

Multiple perspectives on diagnosis delay for tuberculosis from key stakeholders in poor rural China: Case study in four provinces

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Abstract

This study aims to understand the contextual barriers to accessing timely TB diagnosis after first seeking care, especially among the poor and vulnerable in rural China. Both quantitative and qualitative methods were used to elicit the experiences and perspectives of TB patients and suspected TB patients, community residents, health providers and policy makers in poor, rural areas of four provinces. Between 30 and 60% of patients across the four provinces experienced a delay in receiving a diagnosis after first seeking care. Most patients had to visit health facilities more than once before diagnosis, with 17–30% patients making more than 6 visits. These delays and multiple visits mainly occurred because of the limited capacity of health providers to recognize TB, and financial disincentives to refer patients to TB dispensaries, due to the pressures of the cost recovery system. Poverty and socio-economic disadvantage amongst patients also influenced their capability to seek further care to obtain a reliable diagnosis. Qualitative data showed that women and the elderly patients were likely to experience more ‘system’ delay, and these findings were to some extent supported by the survey. The study concludes that ‘system’ delay is a serious problem, which is influenced by the financing mechanisms for both TB control and general health services as well as poverty and disadvantage amongst patients. This requires a comprehensive strategy to shorten ‘system’ delay in order to enable successful DOTS expansion, including developing appropriate financing mechanisms to improve general provider capacity and encourage referral, as well as measures to improve financial and social access to services for potential TB patients.

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1. Introduction

China has the second highest burden of tuberculosis (TB) in the world [1]. TB Case detection is around 30% (in 2000), far below the National TB Control Programme (NTP) goal and global STOP TB targets of

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70% case detection rate by 2005. Twelve provinces¹ that received assistance through a World Bank loan funded TB control project from 1992 to 2001, have reached a case detection rate of around 55%, suggesting that even with increased investment there are still considerable barriers to accessing TB services [2–4]. To raise the detection rate, a new TB control project was launched in March 2002 with a World Bank loan and DFID grant, in addition to donations from JICA in some areas [5]. The project requires matching funds from local governments and some support from the general health budget for physical infrastructure and personnel.

Early detection of infectious cases, followed by effective treatment, is imperative for the successful control of tuberculosis. In China, TB case finding depends on passive case detection, whereby people with TB related symptoms should be identified when they seek care at a general health facility, and referred to a county-level specialist TB facility (known as a TB dispensary) for a sputum smear test [5]. Early detection therefore requires prompt identification of suspected cases and rapid referral to the TB dispensary, where cases are registered and begin treatment. Delays in this process further the spread of infection in the community and increase patient expenditure [6,7].

The international literature generally makes a distinction between two phases in diagnosis delay: ‘patient’ or ‘personal’ delay, and ‘system’ or ‘service provider’ delay. ‘Patient’ or ‘personal’ delay usually refers to the time between the first onset of symptoms and first utilization of a healthcare provider, whilst ‘system’ or ‘service provider’ delay usually refers to the time between the first utilization of a health provider and a confirmed diagnosis of TB. However, these terms are somewhat misleading as ‘patient’ and ‘system’ factors are strongly interlinked in influencing both phases of diagnostic delay [8]. A range of common factors influencing both phases of diagnostic delay have been identified in the international literature, including socio-economic status, educational level, gender, age, migration, first place of seeking healthcare, and distance to the nearest health facility [8–18]. Studies have tended to focus on the characteristics and situations of

patients as factors influencing delay, rather than on the characteristics of the healthcare system.

Although a number of studies have investigated the issue of delay in China, few have conducted an in-depth analysis or appeared in international journals [8]. Most studies in China have been limited to one province or county and have used quantitative survey methods only, whilst a few have used only qualitative methods [8]. In this paper we report findings from a Social Assessment of the China TB control project, funded by DFID, and carried out in poor, rural areas of four provinces in 2004. This was the first large-scale, multi-method investigation of TB control in China, designed with the aim of informing policy on increasing case detection and improving DOTS implementation. We report the findings of one part of the study, focusing on understanding delays in diagnosis from multiple perspectives, including community residents, TB patients, health providers and government decision makers. The strength of analyzing delay from multiple perspectives is that the linkages and interconnected relationships can be explored in depth, especially the links between poverty, vulnerability and TB diagnosis.

2. Methods

2.1. Study sites

Fujian, Henan, Liaoning and Xinjiang provinces were selected for the social assessment study, on the basis of the length of their participation in the TB DOTS programme, and other special features, including their geographic distribution, and factors expected to influence TB control, such as the presence of ethnic minorities, low GDP level, and high levels of internal migration. Fig. 1 shows the location of the four provinces in China. Background information about the four provinces is given in Table 1.

Three counties were selected in each province on the basis that they were designated as poor according to national or provincial classifications (with an average per capita GDP of between one third and two thirds of provincial average per capita GDP), had county TB dispensaries that aimed to implement DOTS, and were willing to participate in the study. We also aimed to represent different geographical locations within the province. In Xinjiang province, counties were selected

¹ Hebei, Liaoning, Heilongjiang, Shandong, Hubei, Hunan, Guangdong, Hainan, Sichuan (including Chongqing municipality at that time), Gansu, Ningxia and Xinjiang.

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