

### Challenges and Progress of Drug Resistant Tuberculosis Control in Taiwan, 2007–2016

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#### Abstract

Drug-resistant tuberculosis (DR-TB) has become a serious threat to global health. According to 2016 WHO global tuberculosis report, the crisis of multidrug-resistant tuberculosis (MDR-TB) detection and treatment continued. In 2015, there were around 480,000 new cases of MDR-TB and 100,000 cases with rifampicin-resistant tuberculosis (RR-TB). In order to enhance the DR-TB epidemic control, the Taiwan Centers for Disease Control (TCDC) has launched several strategies since 2007, including the initiation of MDR-TB case reporting, enhancement of DR-TB contacts investigation and follow-up, provision of rapid molecular drug-resistance tests, and control of quinolone antimicrobial drugs. Furthermore, a new MDR-TB program, the Taiwan MDR-TB Consortium (TMTC), was established by TCDC in May 2007.

For the past decade, DR-TB epidemic of Taiwan has declined significantly since 2007. The number of MDR-TB cases under management decreased from 440 cases in 2007 to 168 cases in 2016, and the number of reported MDR-TB cases decreased from 178 cases in 2009 to 117 cases in 2016 as well. The treatment success rate at 24 months for patients enrolled in the TMTC increased from 59.4% in 2007 to 72.5% in 2015, and the treatment success rate at 36 months increased from 84.6% in 2007 to 90% in 2014. Under the TMTC, a proper MDR-TB case management program, the number of extensively drug resistant tuberculosis (XDR-TB) and chronic cases have also been effectively reduced.

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The future decline of new cases of MDR-TB relies on strengthening implementation of DR-TB case finding, contact investigation, and follow-up for contacts. Besides, MDR-TB cases importation, sustainability of the TMTC, and inadequate manpower of public health workers are the persisted challenges for preserving the achievements of DR-TB control.

**Keywords:** Drug-resistant tuberculosis, Taiwan MDR-TB Consortium, TMTC, MDR-TB, RR-TB