Since last year, Mr Lee, a 56-year-old tuberculosis (TB) patient, has been locked up indefinitely, perhaps for the rest of his life. Prior to that, he had escaped from hospital before the end of his multiple drug-resistant TB treatment, and had strongly expressed unwillingness to return to hospital for treatment. Taiwan’s Centers for Disease Control (CDC) announced his name, and he became a wanted person. However, he has not been charged with any crime. Instead, he suffers from an extensively drug-resistant strain of TB (XDR-TB), which is resistant to at least isoniazid and rifampicin plus the two most powerful classes of second-line antituberculous agents—the injectable agents and the fluoroquinolones. XDR-TB is more difficult to manage than multidrug-resistant TB (MDR-TB), which is defined as being simultaneously resistant to at least isoniazid and rifampicin. XDR-TB is considered to be virtually untreatable. The World Health Organization has reported that XDR-TB has now been found in 45 countries.

TB has been treatable and curable for over 50 years, and it was believed to be eradicable in the 1950s; however, there were 8 million new cases and 2 million deaths from TB in 2005. In Taiwan, the annual incidence of TB has remained persistently high, ranging from 74.1/100,000 population in 2004 to 70.0/100,000 population in 2006, and the mortality rate was 4.2/100,000 in 2004 and 4.3/100,000 in 2005 according to the Taiwan CDC. The Taiwan Surveillance of Drug Resistance in TB (TSDRTB) program demonstrated that combined drug resistance rates were 11.3% in 2004 and 10.1% in 2005 for isoniazid; 7.5% in 2004 and 6.2% in 2005 for rifampicin; 4.3% in 2004 and 2.1% in 2005 for ethambutol; 10.6% in 2004 and 9.8% in 2005 for streptomycin; 20.4% in 2004 and 18.1% in 2005 for any first-line drug; and 5.3% in 2004 and 4.0% in 2005 for MDR-TB. These resistance rates are higher than those reported by the third TB global drug resistance surveillance. A primary cause of drug resistance is the failure of patients to complete a full course of TB medication because hospitals and clinics in Taiwan fail to maintain a steady supply of standard TB regimens based on the national guidelines. A substantial proportion of patients were prescribed antituberculous treatment based on chest X-ray findings alone, and a considerable proportion was advised to stop treatment before completing a full course. Resistance to anti-TB drugs arises from selection of naturally occurring mutants with innate resistance to drugs. Poor adherence to the therapeutic regimen, improper prescribing by clinicians and drug interactions or malabsorption can result in partial suppression.
of bacterial growth and the emergence of resistant organisms. Once this resistance develops, treatment is compromised, further resistance can evolve and resistant organisms can be transmitted to other people, leading to primary drug resistance that may fail to respond to standard therapy. However, while MDR-TB and XDR-TB might be difficult to treat, they might not be as hard to prevent. Therefore, it is crucial to evaluate the TB services that are being provided by clinicians in general health care facilities and prevent dropout by directly observed therapy, thus preventing the emergence of MDR-TB. Attention must also be paid to infection control in hospitals and clinics: many of the MDR-TB cases in Taiwan were found in general clinics or hospital wards. TB control strategies targeted at populations with high risk are critically important. Moreover, the capacity for prompt and accurate laboratory-based diagnosis of TB and drug resistance must be strengthened.

The Ethics of Involuntary Detention of Persons with Infectious TB

Is it a crime to live in a society with a highly infectious disease? An individual with a highly infectious but non-communicable disease existing in a public environment has committed no crime and remains well within his rights. However, if the individual is aware that his infectious disease is communicable and life-threatening, then he should choose to or be forced to separate from healthy individuals in his environment. The problem of untreatable TB is suddenly on the rise. XDR-TB has emerged worldwide as a threat to public health and TB control, raising concerns of a future epidemic of virtually untreatable TB. Also cases like Mr Lee’s are extremely rare in Taiwan, it is a situation that public health officials may have to confront more and more because of the widespread and growing problem of MDR-TB and XDR-TB around the world, including Taiwan. As the diagnosis of MDR-TB and XDR-TB can take several weeks, patients suspected of having TB should, ideally, be isolated in an acute infectious diseases setting while awaiting anti-TB drug-susceptibility testing, and then triaged for further management based on the results.

The use of involuntary detention may legitimately be countenanced as a means to ensure isolation and prevent infected individuals from possibly spreading the infection to others. In Taiwan, which had a total of 14,554 reported cases of TB in 2007, 10.3% were MDR-TB in 2004 and 10.1% were XDR-TB in 2005. Should involuntary detention be the last resort? How people infected with MDR-TB should be dealt with is a matter of debate, and the XDR-TB strain raises an ethical dilemma. TB is the second leading cause of preventable illness worldwide. Unfortunately, TB has not received a proportionate amount of ethics attention. How well have detention programs balanced the need to protect the public’s health with the civil liberties of TB patients? Has forcible isolation been used as a substitute for addressing the underlying causes of nonadherence? Which is more important: the protection of society or the protection of individual rights and freedom? Uncertainty among health professionals regarding the ethical, social and human rights implications of fighting the outbreak shows that there is an urgent need to address doubts and inaction in order to prevent an epidemic of XDR-TB in Taiwan. Detentions in hospitals or other health care facilities should apply to XDR-TB patients who refuse treatment. The high profile case of Mr Lee has highlighted ethical and legal issues associated with confinement in the case of XDR-TB, but there are many additional ethical issues in need of attention from bioethicists, public health authorities and policy makers.

References


