drugs for TB suspects and patients. The second step is to fully utilize the protection of basic medical insurance for TB patients, where TB is included in the management of special, chronic, and serious diseases, and the level of compensation for outpatients is appropriately increased with reference to the inpatient reimbursement policy. The third is to rationally use medical assistance to expand the scope and target of assistance, further improving the medical security of TB patients. Finally, after reimbursement from all these funds, local financing provides subsidies for TB patients to make up the differences as required. As of MDR-TB patients, Zhejiang and Ningxia provide additional subsidies for treatment and second-line anti-TB drug respectively. In this way, the out-of-pocket expenditures of rifampin (RIF)-sensitive and RIF-resistant TB patients can be controlled at a very low level, which is less than 10% and 30%, respectively.

Discussion

Many low- and middle-income countries aim to provide TB diagnosis and treatment free of charge; however, direct and indirect medical expenses continue to account for a high proportion of the annual household income of TB patients (*10–12*). China is currently facing this issue; however, through step-by-step use of different funds to solve patients' medical expenses, the goal of reducing the financial burden of TB patients can be achieved.

In this mechanism, the first three steps—the central government fund, basic medical insurance, and medical assistance—all have relatively mature policies that can be carried out effectively, but difficulties may occur when applying for local financing to cover the leftover costs. The required funds at this step are not large. Furthermore, they can be successfully allocated by estimating the number of local patients along with the financial coverage provided by medical insurance and assistance policies. Leaders can play a key role in ensuring funds are available at the local level by emphasizing the dangers of TB as a respiratory-borne disease. For example, in some areas with better leadership development, local financing will cover all the leftover expenditure after the first four steps and patients will not pay for the treatment at all. At the same time, it is necessary to strengthen the supervision of designated hospitals to ensure they provide reasonable diagnosis and treatment services and avoid unnecessary items and drugs.

Future research should further collect data such as the economic burden data of all TB patients to assess the impact and effect of this mechanism on the

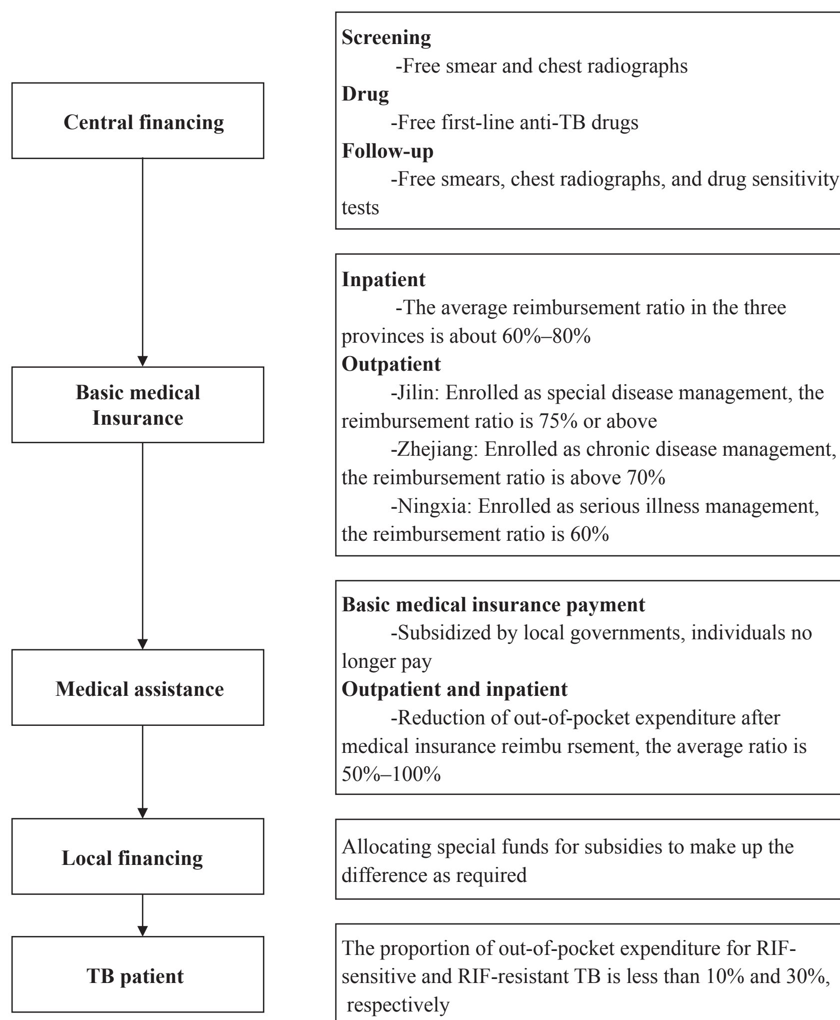

FIGURE 1. The flow chart of multichannel financing, three provincial-level administrative divisions (PLADs) in 2016–2019. RIF=rifampin.

economic burden, improve TB prevention and control, and effectively reduce the burden of TB patients.

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